

**BUA 680**  
**Foundations of Business Intelligence and Analytics**  
**Graduate School of Business**  
**Maine Business School**  
**University of Maine**  
**Term: TBD**

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**Instructor:** Dr. Tim Lu  
**Office:** Law Building #602, USM Campus, Portland  
**Phone:** 207-780-4531  
**Office Hours:** TBD  
**Email:** yonggang.lu@maine.edu

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**MISSION:**

The mission of the Maine Business School is to advance business knowledge, connect with our local and global communities, seek adaptive approaches for business processes, and foster a sense of professionalism, teamwork, and respect for ourselves and our constituents.

**COURSE DESCRIPTION:**

This course presents the philosophical and technical foundations of business intelligence and analytics (BI&BA). The philosophical principles of business intelligence and analytics are discussed. Important fundamental concepts and tools in business intelligence and analytics are introduced using a structured and integrated approach that moves from initial data collection to final decision outcome assessment. Throughout the course, conditional reasoning and logical thinking in terms of process and systems are emphasized.

**COURSE OBJECTIVES:**

After completing this course, students are expected to

- develop philosophical and logical thinking and grasp basic data analytical knowledge that are necessary for planning and completing hands-on business analytics projects in support of business decision making
- get prepared for future study of a variety of advanced BI&BA topics in either graduate program or workplace.

Specifically, upon completion of this course, students will

- comprehend enterprise data management infrastructure and system
- build a philosophical foundation of BI&BA
- get familiar with different steps in the BI&BA process
- understand the real nature of *Data*
- comprehend the concepts of *Information* and *Knowledge* and understand their relation and difference in business environment
- grasp basic knowledge of *Descriptive Analytics*, *Predictive Analytics* and *Prescriptive Analytics*
- develop foundational knowledge of *Decision Analysis*
- respect ethical values and principles governing BI&BA activities

**COURSE CONTENT OUTLINE:**

*Module 1 - A Philosophical Framework*

Systems Paradigm: A New Analytical Perspective

Data-driven Inductive Reasoning

Analyticalization of Business/The Business Intelligence and Analytics Life Cycle

*Module 2 - Data, Data Collection and Data Management*

Data and Data Collection

Data Organizing and Wrangling (Pre-processing)

*(This Module prepares you for BUA 681 and 682)*

*Module 3 - Data Analysis, Information Learning and Knowledge Discovery*

Information vs. Knowledge

Descriptive Analytics and Data Visualization

Predictive and Forecasting Analytics

*(This Module prepares you for BUA 683, 684 and 686)*

*Module 4 - Foundations of Decision Analysis (Prescriptive Analytics)*

Decision Making, Economic Utility, and Decision Optimization

Ethical Awareness in Data-driven Business Decision Making

Decision Outcome Assessment

*(This Module prepares you for BUA 685)*

*Module 5 - Artificial Intelligence in Business*

Artificial Intelligence in Business: What, How, Why and Why Not

AI in Action: Natural Language Processing and It's Business Application