Knowledge Discovery and Management: An Applied Perspective
Course Contents

• Module 1: Introduction to Data Mining (DM) and Motivation for Knowledge Discovery and Knowledge Management (1.75 hours)
• Module 2: Data Mining applications and trends (1.5 hours)
• Module 3: Collection of DM case studies in Life Sciences, analyzing genomics and proteomics data (1.75 hours)
• Module 4: Analyzing imbalanced data (1.25 hours)
Course Contents (cont’d)

• Module 5: Analyzing time-series data, methodology and applications (1.5 hours)
• Module 6: Data mining in complex systems (1.5 hour)
• Module 7: Special topics (1 hour)
  – Data Mining Tools
  – Actionable KD and Emerging Fields
  – Knowledge Management

• Mini project on Knowledge Discovery and Management
  – Project discussions during the first 3 days of lectures,
  – Student presentations on the last day of the course.
Course schedule

• Day 1:
  – Lecture and course discussion ~1.75 hour (M-1)
  – Break: 20 minutes
  – Lecture and course discussion ~1.5 hour (M-2)
  – Project details 30 minutes or longer if needed

• Day 2:
  – Lecture and course discussion ~1.75 hour (M-3)
  – Break: 20 minutes
  – Lecture and course discussion ~1.25 hour (M-4)
  – Project questions/discussion 30 minutes or longer
Course schedule (cont’d)

• Day 3:
  – Lecture and course discussion ~1.5 hours (M-5)
  – Break: 20 minutes
  – Lecture and course discussion ~1.5 hour (M-6)
  – Project discussion 30 minutes

• Day 4:
  – Lecture and course discussion ~1 hour (M-7)
  – Break: 20 minutes
  – Students project presentations and discussions

Lectures end!    Lunch or Dinner