Course title and number: ECEN 303: Random Signals and Systems
Section 501
Term: Summer 2017 Germany
Meeting times and location: M-Fr 9:00 – 11:00
Texas A&M/RWTH Aachen
Credit: 3

Course Description and Prerequisites
Concepts of probability and random variables necessary for the study of signals and systems involving uncertainty; applications to elementary problems in detection, signal processing and communication.
Course Prerequisites: MATH 308 Differential Equations and junior or senior classification.

Learning Outcomes or Course Objectives
The learning outcomes include the following ABET Criteria (A, E, and K):
- an ability to apply knowledge of mathematics, science, and engineering
- an ability to identify, formulate, and solve engineering problems
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Instructor Information
Name: Prof. Ulisses Braga-Neto, ECE Department
Telephone: TBA
Email address: ulisses@ece.tamu.edu

Textbook and/or Resource Material
13 digit ISBN: 978-0321794772

Grading Policies
Grading will be based on homework and quizzes. Reading assignments will not be made; you are expected to study the book topics as appropriate. The dates indicated for the material are approximate; some modifications will be inevitable.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>50%</td>
</tr>
<tr>
<td>Homework</td>
<td>40%</td>
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<tr>
<td>Cultural Exchange Reflection Essay</td>
<td>10%</td>
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<td></td>
<td><strong>100%</strong></td>
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</tbody>
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Grading Scale (out of 100): A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 59 or lower
Homework

Homework will be assigned weekly and graded. Solutions will be provided. The quizzes will be mostly based on problems that will be assigned as homework.

Course Topics, Calendar of Activities, Major Assignment Dates

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic (tentative, subject to change)</th>
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<tbody>
<tr>
<td>1. Week of Jul 3</td>
<td>Introduction &amp; Mathematical Review; Basic Concepts of Probability; Equiprobable Outcomes and Combinatorics.</td>
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<tr>
<td>2. Week of Jul 10</td>
<td>Conditional Probability; Discrete Random Variables</td>
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<tr>
<td>3. Week of Jul 17</td>
<td>Discrete Expectations; Discrete Random Vectors</td>
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<tr>
<td>4. Week of Jul 24</td>
<td>Continuous Random Variables; Functions and Derived Distributions</td>
</tr>
<tr>
<td>5. Week of Jul 31</td>
<td>General Expectation and Bounds; Empirical Distributions</td>
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Academic Integrity

For additional information please visit: http://www.tamu.edu/aggiehonor

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

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University Regulations Student Handbook: http://student-rules.tamu.edu
Definition of Academic Misconducts: http://www.tamu.edu/aggiehonor/acadmisconduct.htm

Americans with Disabilities Act (ADA)

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