BUSMHR 3303 - 0010
HUMAN RESOURCE ANALYTICS
(3 Credit Hours)
SPRING 2018
CLASS SCHEDULE: Tuesday/Thursday 11:10AM-12:30AM
LOCATION: Mason Hall 405

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Office Hours: By appointment

Course Overview:

HRM plays an increasingly important role in helping organizations achieve sustainable competitive advantage by managing human capital and human resources. In order to optimize organizational efficiency and improve decisions about human capital and organizations as a whole, the new-style HR professional need to know how to systematically collect, analyze, and interpret data of HRM. This course is intended to prepare you with the necessary tools for using data analysis to inform HR decision-making and to analyze issues and problems in HRM. The course starts with an introduction to HR analytics and the theoretical foundations of HRM. Then it teaches the analytic tools including both theoretical (e.g., theoretical models and frameworks) and empirical analyses (e.g., descriptive statistics and statistical inference), which will be applied to decisions in core HR areas, such as workforce planning, staffing, selection, training, performance appraisal, compensation, and HRM systems. This course emphasizes identifying appropriate analytic techniques for solving a variety of HR problems. Students will use data and statistical tools to evaluate and make recommendations for HR policies and practices.

Learning Goals:

The overall objective of this course is to familiarize the students with HR analytics and its applicability in HRM. Some specific objectives are:
- To understand the value of analytics for use in solving HR problems;
- To develop critical thinking skills to identify questions that can be answered with an HR dataset;
- To learn basic and advanced statistical analysis and know how to apply appropriate methods to improve HR decision-making;
- To apply statistical software (e.g., Excel and SPSS) to manipulate and organize data for analysis;
- Effectively interpret and communicate results from statistical analysis into actionable HR decisions.

Teaching Philosophy and Class Value:

My primary goal is to create a positive and constructive learning environment where everyone is engaged and welcome to speak up. Learning is an active process. Researchers have found that the best way to learn is by doing. As Confucius once said, "Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand" (Confucius circa 450 BC).

The following points summarize our mutual expectations for this course:
- Mutual respect
- Honesty
- High standards
- Openness
- Positive tone
- Team spirits

Course Materials:

Lepak, D. P. & Gowan, M. 2017. Human Resource Management: Managing Employees for Competitive Advantage, 3rd Edition. Publisher: Chicago, IL: Chicago Business Press. (The earlier edition of this textbook is also acceptable)
  ISBN: 9780997117165

Edwards, M. R., & Edwards, K. 2016. *Predictive HR Analytics: Mastering the HR Metric*. Publisher: KoganPage.

  ISBN: 9780749473914

We will learn how to use Excel and SPSS to analyze data. I assume Excel has already installed in your computer. Please download SPSS from CIO's website (for Windows https://ocio.osu.edu/software/directory/slwin#spss; for Mac OS https://ocio.osu.edu/software/directory/slmac#spss1103). If you need any assistant, please contact me or the CIO office.

Additional readings, slides, assignments, and datasets will be uploaded to https://carmen.osu.edu/#. Carmen course website will be used to upload course materials, make course-related announcements, and assign grades.

Course Requirements:

Your grade for this class will be based on your performance on two exams, a group project presentation and a group report, two group assignments, one HR Analytics "In The News" group presentation, and class attendance and participation.

Grading Items	% Overall Points
Mid-Term Exam	20%
Final Exam	30%
HR Analytics "In The News" Presentation	5%
Pick-One Research Paper Summary	5%
Participation	10%
Group Presentation	10%
Group Report	10%
Group Assignments	5% for each, and 10% in total

Grading Scale:

Letter	Percentage	Scale
A	93-100	4
A-	90-92.9	3.7
B+	87-89.9	3.3
B	83-86.9	3
B-	80-82.9	2.7
C+	77-79.9	2.3
C	73-76.9	2
C-	70-72.9	1.7
D+	67-69.9	1.3
D	60-66.9	1
E	0-59	0

Individual Work

Exams

Two exam will be arranged, including one mid-term exam (**Thursday, March 1, in class**) and one accumulative final exam (**Monday, April 30, 10:00-11:45AM, Location to be determined**). Although somewhat outdated, written exam is still regarded as one of the most effective and widely used ways for learning evaluation. The purpose of these exams is not to ask you memorize the definitions of concepts and methods learned in class, but test your understanding of these knowledge points and help you to learn to apply these concepts to explain different management phenomenon.

Basic Requirements:
- They are written exams and should be completed alone.
- Exams are to be taken during assigned times (please see the specific location and time below).
- None of the course-related materials are allowed to take to the exams.
- The exam is consisted of multiple-choice questions, case questions, and essay questions. Content of the exams come from lectures, textbook, class discussion, and assigned readings and exercises.
- Make-up exams will only be given to those who had emergencies and had reported to me a written reason **in advance**. If you have an unexcused absence from an exam, you will only be able to retake the test for **60% credit**.

HR Analytics "In The News" Presentation

From Week 7 to Week 14, there will be a dedicated portion to topics "In The News" in Tuesday's class. This portion of the course is geared to provide students with a chance to understand the application of HR analytics in real business world.

Basic Requirement:
- Students need to be prepared to present an example in the news that is relevant for the topic of that class period. For example, we will discuss how to use data analytics for recruitment and selection in Week 7. Students may find news about how companies use data analytics to select employees.
  (e.g., https://www.bloomberg.com/news/articles/2015-11-17/machines-are-better-than-humans-at-hiring-top-employees).
- Students should be prepared to distribute relevant reading materials from 'In The News' (e.g., publications, online article, etc.) to the class in the week before their presentation. You can use the Forums function on Carmen to upload and share the materials with the class.
- Make a 5-10 minute presentation regarding their topic to introduce the background of the issue they identify from the recent news as well as the general findings from research.
- Lead a discussion about the implications of the topic for HR analytics.

Evaluation Criteria:
"In-The-News" presentation will be evaluated on the following aspects.

- The extent to which a student clearly introduces the topic and the issue he or she identifies.
- The extent to which a presentation covers the main idea of the practical article and main findings of the research article.
- The extent to which a student relates the issue to course concepts and knowledge.
- The extent to which a student provides implications to managerial practices.
- The extent to which a student successfully leads the class discussion.
- The extent to which a student offers insightful opinions and suggestions based on the class discussion.

Pick-One Research Paper Summary (Due: **April 5**)

For this individual assignment, each student will select one of the articles identified in the optional reading list (see Carmen website) to summarize the key information of the article and discuss the findings of the article. The purpose of this assignment is to help students understand how to link research findings with managerial practices and how to use scientific evidence to help make management decisions.

Basic requirements:
- Turn in a two-page (single spaced, 1-inch margins) summary for the article you pick.
- In the summary, you are expected to answer the following questions:
  - What is the purpose of the research reported in the article?
  - How does the research relate to one or more of the topics covered in class?
  - What are the major findings of this article? Include a brief description of the methods used to test the research hypotheses.
  - What are the practical implications of the research findings for the field of HRM?
  - Do you think the findings of the article are out-of-date? If so, consider how the findings would change in today's business environment.

Participation

As a class member, you are responsible for helping to create a positive, learning environment. This means listening attentively to others, sharing your own views and experiences, bringing in relevant current information, and in general contributing to our learning process. Dysfunctional participation, such as the use of cell phones, side conversations, and frequent tardiness or absence also detracts from the experience of everyone in our class.

Basic Requirements:
- Be prepared by being familiar with readings and being ready to discuss class topics.
- Visible participation such as making comments is important as well as less obvious participation such as listening and being engaged in class activities.
- When appropriate, bridge your comments with other classmates' points and questions.

- Take responsibility for yourself and for getting the information you need to succeed.
- Be punctual.
- Act in ways that connote goodwill toward the class. Be especially respectful of viewpoints and backgrounds that might differ from your own. The wise learner listens even more intently to positions that differ from his or her own.
- Participation does not mean sharing every single idea that occurs to you, disrespecting others' comments, or dominating the discussion. As a general rule – quality of contribution will always be rated higher than quantity of contribution.

Evaluation Criteria:

Points	Criteria
Outstanding participation	Participate enthusiastically and contribute actively in all class discussion, exercises, and activities. Share insights of relevant information from reading, learning, and personal experience. Demonstrate outstanding capability to apply and analyze course material. Make insightful comments to move discussion forward rather than repeat what others have said. Comply with course policies all the time.
Excellent participation	Make a significant contribution to almost all class discussion, exercises, and activities. Demonstrate capability to analyze and apply course material. Almost never miss class. Comply with course policies all the time.
Good participation	Participate regularly and voluntarily in class discussions. Contribute relevant and important points to topics of discussion. Always attend class and only miss class with prior notification to the instructor. Comply with course policies all the time.
Fair participation	Attend class regularly, but miss more classes than others in the course. Demonstrate sporadic participation in class activities. Always comply with course policies.
Poor participation	Demonstrate consistently poor attendance and poor preparation. Consistently fail to participate in class activities. Fail to contribute in class, even when called upon. Behave in manner that is disruptive to the class. Sometimes violate course policies.

I understand that everyone has different personalities, and as we will learn in class, introverted people may be reluctant to speak up in front of strangers (but may talk a lot to

people they feel comfortable with). My role is to create a positive learning environment in which everyone feels psychologically safe and comfortable to speak up. I will observe each of you over the course of the semester and will make a judgment if you've tried your best in participating in class. If you still feel any barrier or obstacle to participate, please stop by during my office hours so that we can discuss your participation and how it can be improved.

Group Work

Group Assignments

The purpose of group assignment is to provide opportunities for students to practice how to collect, analyze, and interpret data to solve HR problems and prepare them for their final group project.

Assignment 1: "What's the evidence?" Presentation (Due: **January 30**)
- Check out whether scientific evidence exists for the effectiveness of a popular management practice. We will choose one in class (e.g., Balanced Scorecard, 360 feedback, SWOT analysis, McKinsey's 7S model, Porter's 5 Forces, etc.).
- Use EBSCO, ABIinform or Google Scholar synced to a university library e-data bases.
- Search only PEER REVIEWED articles (check that box on the Search page)
- Try to find at least five papers related to the practice.
- Give a 15-minute presentation of how you searched, the articles you found, and what conclusions you draw from their findings. In the presentation,
    - Introduce the management practice you choose and explain its popularity in organizations.
    - Explain how you search for academic research to examine the effectiveness of this practice.
    - Indicate your answer to the question "Is there evidence that the practice or model is likely to be effective or useful?" Tell us how you arrived at this conclusion.
    - Give implications to the use of this practice in organizations in the future.

Assignment 2: "Design an Attitudinal Survey" Written Report (**Due: March 22**)

Based on the lecture and reading materials on Measurements and research designs (Jan 23):
- Choose a variable that interests you (e.g., customer satisfaction, employee engagement, job satisfaction, training reactions, organizational efficiency, leadership effectiveness, and work climate), that you believe lends itself well to assessment via a survey.
- Develop a set of at least 20 survey questions designed to measure this variable.
- Discuss your survey with at least three working employees outside of the class. Ask them to read your questions and write down all the thoughts they have about responding to them. The goal is to identify ambiguities or difficulties respondents may have in answering the questions.
- Revise your survey items based on the feedback you receive.

- Write a short report (3 pages maximum, double-spaced, without appendix):
    - What is the variable you intend to measure with your survey?
    - Why do you believe a survey is an appropriate way to assess this construct? What are the shortcomings of this approach?
    - Why do you come up with the survey questions for this variable?
    - How are those questions revised or updated after you receive the feedback from working employees?
    - How could a company use your survey to assess and improve their management practices?
    - Submit a copy of your original survey items and a final copy after revision in an Appendix.

Group Project Presentation & Report

The primary goal of final group project is twofold:
1) to apply analytical knowledge and skills learned in class to explain management reality;
2) to practice teamwork, communication, problem solving, data analysis, and writing skills.

Basic Requirements:

- Teams are required to design research to answer questions about a specific HRM practice of their choice. Below are some sample questions that you might consider – Of course you are not limited to this list! (Determine your research question by **February 1st**)
    - What practices can be used to attract more job applicants?
    - What factors can help predict salesperson's job performance?
    - What factors can lead to interview opportunities or job offers?
    - Will comparative and absolute performance appraisals have different influences on employee attitudes and behaviors?
    - How will the use of technology influence the effectiveness of training?
    - What factors can help reduce employment discrimination in organizations?
    - How will the open and secret pay policies influence employee fairness perception?
    - What factors can predict the starting salaries of MBA students?
- Team work with the instructor to polish their research ideas and develop data-collection plans to test their ideas in the first half of the semester (Due: **February 22nd**).
- Teams collect their own data based on the confirmed research model from students or working employees to test their research idea and work with the instructor to discuss their research findings before the final presentations (Due: **March 29th**).
- Teams are required to use basic statistical techniques in data analysis (e.g., ANOVA, correlation, and regression) and prepare final presentation (Due: **April 12**) and written paper (Due: **April 19**).

Evaluation Criteria:

Group presentation:
Each team needs to give a 20-minute presentation in class. All team members are required to show up for the presentation. Group presentation will be evaluated according to the following criteria:

- Introduction: the purpose of the presentation needs to be clear.
- Structure: the format of the presentation is flexible, but needs to be well-structured with logical line of reasoning, clear transitions among sections, and a clear conclusion.
- Analysis: Statistical methods are appropriate to test research ideas and the presentation of results is clear.
- Evaluation: The team draws appropriate conclusions from research findings and offers relevant implications to organizational practices.
- Delivery: Presenters speak clearly and stay within the allotted time.
- Visual aids: PowerPoint slides are carefully prepared and synchronized with the oral presentation.
- Discussion: Questions are answered clearly and effectively.

Written report:
The written report should be a 15-page long paper (excluding title page, abstract, tables, figures, and references; double spaced, 1-inch margins). The report will be evaluated based on the following criteria:

- Have a clear introduction of research question (e.g., what the questions is and why it is important?)
- Have a thorough explanation for the relationships hypothesized in the research model (e.g., use the concepts/knowledge points learned in class or literature search to support the arguments).
- Describe the procedure used to collect data and the basic information of the sample (e.g., total number of individuals, average age, and percent of female).
- Report analytic strategy and results in a rigorous way.
- Make effective suggestions and implications based on research findings. Demonstrate substantial depth and fullness of thought in the suggestions.
- Show clear, focused, and coherent organization.
- Structure the paper well and exhibit smooth transition between sections.
- Be sure to follow American Psychological Association (APA) format. See the citing sources offered by OSU libraries (https://library.osu.edu/find/resources/citation-examples/apa/apa-style-guide-articles/).

Other Important Course Policies

Use of electronic devices

Experience (and many other professors) has taught me that students who use their cell phones during class tend to be less engaged in the course and perform less effectively than students who devote their full attention to the classroom experience. **Please <u>turn off cell phones during class</u>**. Students are allowed to use laptops when they need to analyze data during the class time.

Attendance

While I do not formally require attendance, it is highly recommended. Given the cumulative nature of the class, falling behind on lectures will impair your learning of new statistical concepts based upon prior material. If you must miss class, be sure to get a copy of the class notes from a reliable classmate.

Late Work

Assignments will be graded down **10%** after their specific deadlines, and **10% for each additional day they are late**. Exceptions to this rule will be considered only for unusual circumstances.

Office Hour Policy

While I will be in my office during my office hours, sometimes I may be called away, and perhaps the times do not work for you, or perhaps some of you want to meet me at the same time. So if you would like to meet me, please email me in advance so that I can make an arrangement.

OSU Disability Policy

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. You are also welcome to register with Student Life Disability Services to establish reasonable accommodations. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: **slds@osu.edu**; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

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**

SPRING 2018
COURSE SCHEDULE, TOPICS, ASSIGNMENTS, EXAMS

Note: This schedule may be subject to change.

WEEK	DATE	MATERIAL COVERED	DETAILS
1	Jan 9	Introduction – Data analytics and HRM	Ch 1 of E&E's book
	Jan 11	Theoretical foundations of HRM – Part I	Ch1 of L&G's book
2	Jan 16	Theoretical foundations of HRM – Part II	Ch 2 of L&G's book
	Jan 18	Theoretical foundations of HRM – Part III	Ch 14 of L&G's book
3	Jan 23	Analytical foundations of HRM – Measurements and research designs	Ch 3 of E&E's book
	Jan 25	Analytical foundations of HRM – Descriptive statistics and inferential statistics	Ch 3 of E&E's book
4	Jan 30	Presentations for 1st Group Assignment	**1st Group assignment due**
	Feb 1	Analytical foundations of HRM – Mean comparison	**Final group project topic due**
5	Feb 6	Analytical foundations of HRM – Correlation	Ch 3 of E&E's book
	Feb 8	Analytical foundations of HRM – Single regression	Ch 3 of E&E's book
6	Feb 13	Analytical foundations of HRM – Multiple regression	Ch 3 of E&E's book
	Feb 15	Analytical foundations of HRM – Mediation and Moderation	p. 414-20 of E&E's book
7	Feb 20	Recruitment and selection analytics	Ch 6-7 of L&G's book
	Feb 22		Ch 8 of E&E's book
			Data collection plan for final group project due
8	Feb 27	Review for Mid-term exam	
	Mar 1	*Mid-term exam*	
9	Mar 6	Training and development analytics	Ch 8 of L&G's book
	Mar 8		Additional reading materials from the instructor
10	Mar 13	*Spring break*	

	Mar 15		
11	Mar 20	Predicting employee performance	Ch 9 of L&G's book
	Mar 22		Ch 7 of E&E's book **2nd Group assignment due**
12	Mar 27	Determining employee compensation	Ch 10-11 of L&G's book
	Mar 29		Additional reading materials from the instructor **Data collection for final project due**
13	Apr 3	Predicting employee attitudes	Additional reading materials from the instructor
	Apr 5		Additional reading materials from the instructor **Pick-one research summary due**
14	Apr 10	Introduction to advanced HR analytic techniques	Ch 11 of E&E's book
	Apr 12	Final Presentations	**Final project presentation due**
15	Apr 17	Review for final exam	
	Apr 19	Q&A	**Final project report due**
16	Apr 30	*Accumulative final exam*	