Computer Science and Engineering CSE 4833  
Introduction to Analysis of Algorithms

CREDIT/CONTACT HOURS:  Credit Hours: 3, Contact Hours: 45

COORDINATOR:  
Dr. J. Edward Swan

a. Supplemental Material:  No required material

SPECIFIC COURSE INFORMATION:  
a. Catalog Description:  Three hours lecture. Study of complexity of algorithms and algorithm design. Tools for analyzing efficiency; design of algorithms, including recurrence, divide-and-conquer, dynamic programming and greedy algorithms.
b. Prerequisites:  CSE 2383,CSE 2813, and MA 2733 with a grade of C or better  
c. Required/Elective:  
Computer Science: Required  
Software Engineering: Required  
Computer Engineering: Required

SPECIFIC GOALS OF THE COURSE:  
a. Specific Outcomes of Instruction:  
1. To provide students with an opportunity to learn more about and to practice mathematical thinking in the domain of algorithms.  
2. To examine different classes of algorithms and their properties.  
3. To abstract the common properties of classes of algorithms.  
4. To study algorithmic complexity and to be able to determine the algorithmic complexity of novel algorithms.

b. Criterion 3 Outcomes:  
Note: Parenthesized list indicates the ABET EAC and CAC outcomes addressed by each performance criteria.  
1. To provide students with an opportunity to learn more about and to practice mathematical thinking in the domain of algorithms. (EAC: a; CAC: a,j)  
2. To examine different classes of algorithms and their properties. (EAC: a,e; CAC: b,c,j)  
3. To abstract the common properties of classes of algorithms. (EAC: a; CAC: a,j)  
4. To study algorithmic complexity and to be able to determine the algorithmic complexity of novel algorithms. (EAC: a,e; CAC: b,c,j)
## TOPICS COVERED:

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<th>Topic</th>
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<td>Analyzing &amp; designing algorithms</td>
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