

Control Systems (802331)

Course Syllabus

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| Prerequisites: | Circuit Analysis II (804302) & Advanced Eng. Mathematics (802347) |
| Course Units: | Lecture Units: 3 Lab Units: 1 Total Units: 4 Contact Hours: 6 |
| Instructor Details: | Dr. Abdulfattah Noorwali and Dr. Abdullah Aljoahni. (First Floor, Electrical Engineering Department) Email: afnoorwali@gmail.com & ajjoahni@uqu.edu.sa Webpage: https://uqu.edu.sa/ajjoahni |
| Textbook: | <ul style="list-style-type: none">o <i>Modern Control Engineering</i>, Katsuhiko Ogatao <i>Modern Control System</i>, Drof and Bishop |
| Course Contents: | <p><i>The Couse is divided into:</i></p> <ol style="list-style-type: none">1. Mathematical Modeling of Control Systems:<ul style="list-style-type: none">• Transfer Function, Impulse Response, State-Space Representation, Convolution integralMathematical modeling of electrical systems and mechanical systems.2. Transient and Steady-State response analysis:<ul style="list-style-type: none">• First-order systems, second-order systemsMatlab transient response. Routh's stability, Root-Locus plots, Bode plots and Stability with Matlab. <p><i>Note that these topics might adjusted or changed as necessary.</i></p> |
| Assessment Criteria: | <ul style="list-style-type: none">o 20% Quizzes 30% Midterm Exams and 40% Final Exam.o 10% Lab Work & Home Works. |