A. Course Description

Credits: 4

Prerequisites: ICS 311 Database Management Systems

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week:

MnTC Goals: None

This course covers the fundamental issues of distributed databases with focus on data fragmentation and allocation, query optimization and transaction processing. Topics include: Distributed database management systems architecture and design; data fragmentation, replication, and allocation; database security, authorization and integrity control; query optimization; transaction management; distributed concurrency control and replica control; distributed object database management systems; multidatabase systems.

B. Course Effective Dates: 08/26/2006 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Fragment a database both horizontally and vertically for optimal performance.
3. Optimize queries for optimal performance across a distributed database.
4. Add distributed transaction management control including concurrency control and replica control to a distributed database.
5. Demonstrate expertise in reading peer-reviewed papers in distributed databases and explain them in writing.
6. Discuss how current database products implement database distribution including query optimization.

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

G. Special Information

Prerequisites: Graduate standing. Note: Students are responsible to both be aware of and abide by prerequisites for ICS courses for which they enroll, and will be administratively dropped from a course if they have not met prerequisites.