

**PENN STATE - ERIE, BLACK School of Business**  
**MIS 445 (4 CR): Management Reporting Systems: Fall 2009, Ido Millet**

**Office (REDC #292) Hours:**

Tuesday	5:45 – 7:00
Wednesday	1:00 – 3:30

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**Course Prerequisite:** MIS 336 (or instructor's permission).

This course has a **1 Credit Lab Section** (MIS 497B) for which you register separately.

**Textbook:** **The Multidimensional Manager** (free booklet distributed in class).

***Course Description***

This course develops insights and skills required to analyze management reporting systems, propose improvements, create reports, extract and package data using various software tools, and design data warehouses. It prepares students for the position of a Business Intelligence Specialist who can apply insight and technical competence to the challenges of leveraging Reporting, OLAP, Data Mining, Business Intelligence (BI), and Data Warehouse technologies.

**Course Outcomes**

Upon completion of this course, students will be able to:

1. **Describe the benefits, limitations, and implementation guidelines** for BI tools and systems such as data warehouses, report generators, on-line analytical processing (OLAP), data mining, key performance indicators (KPI), dashboards, and business performance management (BPM).
2. **Identify problems & opportunities** in existing reporting systems, **design new reports,** and **suggest improvements to existing reports & reporting systems.**
3. **Apply BI technologies to business problems & opportunities.** For example:
  - a) create reports with *Crystal Reports*
  - b) extract data from legacy systems using *Monarch*,
  - c) use data mining/visualization tools such as *KnowledgeSeeker* and *Tableau*,
  - d) package/use OLAP data with *Excel Pivot Tables* and *Cognos Transformer/PowerPlay*
  - e) use/administer enterprise-level BI tools *Cognos Impromptu & Administrator*.

## ***Method of Instruction***

Class time will be divided into two parts. Part I will introduce conceptual material and reinforce it through case studies, challenges, and discussions. Part II will be conducted at a computer lab and focus on the application of BI technologies to business problems.

## **Major Insights in Writing:**

Maintain a **chronological "list of insights"** as a Word file (you will receive a template via email). Each item in the list should be a **dated, concise** (no more than 2 short sentences!) explanation, in your own words, of the most important insights you have gained through the course. The 2<sup>nd</sup> sentence in each insight **must indicate in what way that insight would influence your behavior or actions** now or in the future. I may ask you to e-mail this document to me. **Bring a printout of this document with you to each lecture session (Tuesdays).**

## **Book Reading Assignments (see course schedule):**

As you read the assigned chapters (see course schedule) you should add to your Insight List 1-2 items from each assigned reading labeled as **"Reading Insights."** See instructions in the previous section. **Email your full insights list (copy & paste – don't attach) by the due date of each book reading assignment.**

## **Attendance, Missed Exams, and Late Assignments:**

In the spirit of collaborative learning, class is where I expect students to share their insights (and confusion). If you miss class, you must find out what took place prior to your next appearance; Absence is not an acceptable excuse for late or missing assignments. If you have a justification for an exception, see me outside of class immediately upon your return.

Makeup on exams will be permitted only for university-approved absences (illness, death in family, etc.) or, in very special cases, with prior arrangement with me. Assignments may be handed in late under the same circumstances without any penalty. The grade for other late assignments will be reduced by 10% per class period for the first 2 periods. **Assignments that are late by more than 2 class periods will not be accepted.** Grades for late assignments may be reduced even further if class discussion rendered the assignment easier. **Assignments are due at the beginning of class -- DON'T be late to class in order to finish an assignment!** You should keep all your graded work in case it is needed as documentation.

## **Group Project/Assignments:**

Typically, all group members will receive the same grade. I will use peer evaluation forms to identify cases where adjustments to individual grades are warranted.

## Academic Integrity Policy:

See: [www.pserie.psu.edu/faculty/academics/integrity.htm](http://www.pserie.psu.edu/faculty/academics/integrity.htm)

**NOTE: If you submit an assignment that was aided by other students or by any other source outside your own efforts, you must draw my attention to this. You can submit one copy with several names on it, or provide a written/email note explaining the extent of the help received. Your grade may suffer in such situations, but failure to disclose will result in a zero grade on the assignment or harsher penalties!**

## Grading Policy:

Assignments, Cases, Tasks	42%
Group Project	15%
Midterm Exam (written + lab)	15%
Final Exam (written + lab)	15%
Insights	5%
Participation	8%

93 - 100	A
90 - 92.9	A-
87 - 89.9	B+
83 - 86.9	B
80 - 82.9	B-
77 - 79.9	C+
70 - 76.9	C
60 - 69.9	D
< 60	F

## **Team Project**

Find a senior manager and analyze a subset of the reports that manager receives.

### **Guidelines:**

- 1) What are the **objectives** of each individual report within the subset?
- 2) According to the manager, what are the **best/worst reports** in the group? Why? Describe these reports in detail. What managerial actions have been triggered by them? Who requested them and why? Who designed and produced them? How?
- 3) How are new reports **requested and developed**? Can this be improved?
- 4) **Distribution lists, methods and Frequencies**? Can these be improved?
- 5) Any issues related to data quality, report catalogs, documentation and structure of data sources?
- 6) Coming back to the manager's needs:
  - a) **Suggest new reports and changes to existing ones** (e.g., show only exceptions, use a graph, sort by issue...)
  - b) **Propose modifications to existing file structures** (add product cost, add reason code...) and identify opportunities for applying new BI tools, techniques, and procedures
  - c) **Generate new reports, visualizations, data mining briefings, or pivot tables/charts** with live data or just prototype your ideas with dummy data. **The more you do here, the less is needed in the items above.**
- 7) Describe **management reactions**.

Have a client in mind, perhaps a top manager in the organization studied, and make the presentation interesting for this client and for the class.

The length of the report is left to your discretion. Typically, 12--20 pages (not including exhibits) allow for sufficient coverage without sacrificing conciseness.

I will select a few projects for presentation in class according to my judgment of the potential contribution to the audience. Selected projects will receive a bonus grade according to the quality of the presentation.

**Note:** I will keep the final report with my comments on it. Make a second copy before submitting if you want a clean version for your records.

**Note:** You may benefit from looking at previous project reports (available at my office).

**Note:** *I may approve other types of projects* (e.g. Software Evaluation/Presentation)...

**MIS 445: Tentative Course Schedule (Fall 2009) as of 8/14/2009**  
**Tuesdays: 1:00–2:15 REDC #101 / Thursdays: 1:00-3:10 REDC #175**

Session		Topic	Read	Submit / Do
1	T	08/25	Introduction	Start Insight List
2	R	08/27	Report Generator (Crystal) Intro	
3	T	09/01	Generating Report Ideas, Balanced Scorecard, etc.	1-14 Intro to BI Reading Task
4	R	09/03	Crystal Techniques, Report Proposals	<b>Lab #1 (Crystal XI)</b>
5	T	09/08	Report Content Guidelines, KPI, Ends/Means, ...	15-31 <i>PowerPlay</i> Task
6	R	09/10	Crystal, Pivot Tables, Software Demonstration	
7	T	09/15	Advanced DBMS Issues	33-46 Project Ideas
8	R	09/17	Advanced SQL for Reporting	<b>Lab #2 (Crystal XI)</b>
9	T	09/22	Layout Guidelines: Reports/Graphs	47-57
10	R	09/24	Data Visualization, <i>Tableau</i>	<b>Lab #3 (Crystal XI)</b>
11	T	09/29	Data Warehouses, EIS	59-67
12	R	10/01	Activity Based Costing, Management Decisions	69-80 <b>Reports Case #1</b>
13	T	10/06	Distribution of Reports (Output Mgmt)	81-88 Reading Task I
14	R	10/08	Data Quality	Project Status (e-mail)
15	T	10/13	Data Warehouses: design I	89-101 <b>Lab #4 (Monarch/Cr/Pivot)</b>
16	R	10/15	Data Warehouses: design II	119-125 <b>Lab #5 (Tableau)</b>
17	T	10/20	<b>Midterm Exam (Written)</b>	
18	R	10/22	<b>Midterm Exam (Lab)</b>	<b>Case #2</b>
19	T	10/27	Data Warehouses: Projects & Administration	<b>Lab #6 (Impromptu)</b>
19	R	10/29	Analytical Reporting (DSS&MRS)	Reading Task II
20	T	11/03	Data Conversion, Extract, Transform, Load (ETL)	<b>Lab #7 (Impromptu)</b>
21	R	11/05	Guest Speaker / Advanced Techniques	Project Status (e-mail)
22	T	11/10	Selecting BI Tools & Architectures	<b>Lab #8 (Impromptu)</b>
23	R	11/12	Data Mining	<i>Data Conversion</i> web seminar
24	T	11/17	Organizational Issues in MRS	<b>Lab #9 (Imp/TR/PPlay)</b>
25	R	11/19	Admin Issues. Meta-data. Security. Push/Pull.	
Thanksgiving				
27	T	12/01	Data Analyst Critical Success Factors	Reading Task III
28	R	12/03	New BI Tools & Trends, Integration Issues	<b>Lab #10 (KnowledgeSeeker)</b>
29	T	12/08	Project Presentations	<b>Project Reports</b>
30	R	12/10	<b>Lab Exam</b>	

**Final (Written) Exam: TBA (December 16?)**