Macao Polytechnic Institute  
School of Business  
Bachelor of E-Commerce  
Course Syllabus

<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Business Intelligence</th>
<th>Course Code:</th>
<th>ECOM3140-32121/32221</th>
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<tbody>
<tr>
<td>Language of instruction:</td>
<td>English</td>
<td>Credits:</td>
<td>3</td>
</tr>
<tr>
<td>Course Duration: (Theory)</td>
<td>13.5 class hours</td>
<td>Total Course Duration:</td>
<td>45 class hours</td>
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<tr>
<td>Course Duration (Practice)</td>
<td>31.5 class hours</td>
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<tr>
<td>Instructor:</td>
<td>Billy Yu</td>
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Course Description:
This course includes data warehousing, data mining, business performance management, predictive analysis, online analytical processing. Data techniques are becoming indispensable in business. A warehouse is designed to facilitate reporting and analysis while data mining is the key part of the analysis. This course begins with the architecture for such warehousing followed by its design methodologies. Then the data mining sections are more practical. It focuses on the use of tools as in analytical CRM as well as the mechanisms behind.

Learning Outcomes:
Upon completion of this course, the students should be able to:
1. explain concepts of data warehouse and data mining (DM)
2. use SAS EM for DM purposes;
3. discuss the tools in DM;
4. compare working mechanisms of various DM models; and
5. propose their choice of models for DM analysis.
Content:

1. An Introduction, DM and SAS enterprise miner (EM) overview (3 class hours)
2. Introduction to BPM, modeling, data warehousing and OLAP (3 class hours)
3. Predictive modeling using regression (3 class hours, practice)
4. Predictive Modeling Using Decision Trees (3 class hours, practice)
5. Data preprocessing and filtering (3 class hours, practice)
6. Data insight for analysis (3 class hours, practice)
7. Predictive Modeling Using Neural Networks (3 class hours, practice)
8. Model Evaluation (3 class hours, practice)
9. Mid-term Examination (1.5 class hours)
10. SAS code to work with EM macros & Programming with SAS code (4.5 class hours, practice)
11. Project audit and corrections (3 class hours, practice)
12. Scoring data and cluster analysis (3 class hours, practice)
13. Association and Sequence Analysis (3 class hours, practice)
14. Project Presentations (3 class hours)
15. Final Examination (3 class hours)

Teaching method:

Students are required to prepare for and actively participate in class discussions. Other than passive listening, they are expected to take notes and ask questions in lectures as well as in group discussions. The projects expect students to be creative and students should apply the course material as well as knowledge from other subjects than what they learn in this course.

Attendance:

Attendance requirements are governed by the Academic Regulations. Students who do not meet the attendance requirements for the course will not be permitted to sit the final and re-sit examination and shall be awarded an ‘F’ grade.

Assessment:

The followings activities and tasks (i.e. coursework components and examinations) are designed to give students experience of a broad range of approaches aimed at developing and assessing their learning. Assessment will be both formative and summative and will involve oral presentations and group project reports, assignments, in-class discussions, and written examinations, and a mid-term test. The following is a summary of the assessment tasks:
1. Assignments & Project 30%
2. Midterms 20%
3. Examination 50%

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Total: 100%

Teaching Materials:

Course textbook:

References:
EMEA 1844808912
SAS Publishing 1599947269
Robert Nisbet, John Elder IV Gary Miner (2009) Handbook of Statistical Analysis and Data Mining
Applications, Academic Press, 123747651
Research (Research Methods for the Social Sciences) Jossey-Bass, 0470461292
(Chapman & Hall/CRC Data Mining and Knowledge Discovery Series) [Hardcover] CRC
Press 143981075
Randall S. Collica (2007) CRM Segmentation and Clustering Using SAS Enterprise Miner (Sas
Press Series) SAS Publishing, 1590475089

Note:
1. The above class schedule is tentative and subject to change depending on the progress of the
   students.
2. Students are responsible for ALL materials covered in class AND in the textbook.