COURSE NUMBER 4091

Minimum Crossing Number for Restricted Embeddings of Complete Graphs

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Office: MCS 219C

Office Hours: TBD

Course Information

Course Description
The student will explore the following questions: “Given a predetermined scheme for embedding and a complete graph on n vertices, can we determine the number of edge crossings? Can we restrict the scheme so as to reduce or minimize the number of crossings?” We will use peer-reviewed journals and texts such as West's *Introduction to Graph Theory* as reference.

Prerequisite and Co-requisite Courses
Introduction to Abstract Mathematics, and instructor’s discretion.

Student Learning Outcomes
Upon completion of this course, the student will be able to:
- Speak confidently about embedding schemes and crossing number,
- Analyze and extract information from peer-reviewed journal articles,
- Write mathematical results in a clear and professional manner suitable for publication,
- Present their findings in a research-style talk.
Course Delivery
The course will be conducted in two one-on-one face-to-face meetings per week for the duration of the semester. Supplemental reading and problem solving outside of those meetings is expected.

Required Texts and Materials
*Graph Theory*, Bondy and Murty. *Introduction to Graph Theory*, Douglas B. West.

Technology Requirements
To successfully complete this course, students need to have access to the internet for research and reading purposes.

Communication
Faculty will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

**Written communication via email:** All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

**Virtual communication:** Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

Grading

Evaluation and Grades
Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily grades and homework</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Grading System
Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:
A = 90.00-100 points
B = 80.00-89.99 points
C = 70.00-79.99 points
D = 60.00-69.99 points
F = 0-59.99 points (Grades are not rounded up)

Assignment and Activity Descriptions
The assessments in this course will be assigned regularly, and will primarily consist of selected readings and exercise sets.

General Policies Related to This Course
All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog

Academic Integrity
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.

Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website.
The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

Student Absence for Observance of Religious Holy Days
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Title IX Statement
Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator:

Michelle Boone
Director of Title IX Compliance
Office of Student Affairs
325-486-6357
michelle.boone@angelo.edu

Course Schedule
The course will meet each week on a number of days to be determined.
2. https://www.angelo.edu/catalogs/
4. https://www.angelo.edu/services/disability-services/
5. https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
7. https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of