Syllabus
GIS Database Management
(GISC4301, GISC4001, GISC 5301, GISC 5001)
(Fall 2023)

Instructor: Dr. Yanli Zhang
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Office: Forestry 121
Phone: (936) 468-2157

Lecture: Tuesday and Thursday 8:00 am – 8:50am at Forestry 102
Lab: Thursday 6:00pm-8:50pm at Forestry 102

Office hours: Tuesday 1:00pm – 4:00pm, Wednesday 9am – 11am, appointment preferred

Class News/Notices, Lecture Handouts, Labs, and Grades: All lecture handouts, lab instructions and assignments are available at D2L (or Brightspace) (https://d2l.sfasu.edu/). It is students’ responsibility to check D2L for detailed course requirements. Grades for quizzes, labs, and exams are all available at D2L as well. Please check D2L for course related news and announcements.

Course Description: 3 semester hours. Database management systems play an important role in domains that involve large and complex data with spatial references. This course introduces the concepts and principles of GIS database planning, design, implementation, and administration.

Program Learning Outcomes:
A. Demonstrate understanding and competency of Relational Database Management System(RDBMS);
B. Demonstrate understanding and competency of SQL(Structured Query Language);
C. Demonstrate understanding and competency of spatial database systems;
D. Demonstrate understanding and competency of spatial database models, query, database architectures, database technology;

Student Learning Outcomes
Upon successful completion of the course, the student will:
A. Gain basic knowledge of Relational Database Management System(RDBMS);
B. Develop a fundamental knowledge of spatial database systems;
C. Be familiar with spatial database models, query, database architectures, database technology;

Textbook (optional references):
Tentative Course Calendar

As a 3 credit hour class, there are 2 lectures (2 hours) and 1 lab (3 hours) per week, home work will take about 4 hours per week.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Homework (HW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.29.2023</td>
<td>Syllabus and course overview</td>
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<tr>
<td></td>
<td>8.31.2023</td>
<td>Term project discussion</td>
<td>1. Data organization</td>
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<tr>
<td>2</td>
<td>9.5.2023</td>
<td>Database types</td>
<td>2. MS Access 1</td>
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<tr>
<td></td>
<td>9.7.2023</td>
<td>MS Access 1: intro</td>
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<tr>
<td>4</td>
<td>9.19.2023</td>
<td>MS Access 4: table and query</td>
<td>continue HW 3</td>
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<tr>
<td></td>
<td>9.21.2023</td>
<td>MS Access 5: query 2</td>
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<tr>
<td></td>
<td>9.28.2023</td>
<td>MS Access 7: report</td>
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<tr>
<td>6</td>
<td>10.3.2023</td>
<td>MS Access 8: navigation</td>
<td>5. MS Access 3</td>
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<td></td>
<td>10.5.2023</td>
<td>MS Access 9: project requirements</td>
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<tr>
<td>7</td>
<td>10.10.2023</td>
<td>MS Access 10: SQL 1 basic</td>
<td>continue HW 5</td>
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<td></td>
<td>10.12.2023</td>
<td>MS Access 11: SQL 2 select</td>
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<tr>
<td>8</td>
<td>10.17.2023</td>
<td>MS Access 12: SQL 3 order alias</td>
<td>6. GIS data collection</td>
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<td></td>
<td>10.19.2023</td>
<td>MS Access 13: SQL 4 join and create table</td>
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<tr>
<td>9</td>
<td>10.24.2023</td>
<td>MS Access 14: SQL 5 function 1</td>
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<tr>
<td></td>
<td>10.26.2023</td>
<td>MS Access 15: SQL 6 function 2</td>
<td>continue HW 6</td>
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<tr>
<td>10</td>
<td>10.31.2023</td>
<td>MS Access 16: SQL 7 practice 1</td>
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<td></td>
<td>11.2.2023</td>
<td>MS Access 17: SQL 8 practice 2</td>
<td>Work on Access project</td>
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<tr>
<td>11</td>
<td>11.7.2023</td>
<td>SQL Server and more about SQL</td>
<td>Work on Access project</td>
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<tr>
<td></td>
<td>11.9.2023</td>
<td>Geodatabase</td>
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<tr>
<td>12</td>
<td>11.14.2023</td>
<td>Data index, Spatial networks</td>
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<tr>
<td>13</td>
<td>11.16.2023</td>
<td>Exam</td>
<td>Work on Access project</td>
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<tr>
<td>14</td>
<td>11.21.2023</td>
<td>Thanksgiving holiday</td>
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<tr>
<td></td>
<td>11.23.2023</td>
<td>Thanksgiving holiday</td>
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<tr>
<td>15</td>
<td>11.28.2023</td>
<td>Term paper discussion</td>
<td>Work on database research poster</td>
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<td>11.30.2023</td>
<td>Database project poster on D2L</td>
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<tr>
<td>16</td>
<td>12.5.2023</td>
<td>Data standards, big data</td>
<td></td>
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<tr>
<td>17</td>
<td>12.7.2023</td>
<td>Database research poster on D2L</td>
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Course Requirements:
Students should possess basic computer skills.
There will be six homework, one term project poster, one exam, and one database topic research poster required for this course.
Asynchronous instruction: students need to spend 150 minutes to read peer-reviewed research articles in the area of database (for example: Google Scholar search for database) throughout the semester.
Term Project poster:
Students are required to fully develop an Access database (including tables, relationships, forms, reports, queries and user interfaces) on a student selected topic. A poster should also be developed to explain the database and has:

1. Title
2. Introduction: why this database is needed.
3. Database design: user interface, relationships, forms, reports, and queries.
4. Summary

Peer Project Review:
Students are required to comment on at least 4 term project posters (instructor will put all the posters on D2L – Content after project submission). Please describe itemized Pros and Cons for each project. It will be graded based on how well professional knowledges are used to check other people’s work.

Database Topic Research poster:
The term database topic research poster is intended to provide a deeper understanding of ONE database related topic such as database design, implementation, management, data and application integration, security, privacy, geodatabase, query, data quality, etc. Student will work individually and read few scientific papers on the selected topic (Google Scholar is a good tool to search). The poster should be developed to describe the topic and includes:

1. Title
2. Introduction: a brief description of the topic, current research status, problem, new achievements from referenced papers.
3. Main findings: explain the topic in more detail.
4. Summary.
5. Referenced paper(s)

Homework, term project and corresponding poster, and database topic research poster would be required to submit to the Dropbox on D2L.

Grading Policy
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<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Points</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>20 x 5</td>
<td>100</td>
</tr>
<tr>
<td>Homework</td>
<td>40 x 7</td>
<td>280</td>
</tr>
<tr>
<td>Term project</td>
<td>200 + 60</td>
<td>260</td>
</tr>
<tr>
<td>Database topic research</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Exam</td>
<td></td>
<td>300</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>1000</td>
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</table>

Grading Scale:

A 900 – 1000  D  600 – 699
B 800 – 899  F  599 or less
C 700 – 799

Questions regarding lab/homework/quiz/exam grading must be asked within one week after the grade is published on D2L.
A class average will be computed and if warranted, a curve will be applied if the curve will result in a higher grade.

Class Policy

1. Attendance and class participation are required throughout the semester and it is taken randomly. Negative 20 points will be given for every missing lecture/lab without university acceptable reason.
2. Complete all homework assignments on specified dates. Late assignment will lose 20% of the credit each day late.
3. All students submitting identical assignments (in whole or in part) will receive a grade of zero for that homework.
4. All digitally submitted files should be named with your full name, take the instructor as the example, file names should be like “HW1_YourFullName” and “project_YourFullName”. If it is team work for the project, only one copy is needed and put both names in the file name.
5. Complete term project on or before the due day. No credit for late work as it is the end of the semester.
6. Quizzes are to be taken on D2L. No make-up quizzes unless there is a valid university excuse (consult student handbook for guidelines).
7. Exams are to be taken during scheduled times. Make-up exams will be given to students with a valid university excuse (consult student handbook for guidelines).
8. There is no exception for the grading policy and the grading scale.

D2L

For D2L technical support, contact student support at d2l@sfasu.edu or 936-468-1919. Please visit https://www.sfasu.edu/d2lsupport/students for more information.

Academic Integrity (4.1)

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer
code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**Withheld Grades Semester Grades Policy (5.5)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

**Students with Disabilities**

To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

**Responsible Use of Technology**

It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.

**Student Wellness and Well-Being**

SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**
**The Dean of Students Office** (Rusk Building, 3rd floor lobby)
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

www.sfasu.edu
The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.
To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

Crisis Resources:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741

Syllabus Changes:
The instructor reserves the right to make changes as necessary to this syllabus.