

### Course Syllabus

<b>Course Code and Name</b>	<b>EE 26426 – Automatic Control Systems</b>
<b>Credit and contact hours</b>	<b>3 (2, 1, 1) (Lecture, Tutorial, Lab)</b>
<b>Required or Elective</b>	<b>Required</b>
<b>Level / Year</b>	<b>Level (7) / Year (4)</b>
<b>Course Prerequisite</b>	<b>EE 26341 Signal Analysis and Systems</b>
<b>Textbook</b>	Katsujiko Ogata, Modern Control Engineering, 5th Ed., Pearson Prentice Hall 2010
<b>Course Description</b>	This course covers the following topics: Mathematical Background - Mathematical Modeling of Physical Systems - Transfer Functions of Linear systems - Block Diagram Models - State Variables Models - Performance of Feedback Control Systems - Transient and Steady-State Response Analyses: First, Second and Higher-Order Systems- Stability of Linear Feedback Systems - Root Locus Techniques - Stability in the Frequency Domain - Design of PID controllers.
<b>Brief List of Topics to be Covered</b>	<ol style="list-style-type: none"><li>1- Transfer Functions of Linear systems - Block Diagram Models.</li><li>2- Signal flow graph and Mason rule</li><li>3- State Variables Models</li><li>4- Mathematical Modeling of Physical Systems.</li><li>5- Performance of Feedback Control Systems.</li><li>6- PID Control</li><li>7- Stability of Linear Feedback Systems</li><li>8- Root Locus Techniques</li><li>9- Design of Feedback Control Systems</li></ol>
<b>Course is prerequisite for</b>	<ul style="list-style-type: none"><li>• EE26527 Industrial Control Systems</li></ul>