Syllabus: Semester

|  |  |  |
| --- | --- | --- |
| INSTRUCTOR | EMAIL | OFFICE LOCATION & HOURS |
|  |  |   |

# COURSE TEXTBOOK:

**[Business Intelligence Guidebook: From Data Integration to Analytics](http://www.amazon.com/Business-Intelligence-Guidebook-Integration-Analytics/dp/012411461X)**

Author: Rick Sherman

Publisher: Morgan Kaufmann; 1 edition (November 21, 2014)

ISBN-10: 012411461X

ISBN-13: 978-0124114616

# COURSE SOFTWARE:

Students will need to download software (see **Table 3: Course Number, Semester – Installation Requirements**.) to create a BI/DW development environment that will be used for workshops, homework assignments and several team projects. The environment will be a Windows-based environment that may be installed on your notebook’s OS (operating system) if it is Windows or on a virtual machine (VMware, VirtualBox or other) if you have a Mac notebook or if you prefer a virtual environment on your notebook.

There is NO cost for any of this software with various sources. (This should be arranged through University or College)

# COURSE Schedule:

The course schedule is listed in **Table 1: Course Number, Semester – Class Schedule**. This is tentative schedule as weather, supporting vendors’ schedules, pace of class or other influences may require schedule modifications.

**Table 1: Course Number, Semester – Class Schedule**

| Wk | Topics | Workshops | Reading Assignments | Homework  |
| --- | --- | --- | --- | --- |
| 1 | * Class Overview
* BI & DW Introduction
* E/R Modeling (Recap)
 | * Review DB schema
* SQL Queries
 | * Ch 1 Introduction
* Ch 4 Architecture Introduction
* Ch 8 Foundational Data Modeling
 |  |
| 2 | * Dimensional Modeling, 1
* Data Architecture
* Concepts
 | * ETL Tool 1 workshop – Intro
 | * Ch 9 Dimensional Modeling
* Ch 6 Data Architecture,1
 | * Workshop Wk 1: SQL Queries
 |
| 3 | * Dimensional Modeling, 2
* Technical Architecture, 1
 | * ETL Tool 2 workshop - Intro
 | * Ch 10 Advanced Dimensional Modeling
* Ch 6 Data Architecture, 2
 | * Workshop Wk 2: ETL Tool 1
 |
| 4 | * Data Integration Processes
 | * ETL Tool 1 workshop
 | * Ch 11 Data Integration Processes
* Ch 7 Technology & Prod Architectures, 1
 | * Workshop Wk 3: ETL Tool 2
 |
| 5 | * Data Integration Design, 2
 | * ETL Tool 2 workshop
 | * Ch 12 Data Integration Design & Development
 | * Workshop Wk 4: ETL Tool 1
 |
| 6 | * BI Vendor Workshop:

BI Tool 1 | * BI Tool 1
 | * Ch 7 Technology & Prod Architectures, 2
* Industry Research (TBD)
 | * Workshop Wk 5: ETL Tool 2
 |
| 7 | * BI Requirements & Design
 | * **DI Project Presentations**
 | * Ch 2 Justifying BI
* Ch 3 Defining Requirements
 | * DI Project
* Workshop Wk 6: BI Tool 1
 |
| 8 | **MIDTERM EXAM** |  |  |  |
| 9 | Semester Break |  |  |  |
| 10 | * BI Requirements & Design
* BI Vendor Training: BI Tool 2
 | * BI Tool 2
 | * Ch 13 BI Applications
* Ch 14 BI Design & Development
 |  |
| 11 | * Advanced Analytics, 1
* Data shadow systems
 | * BI Tool 3
 | * Ch 15 Advanced Analytics
* Ch 16 Data Shadow Systems
 | * Workshop Wk 10: BI Tool 2
 |
| 12 | * **BI Research Team Project: Presentations**
 |  |  | * Workshop Wk 11: BI Tool 3
* BI Research Team Project
 |
| 13 | * Technical Architecture, 2
* Advanced Analytics, 2
 | * OLAP Cube Building
 | * Ch 5 Information Architecture
 |  |
| 14 | * People, Process & Politics
* BI Project Management
* Centers of Excellence (COEs)
 | * Data integration – result used for BI project
 | * Ch 17 People, Process and Politics
* Ch 18 Project Management
* Ch 19 Centers of Excellence
 |  |
| 15 | * **BI Team Project: Presentations**
 |  |  | * BI Team Project
 |
| 16 | **FINAL EXAM** |  |  |  |

# Grading Criteria:

* Exams:
	+ Midterm – Essay Format
	+ Final – Essay Format
* Team Projects: 3-4 Person Teams
	+ Data Integration Development
		- Design, develop & submit working prototype
		- Present results to class
	+ BI or Data Integration Tool Research
		- Design, develop & submit working prototype using selected tool
		- Present results to class
	+ BI Development
		- Design, develop & submit working prototype
		- Present results to class
* Workshops with Homework Assignments – Approximately 8
* Quiz on reading assignments (multiple choice answers, on Blackboard, prior to class)
* Class Participation & Attendance

**Table 2: Course Grading %s (Tentative)**

|  |  |
| --- | --- |
| Items | % of Grade |
| Exams | 40% |
| Team Projects | 40% |
| Workshops | 10% |
| Quizzes | 5% |
| Class Participation | 5% |

**Table 3: Course Number, Semester – Installation Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Workshops | Required Software | Software Source |
| 1 | * DB schema
* Queries
 | * Microsoft SQL Server 2014 Developer Edition
* MySQL
* Sample Databases
 |  |
| 2 | * ETL Tool 1
 | * ETL Tool 1
* Sample Source Files
 |  |
| 3 | * ETL Tool 2
 | * ETL Tool 2
 |  |
| 6 | * BI Tool 1
 | * BI Tool 1
* Sample Source Files
 |  |
| 10 | * BI Tool 2
 | * BI Tool 2
 |  |
| 11 | * BI Tool 3
 | * BI Tool 3
 |  |
| 13 | * OLAP
 | * OLAP Tool
 |  |
| 15 | * BI Team Project
 | * Sample Databases
 |  |

**Notes:**

* Windows-based environment
* Alternatives to installing on notebook OS directly: VMware or VirtualBox

**Table 4: Software Installation & Database Downloads - Versions & Sources**

| Required | Required Software | Software Source |
| --- | --- | --- |
|  |  |  |