



BDAN 310 Business Data Analytics

SYLLABUS – CREWS (FALL 2022)

Course Description

An introduction to the application of data analytics methods to business issues. Topics include business case studies, data analytic, model building techniques, and communication of results.

Required Text

Business Analytics by Jaggia

NOTE: Either 1st Edition or 2nd Edition are acceptable

Learning Objectives

Upon completion of this course, students should be able to:

- Develop effective models of business scenarios
- Use statistical techniques to analyze business data
- Improve your hands-on skills for making data driven business decisions

Instructor Information and Email

Dr. Thad Crews, Grise Hall 227, 270-745-3509

My email is thad.crews@wku.edu which is my name followed by ii like the roman number 2 .

Be sure to use this email because there are other WKU emails with “Thad Crews” or “Thaddeus Crews”, but email to those addresses will NOT get to me.

Dr. Crews Biography: After earning my bachelor’s degree from WKU, I began my professional career as a software engineer working for a Fortune 500 company (Electronic Data Systems) developing and maintaining banking software applications. However, my true passion is education, so I went on to get a PhD in computer science from Vanderbilt University which is consistently ranked by U.S. News and World Report as one of the top 5 graduate programs for Education in the United States. I then joined the faculty at Western Kentucky University, and this is my 26th year teaching on the Hill. I have served as National Chair of the Technology in Education Committee for the Association of Information Technology Professionals (AITP), I have written two college textbooks on computer programming, and I have collaborated with two of the largest national education publishers (Pearson and Cengage Learning) to develop innovative digital solutions for higher education. But teaching remains my first love, and I am excited to teach this course this semester. Please feel free to reach out with any questions or comments you have at any time.

Points and Grades

Your grade in this class will be determined as follows:

| Activity | Points | Percent |
|---|--------|---------|
| Chapter Quizzes (knowledge level) WHAT? | 220 | 31.4% |
| Hands-on Activities (skills level) HOW? | 240 | 34.3% |
| The Human Balance (critical reflection level) WHY? | 140 | 20.0% |
| Final Project | 100 | 14.3% |
| TOTAL | 700 | 100.0% |

Grades are based on a standard 10-point scale (90% for an "A", 80% for a "B", etc.)

All activities must be submitted by the due date for full credit.
Late work might be accepted for half credit, but only if submitted within 1 week of the due date.

Course Schedule

| Week Starting | Topic | Points | | | |
|---------------------|--|--------------|-----------------|---------------|---------------|
| | | Chapter Quiz | Hands-on Skills | Human Balance | Final Project |
| 8/22/2022 | UNIT 1 --- Introduction and Getting Started | | 20 | 20 | |
| 8/29/2022 | UNIT 2 --- Introduction to Business Analytics | 20 | 20 | 20 | |
| 9/5/2022 | UNIT 3 --- Data Management and Wrangling | 20 | 20 | 20 | |
| 9/12/2022 | UNIT 4 --- Data Visualization and Summary Measures | 20 | 20 | | |
| 9/19/2022 | UNIT 5 --- Statistical Inference | 20 | 20 | 20 | |
| 9/26/2022 | UNIT 6 --- Regression Analysis | 20 | 20 | | |
| 10/3/2022 | UNIT 7 --- More Regressions | 20 | 20 | | |
| 10/10/2022 | TBA ((Short week, Fall Break Oct 13-14)) | | | | |
| 10/17/2022 | UNIT 8 --- Introduction to Machine Learning | 20 | 20 | 20 | |
| 10/24/2022 | UNIT 9 --- KNN (k-nearest neighbors) | 20 | 20 | | |
| 10/31/2022 | UNIT 10 --- Decision Trees | 20 | 20 | 20 | |
| 11/7/2022 | UNIT 11 --- Unsupervised Machine Learning | 20 | 20 | | |
| 11/14/2022 | UNIT 12 --- Probability | 20 | 20 | 20 | |
| 11/21/2022 | TBA ((Short week, Thanksgiving Nov 23-25)) | | | | |
| 11/28/2022 | Work on Final Project | | | | |
| 12/5/2022 | Finals Week (Submit Final Project) | | | | 100 |
| Total Points | | | | | 700 |

The Gordon Ford Leadership Team wants you to be aware of the following:

WKU Counseling and Testing Center

The university experience should be challenging, but not overwhelming. To this end, the WKU Counseling Center provides a variety of services to help strengthen students' capacity to tolerate distress, form healthy relationships, and seek healthy expressions of their ideals and values. If you would like to speak with someone, you may contact WKU's [Counseling and Testing Center](#) at 270-745-3159 or use their Here To Help service at <https://www.wku.edu/heretohelp/heretohelpemail.php>. If you need immediate help, please visit the Counseling Center in 409 Potter Hall or call the 24-hour emergency help line at 270-745-2548.

Big Red Backpack

The Big Red Backpack program is the title of WKU's partnership with Barnes & Noble College for their First Day Complete initiative. Big Red Backpack is a course materials delivery program that ensures students have their required course materials on the first day of class and may reduce the costs of materials for many of their courses. Enrollment in the program occurs automatically when students register for classes. Students may opt out of the program each semester, as long as they choose to opt out for all of their classes.

Students MUST carefully and completely follow all instructions regarding the Big Red Backpack Program. Those instructions will be provided by:

1. An email to all Topper email addresses from the Big Red Backpack Program one month prior to the start of classes.
2. The Big Red Backpack Program site: <https://www.wku.edu/bigredbackpack/>.

Students should refer to the Big Red Backpack Program site referenced above for opt-out deadlines and any additional details.

The University Leadership Team wants you to visit <http://www.wku.edu/syllabusinfo/> for WKU's most up-to-date information about COVID-19, Title IX Discrimination & Harassment, ADA Accommodation, Regular and Substantive Interaction (Online Courses Only), and various other Things You Should Know.

ADA Accommodations

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, Room 1074. The SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Title IX/ Discrimination & Harassment

Western Kentucky University (WKU) is committed to supporting faculty, staff, and students by upholding WKU's Sex and Gender-Based Discrimination, Harassment, and Retaliation (#0.070) and Discrimination and Harassment Policy (#0.2040). Under these policies, discrimination, harassment, and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Executive Director, Office of Institutional Equity/Title IX Coordinator, Ena Demir, 270-745-6867 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

COVID-19

All students are strongly encouraged to get the COVID-19 vaccine. In accordance with WKU policy, all students must call the WKU COVID-19 Assistance Line at 270-745-2019 within 4 hours of testing positive for COVID-19 or being identified as a close contact to someone who has tested positive. The COVID Assistance Line is available to answer questions regarding any COVID-19 related issue. This guidance is subject to change based on requirements set forth by federal, state, and local public health entities. Please refer to the Healthy on the Hill website for the most current information. www.wku.edu/healthyonthehill

Please visit <http://www.wku.edu/syllabusinfo/> for more important WKU information you should know.