Course Description

Hiring, developing, and retaining the right employees is crucial for success in modern firms. Big data is transforming how companies manage talent. This course will teach you how to combine economic frameworks and data analytics to make better-informed decisions on personnel strategy.

The course is organized around the "life-cycle" of an employee at a company, starting from hiring, then training, compensation, promotions, benefits, diversity and discrimination, and retention. Each week, we will discuss one stage of this process, using a case discussion to highlight the tradeoffs that companies face, followed by a related data application in the next class. For example, we will use analytics in class to predict the potential of applicants to improve hiring decisions or we will use experimental designs to evaluate the effectiveness of training programs.

This class is designed for MBA students who aspire to start, lead, and build businesses; this is not a course for those interested in careers as administrators of human resource management systems. The deliverables consist of in-class case discussions, as well as several individual and group homework assignments and a final take-home exam.

About the Professor

Benjamin Friedrich received his PhD in Economics from Yale University in 2016. He is currently an Assistant Professor in the Department of Strategy. Professor Friedrich's main research interests are in labor and personnel economics, and his work frequently overlaps with topics in international trade and health care. His research empirically analyzes hiring and promotion strategies of firms and studies worker career paths within and across organizations.
Prerequisites

The prerequisites for this course are Business Analytics (DECS 431) and Core Strategy (STRT 431). Students who waived out of DECS 431 are strongly encouraged to work through the Stata refresher materials on the Canvas website before the beginning of the course, see below for more details. If you have difficulty recalling the material covered in the assignment, you are likely to find the course very challenging.

Relation to STRT 452

There is a small overlap between this class and STRT 452 (Strategy and Organization) because there are some concepts that are essential to thinking about both human resources and organizations. The two courses are designed to minimize this overlap but still allow students to choose to take one or both. STRT 440 will emphasize applications to human resource management, with a focus on recruiting, developing and retaining talent. In addition, we will use data analytics to design and evaluate different HR strategies.

Office Hours

I am here to help you learn, and I welcome your questions in person or by e-mail. If you would like to see me, please just write me a quick e-mail to make an appointment. I will make every effort to find a time to meet.

Summer Plans

The final course meeting is Saturday, June 6. The material from this course meeting will be covered on the final exam. The final exam will be given in a timed, open-book, take-home format. You may arrange to take the final exam any time after 8 am on Sunday, June 9 and before 11:59pm on Saturday, June 13, the designated exam day for Saturday classes in the spring term.

Course Materials

- Case Packet: This is our main source of materials, I will post additional articles on Canvas.

Grading

Grades will be based on four different aspects of your performance: class participation and individual case write-ups (20%), individual assignments (20%), group assignments with peer evaluation (20%), and the final exam (40%).

Class Participation

Attendance is mandatory and will be noted at the start of each class session. Students will earn participation points for each class session that they attend (and arrive punctually). One-third of your participation points will be awarded based on attendance. Northwestern provides exceptions for religious holidays, funeral attendance and student/dependent hospitalization; otherwise, attendance at each class session is mandatory.

Class participation is essential in order for you to get the maximum benefit from the course. I expect that you come to class prepared and you should expect to be cold-called in this class. I will rely on the quality of contributions, rather than quantity, to evaluate your participation. A good comment advances the
class’s understanding of the issue and builds on previous points. Your participation grade will be assigned at the end of the course based on attendance and my assessment of your contributions throughout the quarter (I will make notes to facilitate my recollection.)

**Individual Case Write-ups (5 out of 7)**
For each case study, I will list some discussion questions. Prior to the beginning of class on the day we discuss the case, you must submit (to Canvas) a short written document offering answers to each of the questions. One thoughtful paragraph per question is sufficient to earn full credit. One or two sentence answers will not earn full credit. There will be seven sets of case write-ups and you must complete answers to five of them in order to earn full credit for individual case write-ups.

**Individual Assignments (2)**
There will be two individual assignments. These assignments will contain mathematical and data problems that are designed to enrich your understanding of the material. Individual assignments are expected to be individual efforts. As for all deliverables, the Kellogg Honor code applies.

**Group Assignments (best 2 out of 3) and Peer Review**
There will be three group assignments. Assignments will be clearly labelled as individual or group assignments. I will randomly assign groups of 4-5 students at the end of the second week of classes. I will account for your software preference (Stata or R, see below) when assigning groups. For each group, I will drop the lowest score. This means you can miss one deadline because of scheduling problems and still earn full credit on the group assignment part.
Each student will assess the contribution of his/her teammates to the group assignments by allocating 100 points by the end of week 10. The allocation will be confidential and excludes the student submitting.

**Final Examination**
The final exam will be a combination of conceptual and quantitative problems where you must use the material from class to analyze business problems and apply data analysis to evaluate the situation. The exam format will be timed, open-book, take-home exam. I will supply more details on the exam well in advance of the date.

**Classroom Etiquette**
Students are expected to respect Kellogg’s Code of Student Etiquette at all times. In addition, please observe the following:
- **No electronics.** I expect that you remain engaged and treat others with respect. When your fellow students are speaking, I expect you to be paying attention to them. When I am speaking, I expect you to be paying attention to me. Specifically, this means that you may not use laptops, tablets or mobile phones in class unless directed to do so. It is distracting to your classmates to sit beside or behind you while you surf, text, or game. I will explicitly mark the sessions where we will conduct data analysis and you need to bring your laptops to class.
- **Punctuality.** Class will start on time. It is distracting to your classmates for you to be climbing to your seat and settling in while they are trying to pay attention to the class.
- **Seating chart.** Your assigned seat for the quarter will be the seat you choose for the third class session. I use assigned seats to help me keep track of class discussion, and to have a place to direct prospective students and visitors to sit. Please also bring your nameplate to class and display it in the first weeks of the term.

Additional guidance will be provided during the quarter, as needed.
**Kellogg Honor code**

Students are expected to respect Kellogg’s Honor Code at all times.

[http://www.kellogg.northwestern.edu/policies/honor-code.aspx](http://www.kellogg.northwestern.edu/policies/honor-code.aspx)

The first point of the Kellogg Honor Code is “Not to seek an unfair advantage over other students, including but not limited to giving or receiving unauthorized aid during completion of academic requirements.” The consequences of cheating can be failing an assignment or the course, or suspension or dismissal from the university.

Written case assignments are expected to be individual efforts or group assignments as specified. Individuals or groups should not consult the Internet, friends at other business schools, or people who have taken the course already.

In the context of this course, it is acceptable to refer to concepts, frameworks, and analytical tools from the readings or class lectures without citation. You may also refer to the material in cases without citations. However, do not quote or paraphrase analysis from another source and present it as your own.

**Software and documentation**

We will use the statistics software “Stata” during the course. But note that this is NOT a course in Stata. Think of Stata as a convenient tool for the analysis that most of you have learned in DECS. For students who have not taken DECS, I will provide online tutorials and practice material to catch up on the basics of Stata. Throughout the quarter, I will post detailed Stata code from our in-class analysis on Canvas for you.

Students wishing to use R instead of Stata may do so (in the case of group assignments this is subject to agreement from group members). I will provide some example code in R, but the class will be taught in Stata and support for R will be limited.

The Stata/IC 15 software is installed in Kellogg computer labs and all full-time and part-time MBA students at Kellogg can download a perpetual license free of charge (retail pricing is $1,195) at

[https://kelloggschool.onthehub.com/WebStore/Welcome.aspx](https://kelloggschool.onthehub.com/WebStore/Welcome.aspx)
[https://www.kellogg.northwestern.edu/rs/software/stata/stata_gradplan.aspx](https://www.kellogg.northwestern.edu/rs/software/stata/stata_gradplan.aspx)

While Stata has a very good online help, it is often brief and occasionally too technical since it assumes that you are familiar with the statistics that is underlying the command. I am happy to provide recommendations for additional self-study material if you are interested. But note that I will introduce any necessary new command in class, and there will be lots of opportunity to get help and practice.
Week 1: Introduction & Basic Concepts

Saturday, April 4:

Part 1: Value Creation and Value Capture in Employment Relationships

Readings before class:

Part 2: Getting started with people analytics

Readings before class:
- A Dean’s Dilemma: Selection of Students for the MBA Program (course packet)

NO case write-up for this reading. Bring your laptop!

Preparation Questions for Dean’s Dilemma:

The following questions will guide our data analysis in class. You do not need to work on them or submit answer to these online. I simply list them here for your reference.

1) What student characteristics explain salary after graduation?
2) Which variables should be used to predict student placement outcomes?
3) How should the school choose the admission cutoff based on predicted outcomes? What are the tradeoffs?
Week 2: Recruiting Talent

Saturday, April 11:

Part 1: A Conceptual Framework for Hiring

Readings before class:

- **SG Cowen: New Recruits** (course packet)

Optional background reading:

- How Big Data Is Playing Recruiter for Specialized Workers, NYT April 27, 2013
- In Head-Hunting, Big Data May Not Be Such a Big Deal, NYT June 19, 2013

**Preparation Questions for SG Cowen:**

Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.

1) Describe the search process used by Cowen. What are the costs of searching in this way?
2) Propose an alternative to Cowen's method of search. What are the costs and benefits relative to what Cowen does?
3) A Cowen employee suggests that the firm should consider recruiting at Kellogg. How should the firm decide whether this would be profitable?

Part 2: Analytics of Hiring

No readings.

Please bring your laptop with the hiring data set loaded into Stata.
Week 3: Developing Talent

Saturday, April 18:

Assignment 1 is due by 9 am on April 18.

Part 1: Human Capital and Training

Readings before class:


Preparation Questions for *Motorola University*:

Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.

1) Why is Motorola unhappy with the skillset of its current employees?
2) Think of Motorola U as a make-or-buy decision. Why is Motorola choosing to “make” better educated employees rather than simply “buying” them?
3) As a manager at Motorola, what would you have done?

Part 2: Evaluating a Training Program

No readings.

Please bring your laptop with the training data set loaded into Stata.
Week 4: Retaining Talent

Saturday, April 25:
Assignment 2 is due by 9 am on April 25.

Part 1: Turnover
Readings before class:

*CH2M HILL: Reinventing Organizational Careers* (Canvas)

**Preparation Questions for CH2M HILL:**
Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.

1) Describe the main problem that the firm faces. What is the main evidence presented in the case?
2) How does CH2M try to solve the problem? Do you think the firm’s approach is reasonable? Suggest an alternative solution.

Part 2: Analytics of Turnover
Please bring your laptop with the turnover data set loaded into Stata.

Optional background reading:
- Kyle Stock and Kim Bhasin, “Why retailers are suddenly desperate to keep their least-valuable workers,” Bloomberg, March 6, 2015
Week 5: Rewarding Talent

Saturday, May 2:

Part 1: Reward Systems: Tournaments and Efficiency Wages

Readings before class:
- *Atento: Managing the Employee Lifecycle in Brazil* (course packet)

Optional background reading:

Preparation Questions for Atento:

Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.

1) Select two of the first six initiatives listed on pages 7-8 to recommend the firm pursue, and explain why.
2) Select one of the first six initiatives listed on pages 7-8 and explain why you think the firm should not pursue this initiative.

Part 2: Reward Systems: Promotions

Readings before class:

Optional background reading:
Week 6: Rewarding Talent / Lifecycle of an Employee

Saturday, May 9:
Assignment 3 is due by 9 am on May 9.

Part 1: Evaluating Reward Systems
No readings before class.
Please bring your laptop with the incentives data set loaded into Stata.

Part 2: The lifetime value of an employee
No readings before class.
Please bring your laptop with the hiring data set loaded into Stata.
Week 7: Teams and Bosses

Saturday, May 16:
Assignment 4 is due by 9 am on May 16.

Part 1: Work teams and managers
Readings before class:
- Royal Bank of Canada: Transforming Managers (A) (course packet)

Preparation Questions for Royal Bank of Canada: Transforming Managers
Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.
- What makes a good manager at RBC? How do these criteria differ from the results at Google?
- Briefly describe how the company ranks its managers. Do you have any concerns with this method?

Part 2: The value of bosses
Please bring your laptop with the manager data set loaded into Stata.
Week 8: Benefits

Saturday, May 23:

Part 1: Non-Wage Benefits

Readings before class:

Optional background reading:
  https://www.glassdoor.com/research/studies/best-industries-for-benefits/

Preparation Questions for SAS Institute:

Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.

1) Describe SAS Institute's hiring strategy. How do they solve search, matching, and informational problems?
2) How does the firm's non-wage benefit strategy interact with its hiring strategy?
3) Some firms (like SAS) offer excellent benefits, while others do not. Which is the better strategy?

Part 2: The Value of Benefits

Please bring your laptop with the benefits data set loaded into Stata.
Week 9: Diversity

Saturday, May 30:
Assignment 5 is due by 9 am on May 30. Please come prepared with five slides to present the findings of your group in class.

Part 1: Discrimination
Readings before class:
- Deloitte & Touche (A): A Hole in the Pipeline (A) (course packet)

Optional background reading:

Preparation Questions for Deloitte:
Upload your answers to these questions to Canvas prior to the start of class. You can discuss the case with other students, but your answers to these questions must be your own work.

1) What factors are holding women back at this firm?
2) Only 10% of Deloitte's candidates for partner are women. What should this number be?
3) Offer three concrete suggestions for how Deloitte might respond to the Task Force report. Identify and discuss any weaknesses in your proposals.

Part 2: Estimating the gender pay gap
Please bring your laptop with the gender pay gap data set loaded into Stata.

Optional background reading:
- “Detailed Data May Not Be Enough To Close Gender Pay Gap,” NPR, October 6, 2016
  http://www.npr.org/2016/10/06/496911589/regulators-to-require-employers-to-report-more-detailed-pay-data
Week 10: The Future of Work & Review

Saturday, June 6:

Part 1: Technology, Automation, and Different Types of Workers

Readings before class:

- “New Recipe for Cost Savings: Replace Highly Paid Workers” Wall Street Journal, June 11, 2003 (Canvas)

Optional background reading:

- “Job loss fears from automation overblown, says OECD”, Financial Times, April 1, 2018. https://www.ft.com/content/732c3b78-329f-11e8-b5bf-23cb17fd1498

Part 2: Review, Potential and Limitations of Data Analytics

No readings before class. Please bring your laptop.

Optional background reading:

- Wharton People Analytics Conference 2016: Limits to People Analytics https://www.youtube.com/watch?v=xmBGDKN_ZBI