



BUSA 532 Data Warehousing 01-W SYLLABUS: Summer I & II 2016

Instructor: Dr. Bob Folden

Office Location: BA 336B

Office Hours: Tuesday 1:00 pm - 4:00 pm

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University Email Address: Bob.Folden@tamuc.edu

Preferred Form of Communication: **Email is the best way to contact me**

Communication Response Time: Usually 24 to 48 hours except weekends and holidays.

COURSE INFORMATION

Textbook(s) Required

Data Warehousing Fundamentals: A Comprehensive Guide for IT Professionals, 2nd Edition.
Paulraj Ponniah . John Wiley & Sons, Inc. ISBN: 9780470462072

Recommended Books

Kimball's Data Warehouse Toolkit Classics Ralph Kimball, Margy Ross, Warren Thornthwaite, Joy Mundy, Bob Becker, & Joe Caserta. ISBN: 978-1-118-87518-6

Building a Data Warehouse, Rainardi ([https://www.powersat.org/Documents/Books/Apress%20-%20Building%20a%20Data%20Warehouse,%20With%20Examples%20in%20SQL%20Server%20\(2009\).pdf](https://www.powersat.org/Documents/Books/Apress%20-%20Building%20a%20Data%20Warehouse,%20With%20Examples%20in%20SQL%20Server%20(2009).pdf))

Course Description

The main purpose of the course is to develop and gain an understanding of the principles, concepts, functions and uses of data warehouses, data modeling and data mining in business

University Catalogue Description

This course covers the fundamentals of data warehousing architecture and the issues involved in how IT tools and techniques can allow managers to extract analytics and patterns from numeric data. Specific topics covered include the logical design of a data warehouse, the data staging area and extract-transform-load processing, the use of multi-dimensional analysis using OLAP techniques, and other techniques. The course will explore how to support informed decision making and extract predictive analytics

and patterns from nonnumeric data by leveraging tools and techniques to analyze unstructured data.

Student Learning Outcomes

Students will:

1. Differentiate the components of a data warehouse.
2. Construct a multi-dimensional data warehouse.
3. Use a data warehouse to provide a solution to a business problem.

Course Requirements

Instructional / Methods / Activities Assessments

Required Software: You will need access to Microsoft Office 2010 or above. It is available in all of the labs.

You will need to download and install SQL Server 2012 (directions are provided).

You may need Visual Studio from Microsoft.

Student Responsibilities

Dealing with Technical Issues

It is inevitable to have technical issues when dealing with technical subjects. In a perfect world, those would not happen and we could just do the work and everything would turn out fine. In an even more perfect world, systems would intuit what we wanted them to do and just do it. The fact is that we don't live in either of those worlds. Systems often do not work and we have to do our best to troubleshoot the problems and solve them. Sometimes we have good-to-great tech support to help us, but even that is more of an illusion than a fact. In order to really learn, you must experience obstacles and spend enormous amounts of energy to overcome them. A certain amount of frustration is involved in dealing with obstacles to system performance. While I attempt to minimize it, it is not possible to eliminate it.

For every assignment that you were unable to complete for technical reasons, you would need to create a problem discussion document that would include the following elements:

1. A clear description of the problem that you encountered with a full description of your computer system, including your network and internet connection information. (This information will help us to identify possible local causes for the difficulty)
2. A discussion of the steps that you took leading up to the problem (with screen shots to support your actions). (This will help us to see what you did and how

the system responded. With this information, we can begin to develop a repeat of the problem so that we can overcome it.)

3. Steps that you took to find solutions to the problem (with screen shots to support your actions).
4. Descriptions of online searches, books referenced, etc. to find a solution to your problem.
5. A discussion of what you see as the nature of the problem after all of your work.
6. A discussion of lessons that you learned from the activity.

This should be included in a single word processing document and placed in the appropriate drop box for the assignment.

Grading

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Assessments

| | |
|--|--------------|
| Ten (10) Tutorial Assignments @ 200 points | 2,000 |
| Eleven (11) Exercises @ 200 points | 2,200 |
| Four (4) Team Projects @ 300 points each | 1,200 |
| Total Points Possible | 5,400 |

You will submit your work through eCollege.

Technology Requirements

- To fully participate in online courses you will need to use a current Flash enabled browser. For PC users, the suggested browser is Google Chrome or Mozilla Firefox. For Mac users, the most current update of Firefox is suggested.
- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
 - 512 MB of RAM, 1 GB or more preferred
 - Broadband connection required courses are heavily video intensive
 - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution
- You must have a:
 - Sound card, which is usually integrated into your desktop or laptop computer
 - Speakers or headphones.
 - *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.

- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at: [JAVA web site http://www.java.com/en/download/manual.jsp](http://www.java.com/en/download/manual.jsp)
- Current anti-virus software must be installed and kept up to date.
- Run a browser check through the Pearson LearningStudio Technical Requirements website. [Browser Check http://help.ecollege.com/LS_Tech_Reg_WebHelp/en-us/#LS_Technical_Requirements.htm#Browsset](http://help.ecollege.com/LS_Tech_Reg_WebHelp/en-us/#LS_Technical_Requirements.htm#Browsset)

Running the browser check will ensure your internet browser is supported.

Pop-ups are allowed.

JavaScript is enabled.

Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
 - [Adobe Reader https://get.adobe.com/reader/](https://get.adobe.com/reader/)
 - [Adobe Flash Player \(version 17 or later\) https://get.adobe.com/flashplayer/](https://get.adobe.com/flashplayer/)
 - [Adobe Shockwave Player https://get.adobe.com/shockwave/](https://get.adobe.com/shockwave/)
 - [Apple Quick Time http://www.apple.com/quicktime/download/](http://www.apple.com/quicktime/download/)
- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Microsoft Access is the standard database management system software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.
- For additional information about system requirements, please see: [System Requirements for LearningStudio https://secure.ecollege.com/tamuc/index.learn?action=technical](https://secure.ecollege.com/tamuc/index.learn?action=technical)

Access and Navigation

Pearson LearningStudio (eCollege) Access and Log in Information

This course will be facilitated using Pearson LearningStudio, the learning management system used by Texas A&M University-Commerce. To get started with the course, go to [myLeo. http://www.tamuc.edu/myleo.aspx](http://www.tamuc.edu/myleo.aspx)

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamuc.edu.

It is strongly recommended that you perform a "Browser Test" prior to the start of your course. To launch a browser test, login to Pearson LearningStudio,

click on the "My Courses" tab, and then select the "Browser Test" link under Support Services.

Pearson Learning Studio Student Technical Support

Texas A&M University-Commerce provides students technical support in the use of Pearson LearningStudio.

Technical assistance is available 24 hours a day/ 7 days a week.

If at any time you experience technical problems (e.g., you can't log in to the course, you can't see certain material, etc.) please contact the Pearson LearningStudio Help Desk, available 24 hours a day, seven days a week.

The student help desk may be reached by the following means 24 hours a day, seven days a week.

- **Chat Support:** Click on '*Live Support*' on the tool bar within your course to chat with a Pearson Learning Studio Representative.
- **Phone:** 1-866-656-5511 (Toll Free) to speak with Pearson Learning Studio Technical Support Representative.

Accessing Help from within Your Course: Click on the '*Tech Support*' icon on the upper left side of the screen inside the course. You then will be able to get assistance via online chat, email or by phone by calling the Help Desk number noted below.

Note: Personal computer problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, an Internet cafe, or a bookstore, such as Barnes & Noble, etc.

Policy for Reporting Problems with Pearson LearningStudio

Should students encounter Pearson LearningStudio based problems while submitting assignments/discussions/comments/exams, the following procedure **MUST** be followed:

1. Students must report the problem to the help desk. You may reach the helpdesk at helpdesk@online.tamuc.org or 1-866-656-5511
2. Students **MUST** file their problem with the helpdesk and obtain a helpdesk ticket number
3. Once a helpdesk ticket number is in your possession, students should email me to advise me of the problem and to provide me with the helpdesk ticket number
4. At that time, I will call the helpdesk to confirm your problem and follow up with you

PLEASE NOTE: Your personal computer/access problems are not a legitimate excuse for filing a ticket with the Pearson LearningStudio Help Desk. You are strongly encouraged to check for compatibility of your browser **BEFORE** the course begins and to take the Pearson LearningStudio tutorial offered for students who may require some extra assistance in navigating the Pearson LearningStudio platform. **ONLY** Pearson LearningStudio based problems are legitimate.

Internet Access

An Internet connection is necessary to participate in discussions and assignments, access readings, transfer course work, and receive feedback from your professor. View the requirements as outlined in Technology Requirements above for more information.

myLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at [myLeo](https://leo.tamuc.edu). <https://leo.tamuc.edu>

Learner Support


Go to the following link [One Stop Shop](http://www.tamuc.edu/admissions/onestopshop/)- created to serve you by attempting to provide as many resources as possible in one location.
<http://www.tamuc.edu/admissions/onestopshop/>

Go to the following link [Academic Success Center](http://www.tamuc.edu/campusLife/campusServices/academicSuccessCenter/)- focused on providing academic resources to help you achieve academic success.
<http://www.tamuc.edu/campusLife/campusServices/academicSuccessCenter/>

FREE Mobile APPS

The Courses apps for phones have been adapted to support the tasks students can easily complete on a smaller device. Due to the smaller screen size course content is not presented.

The Courses app is free of charge. The mobile Courses Apps are designed and adapted for different devices.

| | | |
|---|--------------------------|---|
|  | App Title: | iPhone – Pearson LearningStudio Courses for iPhone Android – LearningStudio Courses - Phone |
| | Operating System: | iPhone - OS 6 and above Android – Jelly Bean, Kitkat, and Lollipop OS |
| | iPhone App URL: | https://itunes.apple.com/us/app/pearson-learningstudio-courses/id977280011?mt=8 |
| | Android App URL: | https://play.google.com/store/apps/details?id=com.pearson.lsphone |

Once downloaded, search for Texas A&M University-Commerce, and it should appear on the list. Then you will need to sign into the myLeo Mobile portal.

The Courses App for Android and iPhone contain the following feature set:

- View titles/code/Instructor of all Courses enrolled in online
- View and respond to all discussions in individual Courses
- View Instructor Announcements in individual Courses
- View Graded items, Grades and comments in individual Courses
- Grade to Date
- View Events (assignments) and Calendar in individual Courses
- View Activity Feed for all courses
- View course filters on activities
- View link to Privacy Policy
- Ability to Sign out
- Send Feedback

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

You are welcome to discuss any topic with the Instructor. You may come by during office hours or arrange for a more suitable time with the Instructor. I operate with an open door policy and welcome students to come to visit. I am even willing to help resolve technical issues with your computer system, I just need to have access to it or clear explanation of the problems presented.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

⁺ Assignments are due 2400 hours (midnight) of the date that they are assigned.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the professor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See current Student Guidebook).

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](http://www.albion.com/netiquette/corerules.html)
<http://www.albion.com/netiquette/corerules.html>

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: Rebecca.Tuerk@tamuc.edu

Website: [Office of Student Disability Resources and Services](http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

COURSE OUTLINE / CALENDAR

| Unit | Readings | Date | ASSIGNMENTS | TOPICS |
|--|---------------------------|-----------------|---|--|
| Unit 1: Overview and Basic Concepts | Chapters 1, 2, & 3 | June 13 | Tutorial 1 | Compelling Need |
| | | | Tutorial 2 Exercise 1 | Trends in Data Warehousing |
| Unit 2: Planning and Requirements | Chapters 4, 5, & 6 | June 20 | Tutorial 3 Exercise 2 | Planning and Project Management |
| | | | | Defining the Business Requirements |
| | | | Tutorial 4 Exercise 3 | Requirements as the Driving Force for Data Warehousing |
| Unit 3: Architecture and Infrastructure | Chapters 7, 8, & 9 | July 5 | Tutorial 5 Exercise 4 | Architectural Components |
| | | | Tutorial 6 Exercise 5 | Infrastructure as the Foundation for Data Warehousing |
| | | | | The Significant Role of Metadata |
| Unit 4: Data Design and Data Preparation | Chapters 10, 11, 12, & 13 | July 17 | Tutorial 7 Exercise 6 | Principles of Dimensional Modeling |
| | | | Team Project 1 Tutorial 8 Exercise 7 | Dimensional Modeling: Advanced Topics |
| | | | Tutorial 9 Exercise 8 | Data Extraction, Transformation, and Loading |
| | | | | Data Quality: A Key to Success |
| Unit 5: Information Access and Delivery | Chapters 14, 15, 16, & 17 | August 1 | Tutorial 10 Team Project 2 Exercise 9 | Matching Information to the Classes of Users |
| | | | Exercise 10 | OLAP in the Data Warehouse |
| | | | | Data Warehousing and the WEB |
| | | | Team Project 3 | Data Mining Basics |
| Unit 6: Implementation and Maintenance | Chapters 17, 18, 19, & 20 | August 8 | Exercise 11 | The Physical Design Process |
| | | | Team Project 4 | Data Warehouse Deployment |
| | | | | Growth and Maintenance |
| | | | Drop Dead Date | Finals Week |