Catalogue Description

This course covers set theory; symbolic logic; counting principles; permutations and combinations; probability; statistics; geometry; applications and history of mathematics. Recommended background: two years of high school algebra. Course is not intended for students whose programs require precalculus or calculus courses.

Pre-req.

MAT 1033 with a grade of "C-" or better or a suitable mathematics examination placement score.

Learning Objectives

At the completion of this course, students will be able to:
1. Use rules of logic to evaluate claims you face and construct more convincing arguments of your own.
2. Logically analyze outcomes and statistics by numerically describing situations and their outcome likelihoods.
3. Use Venn Diagrams to visualize survey results, and to analyze and answer questions about overlapping categories of information.
4. Apply area and volume formulas to compute areas and volumes and solve 2D and 3D application problems.

This course has been approved to meet FSU’s Liberal Studies Quantitative and Logical Thinking requirements and helps you become a critical analyst of quantitative and logical claims.

In order to fulfill the State of Florida’s College mathematics and computation requirement the student must earn a “C–” or better in the course.

By the end of this course, students will:

1. Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
2. Use a variety of forms to represent problems and their solutions.

Course Assignments and Evaluation
Homework (10%) Students will complete several Homework assignments each week. At least one of the weekly homework assignments will require lecture attendance and group collaboration. The student may use online resources, their notes, and collaborate with peers for completion of graded Homework.

Quizzes (30%) Students will complete ten Quizzes in the Lab, one each non-Test week. Students may use scrap paper and the approved calculator for the Lab Quizzes.

Unit Tests (45%) Students will complete Three Unit Tests in the Lab. Use of scrap paper and the approved calculator are permitted but no other resources are permitted.

Final Exam (15%) The Final Exam is cumulative. Use of scrap paper and the approved calculator are permitted but no other resources are permitted.

Class Attendance

Attendance is required for 3 hours of lecture meeting time and 1 hour of lab. Unexcused absence from any lecture or lab results in a zero score for any missed assignment due in that meeting.

Excused absences are defined by the FSU Attendance Policy (see below)

Missed Work Policy

Homework:
Unexcused missed Homework will receive a zero.
Excused missed Homework can be rescheduled within 48 hours of the assignment deadline.

Quiz:
Unexcused missed Quizzes receive a score of 0 points and cannot be made up. Excused missed Quizzes will be omitted from the Quiz average.

Tests:
A maximum of one unexcused missed Unit Test will be rescheduled with Instructor approval, within 48 hours of the missed test, with a 20% penalty. Subsequent unexcused missed Unit Tests will be given a zero. An excused missed Unit Test or Final Exam will be rescheduled as soon as possible.

Final Exam:
An unexcused missed Final Exam will be rescheduled with Instructor approval by the end of exam week, with a 25% penalty. An excused missed Final Exam will be rescheduled as soon as possible.

Grading

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100% to 93%</td>
</tr>
<tr>
<td>A-</td>
<td>&lt; 93% to 90%</td>
</tr>
<tr>
<td>B+</td>
<td>&lt; 90% to 87%</td>
</tr>
<tr>
<td>B</td>
<td>&lt; 87% to 83%</td>
</tr>
<tr>
<td>Grade</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------</td>
</tr>
<tr>
<td>B-</td>
<td>&lt; 83% to 80%</td>
</tr>
<tr>
<td>C+</td>
<td>&lt; 80% to 77%</td>
</tr>
<tr>
<td>C</td>
<td>&lt; 77% to 73%</td>
</tr>
<tr>
<td>C-</td>
<td>&lt; 73% to 70%</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 70% to 63%</td>
</tr>
<tr>
<td>D-</td>
<td>&lt; 63% to 60%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60% to 0%</td>
</tr>
</tbody>
</table>

Text

Pearson My Lab Math access, with eText for Robert F. Blitzer, Robert (2019). Thinking Mathematically. You will get access to this material by using the access code sent to your email account from Follett.

Lecture Schedule

Week 1
Introduction to Logic
Expressing statements and negations using symbols
Quantifying statements and negating them

Week 2
Compound Statements and Logic Connectives
Symbolizing statements with parenthesis in English
Using dominance of connectives
Truth Tables for negation, conjunction, disjunction

Week 3
Truth Tables for the Conditional and the Biconditional
Equivalent Statements and Variations of the Conditional Statement

Week 4
Negations of the conditional statement
DeMorgan’s Law
Building Arguments
Common Form Arguments (valid and invalid)
Using Truth Tables to test argument validity

Week 5
Euler diagram representation of statements
Applying Euler diagrams to test argument validity
Unit I Review

Unit I Exam

Week 6
Introduction to Counting Methods and Probability Theory
The Fundamental Counting Principle
Permutations

Week 7
Combinations
Fundamentals of Probability

Week 8
Probability with the FCP, Permutations and Combinations

Week 9
Events involving Not and Or

Week 10
Events Involving And
Unit II Review

Unit II Exam

Week 11  Venn Diagrams and Set Operations  
          Survey Diagrams
Week 12  Survey Diagrams  
          Measuring Area and Volume
Week 13  Area and Circumference  
          Volume and Surface Area
Week 14  Volume and Surface Area  
          Unit III Review

Unit III Exam

Week 15  Final Exam Review

University Attendance Policy

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University." (For more details see the FSU Academic Honor Policy and procedures for addressing alleged violations (http://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy).

Americans With Disabilities Act

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.
To receive academic accommodations, a student:
must register with and provide documentation to the Office of Accessibility Services (OAS);
(2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
(3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the Office of Accessibility Services (Tallahassee Campus) (https://dsst.fsu.edu/oas)

874 Traditions Way
108 Student Services Building Florida State University Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu (mailto:oas@fsu.edu)
https://dsst.fsu.edu/oas

Student Disability Services (Panama City Campus) (https://pc.fsu.edu/students/student-disability-services) Office of Student Affairs 4750 Collegiate Drive
2nd Floor Barron Building (Room 215) Florida State University Panama City Panama City, FL 32405
(850) 770-2172 (office)

(866) 693-7872 (toll free)
Email: sds@pc.fsu.edu (mailto:sds@pc.fsu.edu)
https://pc.fsu.edu/students/student-disability-services

Free Tutoring from FSU

On-campus tutoring and writing assistance are available for many courses at Florida State University. For more information, visit the Academic Center for Excellence (ACE) Tutoring Services' comprehensive list of on-campus tutoring options - see the Academic Center for Excellence (ACE) Tutoring Services' website (http://ace.fsu.edu/tutoring) or contact tutor@fsu.edu (mailto:tutor@fsu.edu). High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.

Syllabus Change Policy

"Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice."
Confidential campus resources:
Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

<table>
<thead>
<tr>
<th>Victim Advocate Program</th>
<th>University Counseling Center, Askew Student Life Center, 2ndFloor, 942 Learning Way</th>
<th>University Health Services Health and Wellness Center, (850) 644-6230</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Center A, Room 4100, (850) 644-7161, Available 24/7/365, Office Hours: M-F 8-5</td>
<td>(850) 644-8255</td>
<td><a href="https://counseling.fsu.edu/">https://counseling.fsu.edu/</a></td>
</tr>
<tr>
<td><a href="https://dsst.fsu.edu/vap">https://dsst.fsu.edu/vap</a></td>
<td><a href="https://counseling.fsu.edu/">https://counseling.fsu.edu/</a></td>
<td><a href="https://uhhs.fsu.edu/">https://uhhs.fsu.edu/</a></td>
</tr>
</tbody>
</table>