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 |
| --- | --- | --- |
|  |  |  |