Spring 2024 Syllabus for BI 348: Big Data Analytics with Microsoft Power Tools
(subject to change)   Section: 1YCF-LEC (36461)

Highline College
2400 S. 240th St.
Des Moines, WA 98198

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Getting Started in this Class:

1) The first thing you must do is watch the Class Introductory Video and read the Syllabus (you are reading the syllabus now) at this web site: BI 348 Introductory Video

Instructor Information:

Instructor's Name: Michael Girvin
Instructor's Office Phone: (206) 592-3562
Instructor's Email address: mgirvin@highline.edu
Office / Student Hours: Tuesday & Thursday: 9 AM – 12 PM and 1:30 PM to 3:30 PM in 29-307 or 29-308.
                                During this time, you can get help with class, advising, Excel, Data Analysis or other.

Schedule:

Week	Topic	Videos to Watch	Projects can be downloaded from people web site below the videos. Project due dates:
Class: BI 348 at Highline College, Spring 2024 Class Title: Data Analysis Made Easy With Microsoft Power Tools Short Title: DAME with MPT			
Week 1 & 2: 4/1 to 4/14	Data Terminology	Video 1	No Project
Week 3-5: 4/15 to 5-5	Review of all Microsoft Data Analysis Power Tools, plus new tool: Dataflow	Video 2	Project 01 due on Mon, 4/22 Project 02 due on Mon, 4/29 Project 03 due on Mon, 5/6
Week 6: 5/6 to 5/12	PivotTables Reporting with Worksheet Formulas	Video 3 Video 4	Project 04 due on Mon, 5/13
Week 7: 5/13 to 5/19	M Code in Power Query	Video 5	Project 05 due on Mon, 5/20
Week 8: 5/20 to 5/26	DAX in the Data Model	Video 6	Project 06 due on Mon, 5/27
Week 9: 5/27 to 6/2	Visualizations	Video 7	Project 07 due on Mon, 6/3
Week 10: 6/3 to 6/9	Data Analysis Project	Video 8	Project 08 due on Mon, 6/10
Week 11: 6/10 to 6/13	All late work must be in before on on Thursday, 6/13		

Class Description and Student Outcomes from Official Highline Catalog:

BI 348 - Big Data Business Analytics with Microsoft Power Tools

5 Credits

Students will use Microsoft's new Power Tools (Excel Power Pivot, Power Query and Power BI Desktop) to convert real world large data sets into useful information for business decision making. In addition to learning some standard Excel features, students will learn, in depth, how to use the computer languages DAX and M Code to clean, transform and load data, as well as how to convert the loaded data into useful information for reporting, visualizing, analytics and dashboarding.

Pre-requisite(s) BUSN 210 min 2.0 (or MATH& 146) and BUSN 218 min 2.0
Program Admission Required Yes **Admitted Program** BAS - BUSN
Course Note Acceptance to BAS in Global Trade & Logistics required.
FeesCF

- Overview of all tools and concepts in the class.
- Define Data Analysis and Business Intelligence.
- Define Data Analysis, Business Intelligence and Data Warehousing Terms and concepts.
- Use Excel Spreadsheet Formulas and Functions for ETL and creating information solutions.
- Use Standard PivotTables for creating information solutions.
- Use Power Query to extract, transform and load data to the Excel Worksheet, PowerPivot Data Model and Power BI Desktop Data Model.
- Learn to write M Code to extract, transform and load data.
- Learn about how to build efficient and effective Data Models for both Excel Power Pivot and Power BI Desktop using Power Query and M Code.
- Use Excel Power Pivot for creating information solutions.
- Use Power BI Desktop for creating information solutions.
- Learn about how the Columnar Database compacts and stores data for a Data Model.
- Learn to write basic to advanced DAX code to create business calculations using calculated columns, queries and measures.
- Build efficient and effective dashboards that contain refreshable and sharable reports, visualizations and analytics.
- Build complete Data Analysis and Business Intelligence solutions from beginning to end using case studies.

Student Learning Outcomes
Convert unorganized raw big data sets into useful information (reports, visualizations and analytics) for business decision making, providing data driven insights.

Use analysis and visualization tools (such as Excel Power Pivot, Power Query and Power BI Desktop) and computer languages (DAX and M Code) to create useful information solutions from large data sets.

Create efficient and effective data models and business-related measures by ETL (extract, transform and load data) to build refreshable useful information solutions.

Efficiently and effectively construct reports, visualizations and dashboards for business decision makers.

Create Excel worksheet formula solutions for linear programming, simulations, and other analytic goals.

We have Two Class Web Sites:

1. https://people.highline.edu/mgirvin/AllClasses/B210/M365NoBook.htm
   - This web site contains: Introductory Class Video, Syllabus, YouTube Video Lectures, Downloadable files for class. This web site is ALWAYS available, before the class starts, while the class is running and after the class ends.
2. https://canvas.highline.edu/courses
   - This web site contains: Test upload links, Quizzes, Scores for tests and quizzes. This class is ONLY available between 6 AM on Monday, April 1, 2024, to noon on Thursday, June 13, 2024. If you have questions concerning scores and grading after the class ends, you can e-mail mgirvin@highline.edu.

Computer Requirements

1. As was communicated in the schedule when you signed up for the class, you are required to use a Windows Based PC computer with Microsoft 365 Excel.
2. You will also have to download the free program Power BI Desktop (which you already did in the prerequisite class – but videos remind you how).
3. Highline also bought a Power BI Pro License for you (just like in prerequisite class – but videos remind you how to log in with Highline Credentials)
4. If you do not have a Windows Based PC computer with Microsoft 365 Excel, you can make a request to borrow one from Highline or use the computer labs in build 30 at Highline.
   - To request a Windows based PC computer from Highline, use the "Student Technology Request Form" link at this Highline web site: https://its.highline.edu/
   - To get a free copy of Microsoft 365 Excel from Highline College, , use the "Free Office 365 for Staff & Students" and "Office 365 Student Instructions" links at this Highline web site: https://its.highline.edu/
   - To download the free Microsoft app "Power BI Desktop", use this link: https://powerbi.microsoft.com/en-us/desktop/

Succeeding in this class:

- The process of succeeding in this class is the same as in your prerequisite class Busn 218:
  1. From the people web site, use the downloadable Excel and Power BI files to follow along with YouTube lecture videos to practice the tools and techniques for data analysis. Pause and rewind the videos as needed. This is practice so you can complete Projects to earn points toward a grade.
  2. From the people web site, you can read or download the pdf notes as a review of the video.
  3. From the people web site, download the Project file, follow instructions in Project file, complete the Project, and then upload the finished Project file to the Upload Link in the Home Area of Canvas.
  4. When you have questions about anything, e-mail (mgirvin@highline.edu), phone (206-592-3562) or make a live appointment (send e-mail or phone) to come see me in my office Monday through Saturday.

Projects To Earn Points Toward A Grade:

1. Projects are available for download at our people web site. Projects must be uploaded to the Home area of Canvas before midnight on Monday. Exacts dates are in schedule at end of this syllabus.
2. These data analysis projects are similar to what you studied in the videos. The projects are taken directly from the working world (mostly derived from my consulting business). This is so you have good practice in school for your future jobs.
3. The due date-times for project are listed in the schedule at end of syllabus at our people web site. Late projects receive a 25% point deduction, unless you have a documented emergency.
4. Each project is worth 100 points. There will be about 6 projects. The points will be tally at end of quarter and your grade will be based on the points that you earn.
5. If you need help with your project BEFORE you hand it in for grading, you can e-mail me your questions, or you can e-mail or phone me to make an appointment for "live" on campus help.

Grading and Grading Feedback:

Your grade is calculated by tallying your total points earned from your completed projects and then dividing by the total points possible for the projects and looking up the decimal grade as is listed in the table below. The lowest project score will be dropped. For example, if your final scores were: 80, 100, 90, 50, 100, 80, your grade (based on the distribution below would be: (80 + 100 + 90 − 50 + 100 + 80)/500 = 450-500 = 9/10 = 0.90 ➔ 90% ➔ 3.6.

% Grade	Decimal Grade	% Grade	Decimal Grade	% Grade	Decimal Grade	% Grade	Decimal Grade	% Grade	Decimal Grade
94.00%	4	87.00%	3.3	80.00%	2.6	73.00%	1.9	66.00%	1.2
93.00%	3.9	86.00%	3.2	79.00%	2.5	72.00%	1.8	65.00%	1.1
92.00%	3.8	85.00%	3.1	78.00%	2.4	71.00%	1.7	64.00%	1
91.00%	3.7	84.00%	3	77.00%	2.3	70.00%	1.6	63.00%	0.9
90.00%	3.6	83.00%	2.9	76.00%	2.2	69.00%	1.5	62.00%	0.8
89.00%	3.5	82.00%	2.8	75.00%	2.1	68.00%	1.4	61.00%	0.7
88.00%	3.4	81.00%	2.7	74.00%	2	67.00%	1.3	0.00%	0

All submitted tests are graded within 24 hours after the scheduled due date-time. Due date-times for tests are listed in the schedule at the end of this syllabus. For all grade projects, you will receive an itemized list of graded elements with notes about achievement success and or positive feedback to make improvements.

Academic Honesty:

Students are expected to maintain a high standard of honesty in their academic work. Cheating and plagiarism are specifically prohibited under the college's Student Rights and Responsibilities provisions. Academic dishonesty of any kind will result in a grade of 0.0 on the assignment and possible disciplinary action from the college. Acts of cheating may include:

- Turning in an item you did not create is cheating. Copying another person's digital item or work is cheating.
- Allowing (intended or not intended) someone else to copy your work or digital item is considered cheating and will result in a failing grade for the assignment. This means that you must safeguard your work and computer so that others do not have access to your work or computer.
- During a test or quiz, do your own work, do not look at other's work, and do not talk with others (to do so is cheating). Do not discuss your test or quiz with others before or after the test. Having someone take or help you with a test or quiz is cheating.

Incomplete Policy

1) In accordance with Highline policy, incomplete contacts are granted in the cases of documented emergencies. Examples of documentable emergencies are notes from doctor for hospital visit or a copy of death certificates for a relative.
2) Incompletes are considered only if 80% of the class work is done with a 2.0 grade or higher before the end of the sixth week.
3) The student must notify the instructor BEFORE the last day of the class to qualify for an incomplete.
4) If an incomplete is granted, a contract between the student and teacher will be created and the terms of the contract must be completed within two weeks of the last day of class.

Inclusive Statement

Highline College actively promotes and supports a learning environment which ensures social justice, mutual respect, understanding, civility and nonviolence. I recognize and respect diversity knowing that we are all different, and we also learn in different ways. These differences provide us with opportunities to learn new things, compare experiences, test our assertions, understand ourselves better, and find common ground. In this class I will uphold and promote an anti-discriminatory environment where everyone will belong and feel safe. I am committed to providing an equitable

learning environment that will provide support to everyone in this class with a goal to ensure that we all learn and succeed.

Access Services Statement:

If you have not yet established services through Access Services, but have a temporary health condition or permanent disability that requires accommodations, you can contact Access Services at 206-592-3857, access@highline.edu or access.highline.edu. Access Services is in building 99 suite 180.

Grievance Procedures:

In the case of a complaint about a course, students are encouraged to speak with their instructor first, and if the matter is not resolved, students should then contact the division chair. The Business Division Chair is Sherri Chun: schun@highline.edu

Additional College Procedures & Policies

For information on college policies on diversity, classroom behavior, incompletes, absences for religious reasons, student grievances, withdrawals, and emergency procedures please visit Highline College Procedures and Policies.

Student Resources:

The college offers many resources to support student achievement and success. These include Access Services, faculty advising, the Academic Success Centers (math, writing, and general tutoring), the college library, and technical support. For more detailed information on these services, please visit Highline College Resources for Students.

For Title IX (claims related to discrimination and sexual harassment):

It is the policy of Highline College to provide equal opportunity in education and employment and not discriminate on the basis of race, color, national origin, age, disability, sex, sexual orientation, marital status, creed, religion, or status as a veteran of war as required by Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975, [RCW 49.60.030](RCW 49.60.030) and their implementing regulations. Prohibited sex discrimination includes sexual harassment (unwelcome sexual conduct of various types). For more detail see the Title IX page on the Highline website. Schedule