# CS418 – Databases and Software Development - Course Overview chart

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|  | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| **Week 1**  **Relational Database and SQL** | Course Overview; Introduction to Databases and MySQL | Relational Model | SQL - DDL | SQL – DML Part 1 | SQL – DML Part 2 | Database Analysis and Design – Part I: Entity‑Relationship Modeling |
| No Class |
| **Week 2**  **Non-relational (NoSQL) Database** | Database Analysis and Design – Part II: Normalization | Database Analysis and Design – Part III: Conceptual, Logical & Physical DB design | Relational (SQL) Database Application Programming with Node.JS | Database Security, Administration and Distributed DBMS | Revision | Exam 1 |
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| **Week 3**  **Software Development Project** | Introduction to NoSQL Databases and MongoDB – CRUD operations | NoSQL Data Modeling, Querying and the Aggregation Framework | Performance Optimization – Replication, Sharding, Deployment and Administration | MongoDB data‑driven Application Programming with Node.JS and Mongoose | Revision | Exam 2 |
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| **Week 4**  **Software Development Project** | Project:  Kick-off workshop, Problem Analysis and Solution Design | Project:  Implementation | Project:  Implementation, Early-bird Presentations and Demos | Project: Presentations and Demos |  |  |
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