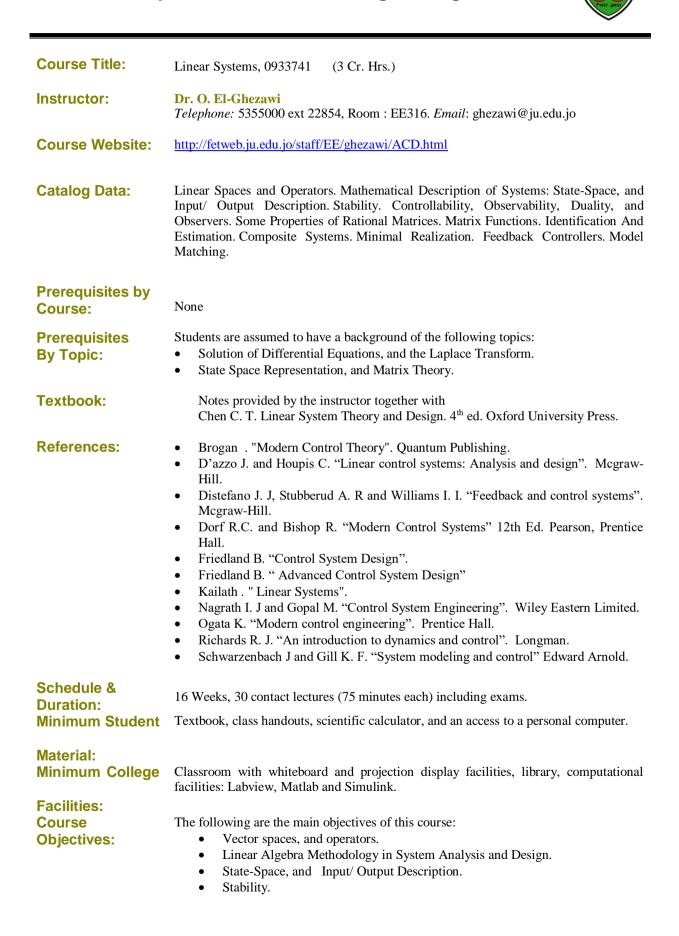
# The University of Jordan School of Engineering Department of Electrical Engineering



- Structural Properties: Controllability, Observability, Duality, and Observers.
- Rational Matrices. Composite Systems. Minimal Realization. Identification and Estimation.
- Feedback Controllers.
- Model Matching.

#### **Course Learning Outcomes and Relation to Program Learning Outcomes:**

Upon successful completion of this course, a student should gain knowledge in :

- Vector spaces, operators, Linear Algebra Methodology. [i, ii]
- State-Space, and Input/Output Description. Stability. [i, ii]
- Structural Properties: Controllability, Observability, Duality, and Observers. [i, ii]
- Rational Matrices. Composite Systems. Minimal Realization. Identification and Estimation. [i, ii]
- Feedback Controllers. [i, ii]
- Model Matching. [i, ii, iii]

# **Program learning outcomes**

i	Demonstate a sound, in-depth and up-to-date technical knowledge in the field of			
	specialization.			
ii	Ability to identify and solve engineering problems in their chosen field of study.			
iii	Acquir the skills for continued professional development and independent self-study.			
iv	Demonstrate the ability to communicate technical informatiom effectively and			
	professionally both orally and in writing.			

## **Course Topics:**

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Topic Description	Hrs	
Vector spaces, operators, Linear Algebra Methodology.	8	
State-Space, and Input/Output Description.	5	
Stability.	2	
Controllability, Observability, Duality, and Observers.	8	
Rational Matrices. Composite Systems. Minimal Realization. Identification And Estimation.		
Feedback Controllers.	5	
Model Matching.	2	

**Ground Rules:** Attendance is required and highly encouraged. To that end, attendance will be taken every lecture. All exams (including the final exam) should be considered cumulative. Exams are in closed book form. Students are held responsible for all reading material taught and assigned.

Assessments: Exams, Quizzes, Projects, and Assignments.

### **Grading policy:**

	Semester Work		60 %
	F	inal Exam	40 %
	Т	otal	100%
Last Updated:	April , 2017		