

# Course Syllabus: IT 6713 Business Intelligence

## Kennesaw State University

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Jack Zheng, **Fall 2019**- Last updated: **Aug 19, 2019**

### **Note**

This syllabus provides a general guideline for the conduct of this course. However, deviations may be necessary and will be notified during the semester.

## Course Description

This course introduces the concepts, practices, technologies and systems of business intelligence and analytics, which supports data driven insights generation and decision making. The complete process of BI is covered using modern BI tools, from data gathering, modeling, analysis, reporting, and visualization.

Business intelligence systems have been widely adopted and implemented in today's enterprise environments due to growing amount of data and increasing need for data analytical processing. The IT 6733 course focuses more on general database administration but is limited on some parts of data modeling, integration, analysis, and visualization. This course is aimed to complement that by focusing analytical processing technologies and applications, with a focus on modern self-service BI approaches and tools.

## Course objectives/learning outcomes

1. Identify major components of a general business intelligence process and system.
2. Compare traditional and modern BI concepts and solutions.
3. Build a business intelligence solution, including data model, data preparation, data analysis, and data presentation.
4. Conduct research in business intelligence and analytics trends and their applications in organizations.

## Course features (**fall 2019**)

- Survey the full spectrum of business intelligence technologies and systems.
- Have hands-on experience with Microsoft BI solutions of Excel and Power BI.
- Allow students to explore their own interests and learn from the unique experience from research.

## Prerequisites

- Official requirement: IT 6733 database administration
- Strongly recommended: you should have some basic experience of Microsoft SQL Server and Excel.

## Class meet time and location

87894 W01 Online

## Instructor

**Dr. Jack G. Zheng**, Associate Professor, IT Department

Office: J-383

Email: [gzheng@kennesaw.edu](mailto:gzheng@kennesaw.edu) (**preferred**) Phone: 470-578-5036

Office hours: **W 2:00-5:00PM**, online, or by appointment

### **Email Policy**

1. Email is a great way of communication if you write the email subject like this:

**IT6713 – [put your real subject here]**

Emails will be responded within the next business day if the subject line conforms to the format above, and directly sent to my KSU email account above.

2. Per FERPA regulation, please use your university email to communicate with instructors. This can verify you identity and protect privacy. I reserve the right not to reply any email that I cannot verify sender's identity.

**Emails without proper subject line or unverified sender address are likely to be categorized as spam, and are NOT guaranteed to be replied.**

## Teaching style and belief

Generally I follow the principles of active learning, which emphasizes on learners’ active participation and exploration. Please get more details here:

- <http://jackzheng.net/teaching/teaching-belief.aspx>
- <http://jackzheng.net/teaching/student-comments.aspx>

## Course Conduct

### Course content/topics

This course follows a project-driven approach. The course content is basically organized as four milestones with learning modules. The following table is only a tentative overview of the course content and schedule. The more detailed and most updated schedule will be provided in a separate file in D2L.

Week	Module#	Module	Topics/Activities	Student Work
1		Orientation	Getting started	
2	1	Introduction	BI overview	
3	2	Traditional BI	Traditional BI approaches, technologies, and systems	Lab1
4	3	Modern BI	Modern BI concepts, technologies, and systems	
5	4	Data Model	Dimensional model basics	Lab2
6	5	Data Preparation	Self-service data preparation, data sources	Lab3
7	6	PBI data prep	PBI data transformation and cleanse techniques	
8			<i>Project/research orientation</i>	Test
9	7	Query and Analysis 1	Multi-dimensional query and analysis in Excel	Lab4
10	8	Query and Analysis 2	Multi-dimensional query and analysis in Power BI	
11			<i>Research/project advising; topic determination</i>	
12	9	Data Presentation	Data visualization, PBI charts	Lab5
13	10	Reports and Dashboards	Interactive report and dashboard, delivery	
14			<i>Research/project advising; progress check/feedback</i>	
15			<i>Thanksgiving</i>	
16			<i>Research/project demo</i>	Project final report
				Research report

Each module provides a study guide which detailed learning objectives, readings, and tasks. It’s critical to follow these study guides. The time to complete each module varies. Generally, modules are designed on an average of 8 to 12 hours to complete (for most of the people who have met the prerequisites), depending on individual background and prior experiences. Generally all module tasks should be completed within one week from the corresponding class date, however, some **required readings/research tasks** must be completed **by the planned class date**. Please follow the study guides closely.

## Grading

Item	Points
Test	10
Labs (5)	50
Project	20
Research	20
<i>Total</i>	<i>100</i>

Total Points	Grade
=>90	A
=>80	B
=>70	C
=>60	D
<60	F

More details about each item will be provided in “**Student Works**” content sections in the D2L Brightspace.

## Course Materials and Resources

### Course websites: D2L Brightspace <https://kennesaw.view.usg.edu>

- Refer to this website for all official teaching and learning materials and activities.
- It's important to know how to use this learning management system for: following learning modules, submitting assignments, checking grades and feedback, downloading files, participating discussion boards, etc.
- Please check the course site regularly for important announcements and other issues.

### Learning materials

- Open learning materials: <http://idi.kennesaw.edu/it6713/> - This course is part of the Affordable Learning Georgia Textbook Transformation Grants which aim to lower the cost of learning materials. All materials presented on this site are free to the public (but may not be updated to this semester).
- Required textbook: none. There is no textbook assigned. All readings are assigned in each learning module. Knowledge of the readings will reduce the time it takes you to finish lab assignments.
- Recommended references and resources:
  - Business Intelligence - <http://www.amazon.com/dp/0470461705>
  - SQL Server 2016 BI - <https://www.amazon.com/dp/1259641481>
  - Applied Microsoft Power BI - <https://www.amazon.com/Applied-Microsoft-Power-BI-4th/dp/0976635399>

### Required software/hardware

- Windows OS, SQL Server 2017 (downloadable from MS Imagine), Excel Pro 2016, Power BI.
- Virtual lab computers with required software will be provided using VMWare Horizon. Visit <https://cseview.kennesaw.edu>
- Other software: software that can open PDF files and ZIP files.

### Other readings and resources

- Other readings and resources will be suggested and posted for each week (module). Check D2L regularly.

## General Class Policies for all of Dr. Jack Zheng's Courses

!! Please view the separate document online at <https://goo.gl/G0Qd83> or request a copy by email.

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