

## COSC430 Course Outline

The course has two aspects. The first covers "advanced" material naturally following on from COSC344—Relational theory and practical database server management. The second aspect provides a survey of current topics of database research, along with new and emerging database technology.

**Aspect 1:** The essential properties and axioms of relational theory are introduced, as they relate to the design and refinement of relational schemas. The algorithms used to manipulate functional dependencies are described. The resource-management and design decisions faced by database administrators are explored, along with practical examples of database server setup, security management and data integrity management.

**Aspect 2:** Current research within the database field is described alongside new and emerging database technologies. This section of the paper may be quite different each year, as it will be driven by the specific interests of the students and staff members. Topics that are likely to be covered (and have been taught in the past) include: data mining, multidimensional indexing, temporal databases, distributed databases, Web databases, distributed key-value stores, data warehousing, and non-relational data models.