

COURSE SYLLABUS

CPSC 6127 Contemporary Issues in DBMS (Business Intelligence) Spring 2016

INSTRUCTOR INFORMATION

INSTRUCTOR NAME: Dr. Vladimir Zanev

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PHONE: 706 507-8182

OFFICE HOURS AND LOCATION: MWF 10:00 – 11:30 a.m., TR 3:00-4:00 p.m., CCT 442

MEETING TIME AND PLACE: TR 11:00 – 12:15 p.m., online at CougarView

COURSE INFORMATION

COURSE CRN NUMBER/TITLE: CPSC 6127 Contemporary Issues in DBMS (Business Intelligence) (CRN 20347)

CREDIT HOURS/PREREQUISITES: 3 credit hours, no prerequisites

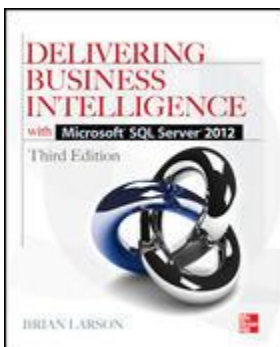
COURSE DESCRIPTION

This course provides an overview of modern database management systems and issues relating to these systems. Topics include developing a logical model, deriving the physical design, creating data services, creating a physical database, and maintaining a database in a variety of environments (from the Catalog 2015-2016).

The course covers fundamentals of the business intelligence, business intelligence development and delivering. It provides an introduction to the business intelligence architecture, data warehousing and data marts, including planning, designing, building, and populating a successful data marts and business intelligence systems. Topics include business requirement analysis, multidimensional and tabular semantic modeling, physical data mart design, extraction-transformation-load design and development, MDX scripting, online analytical processing, and presenting business intelligence. Business intelligence OLAP applications, reports, services, and pivot tables will be developed and delivered. The course includes individual assignments with extensive business intelligence and database work.

REQUIRED TEXTBOOK AND SOFTWARE

TEXTBOOK - required



Title: Delivering Business Intelligence

Author: Brian Larson

Publisher: McGraw Hill

ISBN-10: 0071759387

ISBN-13: 9780071759380

Edition: 3rd, 2012

SOFTWARE

To complete all lessons, projects, and exams, you need:

- Windows, browser, Word, and PowerPoint
- Internet Access (account) to the CSU CougarVIEW (D2L) class site ([How do I know if my computer will work with D2L? \)](#))
- BI Student Virtual Server remotely accessed with the following software available:
 - SQL Server 2012 Database Engine
 - SQL Server 2012 Integration Services
 - SQL Server Analysis Services
 - SQL Services Analysis Services/Tabular
 - SQL Server Reporting Services
 - Report Builder
 - MS Excel PowerPivot

LEARNING OUTCOMES

COURSE LEARNING OUTCOMES

At the completion of this course, students will have an understanding and knowledge of:

- What business intelligence is
- How to design and plan business intelligence structures
- How to create and work with Multidimensional BI semantic model and data cubes
- How to work with MDX language and query data cubes for business intelligence information
- How to create and work with tabular semantic BI model
- How to interpret the information from business intelligence structures
- How to develop business intelligence reports with Excel, pivot tables, drill-down, dynamic, key performance indicators, dashboard reports, dynamic graph and chart reports.

COURSE ASSESSMENT

LEARNING ACTIVITIES

- Textbook readings and slides
- Quizzes
- Projects
- Midterm and Final Exams

Readings and Slides

The CPSC 6127 online class is scheduled TR with online sessions each one of 75 min. To complete all class requirements you need an additional amount of time. The class topics follow the textbook chapters. In a scheduled topic unit you have to cover chapter topics from the textbook and slides, and learn-by-doing exercises (organized as projects). The topics covered in the class follow the course schedule. See the class Schedule for details. Each student is expected to complete all textbooks chapters, slides, and learn-by-doing exercises.

Quizzes

With most of the chapters covered in the class we will have quizzes. The quiz questions cover topics from textbook chapters. Questions on the quizzes may include the following: multiple choice answer selection, true-

false, and short essay questions. All quizzes will be delivered through the CougarView class Web site. The quizzes are online, one attempt, and timed (short time - about 30 min for about 20-30 questions). All quizzes are with firm due date and time. The quizzes require beforehand a good preparation for a success.

Projects

The projects are "hands-on practice" part of the course that allows developing knowledge, skills and experience. Each project provides you with practice developing business intelligence structures, analytical processing, extract-transform-load projects, analysis services projects, data mining projects, and variety of reports working with data cubes and data marts. The projects are related to the major business intelligence topics covered in the class. The details of each of these projects are outlined in the Project Web pages of the class Web site. The projects have to be developed and saved on the student BI (Business Intelligence) Virtual Server not later than midnight on the due date. **Late projects are not accepted for credits.** See the Project Web pages of the class Web site for details.

Exams

Your performance in this class will be measured by Midterm and Final Exams. **No make-up exams will be given unless the exam was missed due to a documented emergency.** The Midterm and Final Exams will be timed, problem-solving, project-oriented exams.

COURSE EVALUATION

GRADED LEARNING ACTIVITIES	Percentage	Points
Quizzes	15%	
Projects	50%	
Midterm Exam	15%	
Final Exam	20%	
TOTAL	100%	

Percentage Range	Final Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
59% and below	F

ADMINISTRATIVE POLICIES AND ACADEMIC RESOURCES

CSU DISABILITY POLICY

If you have a documented disability as described by the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973, Section 504, you may be eligible to receive accommodations to assist in programmatic and/or physical accessibility. We recommend that you contact the Office of Disability Services located in Schuster Student Success Center, Room 221, 706-507-8755 as soon as possible. Students taking online courses can contact the Office of Disability services at <http://disability.columbusstate.edu/>. The Office of Disability Services can assist you in formulating a reasonable accommodation plan and in providing support. Course requirements will not be waived but accommodations may be able to assist you to meet the requirements. Technical support may also be available to meet your specific need.

ACADEMIC INTEGRITY

All students are expected to recognize and uphold standards of intellectual and academic integrity. As a basic and minimum standard of conduct in academic matters that students be honest and that they submit for credit only the products of their own efforts. Both the ideals of scholarship and the need for fairness require that all dishonest work be rejected as a basis for academic credit. They also require that students refrain from any and all forms of dishonorable or unethical conduct related to their academic work.

Students are expected to comply with the provisions of Section III, "Student Responsibilities," of the Columbus State University Student Handbook. This specifically includes the sections on "Academic Irregularity," and "Conduct Irregularity." In particular, the Columbus State University Student Handbook states:

"No student shall give or receive assistance in the preparation of any assignment, essay, laboratory report, or examination to be submitted as a requirement for any academic course in such a way that the submitted work can no longer be considered the personal effort of the student submitting the work."

Examples of Academic Dishonesty include but are not limited to: Plagiarism (see definition below), giving or receiving unauthorized assistance on exams, quizzes, class assignments or projects, unauthorized collaboration, multiple submissions (in whole or part) of work that has been previously submitted for credit.

Plagiarism is any attempt to represent the work or ideas of someone else as your own. This includes purchasing or obtaining papers from any person and turning them in as your own. It also includes the use of paraphrases or quotes from a published source without properly citing the source. All written assignments may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism.

Please be aware that anyone caught cheating or plagiarizing in this class will receive a "0" for the assignment/exam and may receive a "0" for the course.

STUDENT COMPLAINT PROCESS

Information and resources for student complaints and academic appeals are located at the following link on the Columbus State University website <http://aa.columbusstate.edu/appeals/>.

COURSE ATTENDANCE POLICY AND STUDENT RESPONSIBILITIES

Course Attendance

Attendance at all classes and other activities (lecture periods, laboratory sessions, quizzes, examinations, or other schedule meetings) is required of every student at Columbus State University. Class attendance is the

responsibility of the student, and it is the student's responsibility to independently cover any materials missed. The attendance record begins with the first meeting of the class, and one who registers late is responsible for class work missed. Student should note that the Computer Science Faculty does not initiate "class drops". A student wishing to drop should complete the official procedure before the deadline. Those who violate the attendance policy after that deadline may receive an "F" at the discretion of the instructor.

Student Responsibilities

- Each student is responsible to manage his/her time and maintain the discipline required to meet the course requirements.
- Each student is responsible to read from the textbook, lecture notes, references, and tutorials, review questions, and problems covered in the class
- Each student is responsible to be prepared and complete in time all assignments and quizzes
- Each student is responsible to adhere to all course deadlines and actively to participate in class sessions
- Each student is responsible to take the exams as they are scheduled in the course schedule.

"I didn't know" is not an acceptable excuse for failing to meet the course requirements. Students who fail to meet their responsibilities do so at their own risk.

COURSE SCHEDULE

Week/Dates	Lecture Topics, Slides, Projects	Projects, Quizzes, and Exam Due Dates (not later than midnight)
Week 1: January 11th - 15th		
Tue, Jan 12th	Class organization and administration. CougarView (D2L) class site: class Outline, Schedule, How To., Projects, class Content, Quizzes, Slides. Login to the virtual BI server. Connect to SQL Server 2012: Database Engine, Analysis services, Analysis Services/TABULAR, Integration Services, Reporting Services.	
Thu, Jan 14th	Chapter 1. Equipping the Organization for Effective Decision Making Chapter 2. Making the Most of What You've Got – Using Business Intelligence	Quiz 1. Chapter 1 and 2 due on January 14th
Week 2: January 18th – 22nd		
Tue, Jan 19th	Chapter 3. Seeking the Source – The Source of Business Intelligence	
Thu, Jan 21st	Chapter 4. Two, Two, Two Models in One – The BI Semantic Model	Quiz 2. Chapter 3 due on January 21st
Week 3: January 25th - 29th		
Tue, Jan 26th	Chapter 5. First Step - Beginning the Development of BI	
Thu, Jan 28th	Chapter 6. Building Foundations – Creating Data Marts Begin Project 1.	
Week 4: February 1st - 5th		
Tue, Feb 2nd	Chapter 6. Building Foundations – Creating Data Marts	Quiz 3. Chapter 4 and 6 due on February 2nd Project 1 due on February 2nd
Thu, Jan 4th	Chapter 7. Transformers – Integration Services Structure and Component	
Week 5: February 8th - 12th		
Tue, Feb 9th	Chapter 7. Transformers – Integration Services Structure and Component	
Thu, Feb 11th	Chapter 7. Transformers – Integration Services Structure and Component	Quiz 4. Chapter 7 due on February 11th

Week 6: February 15th - 19th		
Tue, Feb 16th	Chapter 8. Fill'er Up – Using Integration Services for Population Data Marts Begin Project 2	
Thu, Feb 18th	Chapter 8. Fill'er Up – Using Integration Services for Population Data Marts	Quiz 5. Chapter 8 due on February 18th Project 2 due on February 18th
Week 7: February 22nd - 26th		
Tue, Feb 23rd	Chapter 9. Cubism – Measures and Dimensions Begin Project 3	
Thu, Feb 25th	Chapter 9. Cubism – Measures and Dimensions	Quiz 6. Chapter 9 due on February 25th Project 3 due on February 25th
Week 8: February 29th – March 4th		
Mon, Feb 29th- March 1st	Midterm Exam on Mon, Feb 29th and Tue, March 1st	Midterm Exam on Mon, Feb 29th and Tue, March 1st
Tue, March 1st	Chapter 10. Bells and Whistles – Special Features of OLAP Cubes Begin Project 4	
Thu, March 3rd	Chapter 10. Bells and Whistles – Special Features of OLAP Cubes	Quiz 7. Chapter 10 due on Thu, March 3rd
Week 9: March 7th - 11th		
Tue, March 8th	Chapter 11. Writing a New Script – MDX Scripting	
Thu, March 10th	Chapter 11. Writing a New Script – MDX Scripting	Project 4 due on March 10th
Week 10: March 14th – 18th Spring Break		
Tue, March 14th	Spring Break. No classes.	
Thu, March 17th	Spring Break. No classes.	
Week 11: March 21st - 25th		
Tue, March 22nd	Chapter 12. Pulling It Out and Building It Up – MDX Queries	Quiz 8. Chapter 11 and 12 due on Tue, March 22nd
Thu, March 24th	Chapter 13. Setting the Table – Creating a Tabular BI Semantic Model Begin Project 5	
Week 12: March 28th - April 1st		
Tue, March 29th	Chapter 13. Setting the Table – Creating a Tabular BI Semantic Model Begin Project 6	Project 5 due on Tue, March 29th
Thu, March 31st	Chapter 14. A Fancy Table – Tabular BI Semantic Model Advanced Features	Quiz 9. Chapter 13 and 14 due on Thu, March 31st Project 6 due on Thu, March 31st
Week 13: April 4th - 8th		
Tue, April 5th	Chapter 15. Panning for Gold – Introduction to Data Mining	Quiz 10. Chapter 15 due on Tue, April 5th
Thu, April 7th	Chapter 16. Building the Mine – Working with the Data Mining Model Begin Project 7	
Week 14: April 11th - 15th		
Tue, April 12th	Chapter 16. Building the Mine – Working with the Data Mining Model	Project 7 due on Tue, April 12th
Thu, April 14th	Chapter 17. Spelunking – Exploration Using Data Mining Chapter 18. Special Delivery – Microsoft Business Intelligence Client Tools Getting Started (see the Resources page)	Quiz 11. Chapter 16 and 17 due on Thu, April 14th
Week 15: April 18th-22nd		
Tue, April 19th	Chapter 18. Special Delivery – Microsoft Business Intelligence Client Tools Report Builder - Creating Basic Report, Formatting the Elements (see the Resources page)	
Thu, April 21st	Chapter 18. Special Delivery – Microsoft Business Intelligence Client Tools Power Builder 3.0 (see the Resources page - Creating Basic Reports, Formatting the Elements of Your Report, SQL Server 2008 R2 Report Builder, Help Report Builder 3.0)	Project 8 due on Thu, April 21st
Week 16: April 25th- 29th		
Tue, April 26th	Chapter 18. Special Delivery – Microsoft Business Intelligence Client Tools	Quiz 12. Chapter 18th due on

	Excel PowerPivot (pdf, Help, audio-videos on the Resources page)	Tue, April 26th Project 9 due on Tue, April 26th
Thu, April 28th	Review for the Final exam	
Tue, May 3 rd and Wed, May 4th	Final Exam on Tue, May 3rd and Wed, May 4th	Final Exam on Tue, May 3rd and Wed, May 4th