(Updated Version will be available on First Day of the Class)
Syllabus
IS 549 Data Warehousing

Instructor
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Web page:
Office Hours: Tuesday 3.45PM- 5.45pm, then 9:00PM to 10.00 PM by appointment only.

Course Meeting
Tuesdays 5:45PM - 9:00PM **Zoom Link To be Provided**

Check for the password in your email. (**6-digit class code**)

Preparation

CSC 451 Database Design or
CSC 455 Database Process for Large Scale Analytics or
CSC 453 Database Technologies or
MIS

Course References
Required: The Data Warehouse Lifecycle Toolkit by Ralph Kimball et al. 2nd ed. ISBN-10: 0470149779   ISBN-13: 978-0470149775

All the other reading materials are provided online via D2L slides

Course Overview
Organizations require Business Intelligence, that is implemented on Data Warehouse technologies. This is an important course that touches on many topics:
Largely covers Data warehouse implementation and Business Intelligence technologies. Including latest technologies such as Data Lakes in Enterprises, Big Data, Machine Learning, IOT & Data Sciences Analytics , Artificial Intelligence, ETL and Agile methodology

Course focus is on
- Introduction to data warehousing and the foundations of understanding the issues involved in building a successful data warehouse.

Specific topics include :
- Data warehouse development methodology and issues surrounding the planning of the data warehouse.
- Data quality and metadata in the data warehouse.

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- Analysis, transformation and loading of data into a data warehouse.
- Development of the data architecture and physical design
- Implementation and administration of the data warehouse.
- Evolution in Data Warehouse Technologies in Enterprise environment
- Business Intelligence Technologies

For project, students will focus on (Continuation of Assignments)

1) Defining the problem
2) Developing a solution for an organization
3) Power BI, Tableau, or any other BI App

Course Goals
By the end of the quarter, students will be able to:

1. Understand Data warehousing & essential elements
2. Introduction to ETL & importance of physical architecture
3. Agile approach to Data warehouse
4. Develop DW/BI solution for an organization based on opportunities & requirements
5. Lead Data Warehouse Implementation & Business Intelligence Project

Assignments

The dates on which the assignments are due are shown in the course schedule and are due 11:30PM on the due date. These assignments will be available via D2L. Late assignments will not be accepted except for emergencies in which case the instructor must be notified in advance.

Written Assignments

All written assignments are short exercises presenting an opportunity for student to demonstrate knowledge of the topic.

Technical Assignments

Technical assignments with the use of SQL, Oracle or Access acceptable

Participation

Participation in discussion board topics during within the posted week.

Midterm/Final

Midterm and Final Exams. They will consist of short answer essay type questions, multiple choice, etc., so that the student can convey conceptual knowledge of DW, BI strategies and related technologies.

Project Proposal

The Student will submit 1 -2-page project proposal for implementation of a Data Warehouse & Business Intelligence program, applications and technologies. The student will identify a business functional areas, problem statement and solution at a high level.

Project

Detailed Project requirements & expectations to be posted on D2L. Project generally includes proposed architecture, user requirements, KPI's, data sources (internal & external), BI design.

Policies

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/.

The university and school policy on plagiarism can be summarized as follows: Students in the course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

Grade Determination

Written Assignments	15%
Technical Assignments	15%
Participation	10%
Midterm	20%
Final Exam	15%
Project	25%
	100%

Students receiving more than 90% of possible points are guaranteed at least an A-, more than 80% at least a B-, more than 70% at least a C-, and more than 60% at least a D.
All submitted work (e.g. project, assignments, exams, online discussions) must be original work unless its source is clearly referenced. Failure to clearly attribute quotes or designs from other people's work constitutes plagiarism. Violations will generally receive no credit for a given submission.

The midterm and final exam are Not proctored, comprehensive exam.

Weekly contribution: As you know, 10% is assigned to participation, please do participate on online posts.

Policies

Students are expected to remotely join every class or watch the lecture online. All assignments are due on the due date by 10.00PM CST. Please notify me ahead of time, if you are going to be late for emergency situations. Late assignments will be accepted up to 3 days late, lowered by 20% as penalty. All grade challenges must be submitted in writing and include an explanation why the given score or grade should be reconsidered.

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Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at
http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx.
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Students with Disabilities

This is a Remote only class.

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: Lewis Center 1420, 25 East Jackson Blvd. Phone number: (312)362-8002

School policies on instructor evaluation, email, plagiarism, course withdrawal, absences, incompletes and students with disabilities.

Course schedule :

Weekly (Tuesdays)	Topic	Reading	Assignment or Exam Due
Week 1	Course Overview Life Cycle Overview Practical Examples and Applications of Data Warehousing	Course Overview Ch 1 Kimball Life Cycle Ch 2 Launching and Managing the Program	Introductions
Week 2	Collecting Requirements Development of Technical Architecture	Ch 3 Collecting Requirements Ch 4 Intro to Tech Architecture Ch 5 Creating Architecture Plan	Complete Introductions post
Week 3	Dimensional Modelling	Ch 6 Intro Dim Modelling Ch 7 Designing Dim Modelling	Written Assignment 1 - Requirements
Week 4	Physical Design	Ch 8 Designing the physical DB	Written Assignment 2 – Technical Architecture Technical Assignment 1
Week 5	Review ETL	Ch 9 Intro to ETL Ch 10 Designing and Developing ETL	Assignment 3 – Data Model Technical Assignment 2
Week 6	Overview of BI Developing BI Connecting BI to Data Warehouse	Ch 11 Intro to BI Ch 12 Designing the BI	Assignment 4 - Project Proposal Midterm Technical Assignment 3
Week 7	Deployment Activities of the DW and BI Change Management	Ch 13 Deploying and Supporting DW and BI	Assignment 5 – BI Technical Assignment 4
Week 8	Keeping up with the changes and the business	Ch 14 Expanding the DW/BI System	
Week 9	Administration / DW's place in Enterprise Analytics	Evolution of DW - Data Lakes, Marts Big Data, Data Lakes, Machine Learning, , IOT, Artificial Intelligence Analytics	
Week 10	Agile Approach to DW	Agile and Beam Methodologies	
Week 10	Term Project Final Exam		**Project Due** **Final Exam**