OBHR 4337.502 Syllabus – Spring 2024

Course Information

Course Prefix, Number, Section	OBHR 4337.502
Course Title	HR Analytics
Term	Spring, 2024
Days & Times	Th 7:00-9:45
Location	JSOM 12.206

Professor Contact Information

Professor	Emily Woodhall, MBA
Email Address	ejw160030@utdallas.edu

Course Pre-requisites, Co-requisites, and/or Other Restrictions

OBHR 3330

Course Description

OBHR 4337 is an introduction to the field of human resource analytics (HRA). HRA provides a way to demonstrate the link between people and business outcomes. HRA includes (a) identifying the business question and developing testable hypotheses, (b) securing, compiling, and cleaning the data needed to answer the question, (c) running appropriate analyses and drawing sound conclusions, (d) presenting the results in a compelling manner and (e) taking appropriate action to gain value from the findings. The objective of the course is to enable a better understanding of "How do people impact business outcomes?"

Student Learning Objectives/Outcomes

- Describe the basic HR Analytics (HRA) process.
- Identify important questions and the appropriate data and analytics methods to answer them.
- Be able to apply various statistics (e.g., descriptive, correlation/ regression, t-tests/ANOVA, decision trees) to HR data.
- Understand the pros/cons of various machine learning approaches.
- Reach appropriate conclusions and identify next steps based on HRA findings.
- Use storytelling and visualizations to convey HRA findings to a non-expert audience.
- Understand the principles of change needed to convert findings into action.
- Calculate ROI of various HR processes or programs.

Required Textbooks and Materials

Waters, Streets, McFarlane, & Johnson-Murray (2018). The Practical Guide to HR Analytics. SHRM

Knaflic, C. N. (2015). *Storytelling with data: A Data Visualization Guide for Business Professionals* (1st ed.). John Wiley & Sons, Inc.

Other readings will be posted to Blackboard

Assignments & Tentative Schedule of Topics

Week	Date	Topic	Assigned Readings *non-linked readings can be found on eLearning	Due Dates
1	01/18	Intro to HR Analytics	• (Article): The Geeks Have Arrived in HR (Forbes) • (Article): Competing on Talent Analytics (HBR) • (HR Analytics Text): Appendix A, Chapter 1	
2	01/25	Storytelling with Data	• (Storytelling Text): STWD: Ch 1, 3, 4, 5 • (HR Analytics Text): Chapter 8, Appendix I-J • (Article) Data-Driven Story Telling: The Missing Link in HR Analytics	Discussion Points
3	02/01	Sourcing Data, Data Types, Cleaning Data, Ethics in HR Data	• (Article): They're Watching You at Work (Atlantic) – on eLearning • (Article): Why is data warehousing for HR complex? – on eLearning • (Article): How can data warehousing improve employee retention? • (Article): Good data won't guarantee good decisions. – on eLearning • (Article): The Ethics of HR Analytics: Balancing Data Collection with Employee Privacy • (Article): Leading Practices for Workforce Data Security, Privacy, Cleansing, & Presentation	Discussion Points
4	02/08	Methods, Hypothesis Testing, Descriptive Statistics	• (HR Analytics Text): Chapter 4-5, Appendix F • (Article): The Five P's of Measurement in Data • (Article): A Guide To The 4 Types of HR Analytics • (Video): StatQuest Youtube: Calculating the Mean, Variance, and Standard Deviation • (Video): StatQuest Youtube: Statistics Fundamentals	Discussion Points
5	02/15	Talent Acquisition, Correlation & Regression	• (HR Analytics Text): Chapter 6-7, Appendix G • (Article): How Data Analytics is Revolutionizing Talent Acquisition Leadership • (Article): How to Correlate Disparate HR Data for Improved Talent Decisions • (Article): Analytics Techniques: the Regression Analysis • (Video): StatQuest Youtube: Correlation • (Video): StatQuest Youtube: Linear Regression	Discussion Points
6	02/22	Lab Day	• Project 1 & Project 2	
7	02/29	Training / Development & T-tests	• (Article): Using Targeted Analytics to Improve Talent Decisions • (Article): HR Analytics and the Art of Testing Hypotheses! • (Article): Predictive Analytics Can Help Companies Manage Talent • (Video): StatQuest Youtube: Using Linear Models for t-test and ANOVA	**Project 1** Discussion Points
8	03/07	Lab Day	• Project 3 & Project 4	
9	03/14	SPRING BREAK	• NO CLASS	
10	03/21	Guest Speaker	•	
11	03/28	Engagement, Retention & ANOVA, Sentiment Analysis	• (Article): Workplace burnout is now an occupational phenomenon (SHRM) • (Article): Better Ways to Predict Who's Going to Quit (HBR) – on eLearning • (Article): What is Employee Engagement (Forbes) • (Article): Relationship between Training & Development and Job Performance •	**Project 3** Discussion Points Individual Cases Due 03/23
12	04/04	Lab Day	• Project 5 & Project 6	**Project 4**
13	04/11	DEI, Individual Case Report Outs	• (Article): Understanding DEI Data-Driven Strategy and Key Metrics • (Article): An Analytics Approach to Diversity, Equity and Inclusion • (Article): How to Best Use Data to Meet Your DE&I Goals • (Article): How Data Analytics Can Help Advance DEI	**Project 5** Discussion Points
14	04/18	AI in HR Analytics & Lab Day	• (Article): How to Ensure AI in HR is Fair, Effective and Explainable • (Article): GPT for People Analytics: Four concepts you need to know • (Article): The Impact of GPT and Generative AI Models on People Analytics • (Article): With great power comes great responsibility: A commitment to data privacy with AI use • (Article): The Legal and Ethical Implications of Using AI in Hiring – on eLearning	**Project 6** Discussion Points
15	04/25	Lab Day	• Extra time to work on Group Projects	
16	05/02	Group Presentations	•	Group Project

*Lab days will be in the regular classroom – be sure to bring your laptop and have JMP installed

Grading Policy

GRADING

Criteria

Points:

Assignment	Points Per	Total Points	% of Grade
Attendance	5 / class	40	10%
Discussion Points	5 / eight classes with reading assignments*	40	10%
Individual Projects	30 (top 5 out of 6 grades)	150	37.5%
Group Project	150	150	37.5%
Individual Cases	20	20	5%
Total		**400**	**100%**

*Excludes Day 1

Grade	A	A-	B+	B	B-	C+	C	C-	D	F
Points Earned	>=376	360 - 375	348 - 359	333 - 347	320 - 332	308 - 319	293 - 307	280 - 292	240 - 279	<=239

Discussion Points

The format of this course is an interactive seminar in which each participant shares responsibility for the discussion of the course materials. To facilitate this process, **students will prepare 1 discussion point for each assigned reading**. A discussion point may be in the form of a question, a statement, or an observation. These should critique the reading, offer a contrasting or comparative view point, or extend the application of the article's perspective to other settings.

These discussion points are to be typed before the class, printed, and turned in each week in which readings are assigned.

Individual Case

Each student will find and present one case of HR Analytics in action. The objective of the exercise is to expose students to a wide variety of HR analytics projects or applications. **The Friday before individual case presentations, please send me a 1-2 page PowerPoint summary of the case you selected**. It should include a description of:

- The business problem being addressed.
- The data and analytics used.
- The findings and conclusions reached.
- The actions taken and ROI (if reported) realized.

I will compile them into a single deck. In class, be prepared to give a brief 5-minute talk on your case. This should be an informal and relaxed talk about an interesting application of HRA. The goal is to expose all students to a wide variety of HR Analytics projects in an efficient manner, not to evaluate your platform skills.

There are many case studies out there so a little research will go a long way. David Greene (you can find him on LinkedIn), publishes a list of studies on a regular basis and others do so as well. Please find something done in the last 2 years.

Individual Projects	**There are a total of 6 "small" projects to be completed.** They are intended to get your hands dirty playing with data. The project requirements and the associated data sets are posted on e-learning. • Project 1 – Descriptive Analysis • Project 2 – Correlations • Project 3 – Regression • Project 4 – t-Tests • Project 5 – ANOVA • Project 6 – Sentiment Analysis **Your grade will be based on the 5 highest project grades you receive (assuming you do all 6).** These projects may be completed individually or with one partner. If you work with a partner, it must be a different partner for every project (otherwise you meet no one new). 2 deliverables are expected for each project: 1. 20 pts - A written paper to explain the work performed. Two-three pages of text is recommended, but certainly use more pages for figures, graphs, and tables as needed (this is a course in analytics after all). 2. 10 pts - A PPT presentation to report insights, recommendations, and ROI if possible. PPTs should apply principles learned in Storytelling with Data. Projects should submitted in Blackboard by class time on the due date (emailed presentations will not be accepted). Late work will not be accepted so let me know ahead of time if you run into any issues. All analysis and report generation will be done in JMP. JMP is a point-and-click statistics package from SAS with advanced graphics on the backend. JMP can be downloaded (https://oit.utdallas.edu/helpdesk/kbsearch/?q=jmp) to your personal laptop/desk top and used anywhere at any time. I strongly encourage you to do so. Instructions on how are provided for both PC and Mac users via the link above. Otherwise, JMP is available only in the lab at **JSOM 1.302**. To work on the projects, we will have Lab Days. On Lab Days we will meet in **JSOM 1.302**. The goal during Lab Days is to discuss the project, see an example, ensure everyone can access the relevant data set and apply the relevant analysis and I will be available to answer questions.

Group Project	Groups have been formed and posted to e-learning (Blackboard) to work on a team project. Please contact your teammates and begin planning the work. Also, it is important that you do not change teams. Doing so makes it impossible for me to keep up with assignments and results in confusion and unevenly distributed workloads.
	
	Your goal will be to conduct a comprehensive analysis of the engagement data set provided. Assume I am the CEO and you are tasked with convincing me to do something based on the results of the project you talked me into supporting.
	
	Your final paper should be 10/12-ish pages, double spaced (not counting references, charts, figures, etc.). It should include:
	• A description of the cleaning you did (i.e., how did you get to the final N).
	• A comparison of engagement and well-being:
	  ○ Which do you believe is most important and why?
	  ○ What are the drivers of each? Are they the same?
	  ○ Are there any subgroup differences (e.g., race, gender, generation, industry, job family, state) in either?
	• Anything else you looked into and discovered that might be helpful to know.
	• A description of the actions you would recommend be taken as a result of your analyses.
	• An estimated ROI if those actions are taken (assume they are successful).
	
	You should also create a presentation. The last week of class will be devoted to group presentations. I will base the team's grade roughly 50% on the paper and 50% on the presentation. Because the course focuses on storytelling and visualization of data, this should be emphasized in the paper and presentation.
	
	Organization and governance will be left to each team. You will need to figure out amongst yourselves how best to coordinate to get this done. To minimize social loafing, peer reviews may be gathered at the end and used to adjust up or down individual grades on the paper. If a group feels one or more members is not contributing their fair share, they need to bring it to my attention ASAP. I can usually get the situation corrected. If not, I will then ask team members for feedback on everyone and use this to adjust individual grades. In the past, I have occasionally found it necessary to take points away from under-contributors and give them to others on the team to reflect relative contributions or to grade sections separately. Do not (a) do the loafers' work (leave those sections blank) or (b) wait until the project is due to say something.

Classroom Conduct Requirements Related to Public Health Measures

UT Dallas will follow the public health and safety guidelines put forth by the Centers for Disease Control and Prevention (CDC), the Texas Department of State Health Services (DSHS), and local public health agencies that are in effect at that time during the Fall 2021 semester. Public health measures may be required for class participation (e.g., wearing of masks, social distancing) and students who refuse to comply may face disciplinary action for Student Code of Conduct violations.

Students who have tested positive for COVID-19 or may have been exposed should not attend class in person and should instead follow required disclosure notifications as posted on the university's website (see "What should I do if I become sick?" webpage)

Other

Class Materials

The instructor will provide some materials in class to all students registered for this class. They are intended to supplement the classroom experience. These materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Attendance

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected regardless of modality. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

Class Participation

Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Classroom Citizenship

The Comet Creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same: "As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students. Please see http://go.utdallas.edu/academic-support-resources.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class. Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.