

EEL 5182 Official Syllabus

EEL 5182, State Variable Methods in Linear Systems

Credits and Contact Hours: 3 crs; 3 classes per week of 50 minutes each

Textbook T. Kailath, "Linear systems", Prentice-Hall, NJ, 1980

a. **Supplemental Material:** none

Specific Course Information

- **Catalog Description:** Linear algebra and state variable methods for design and analysis of discrete and continuous linear systems.
- **Prerequisites:** EEL 4657.
- **Required, Elective, or Selected Elective:** Elective

Specific Goals for the Course

- **Specific Outcomes of Instruction:** A course on the use of state variable methods in the design of linear control systems.
- **Brief List of Topics to Be Covered**
 - Realization theory and implementation (5 weeks).
 - Controllability of linear systems.
 - State feedback and stabilization of linear systems
 - Linear observers.
 - Observability of linear systems.
 - Combining observers and controllers.
 - Stabilizability and detectability of linear systems.

1. Instructor: Dr. Jacob Hammer
 1. Office location: NEB 563
 2. Telephone: 392-4934
 3. E-mail address: hammer@mst.ufl.edu
 4. Web site: Canvas
 5. Office hours: MWF 3:50-4:40PM
2. Teaching Assistant None
 1. Office location
 2. Telephone
 3. E-mail address
 4. Office hours

3. Meeting Times M W F 8
4. Meeting Location LAR 239
5. Grading – methods of evaluation: Homework 10%; midterm exam 35%; final exam 55%.
6. Grading Scale: The grade scale for this course is A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. More information about the grading scale can be found at <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html> (Links to an external site.)Links to an external site.
7. "A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html> (Links to an external site.)Links to an external site."
8. Make-up Exam Policy: Approval required from UF counselor or physician.
9. Honesty Policy – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.
10. Accommodation for Students with Disabilities – Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

UF Counseling Services –Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
 - Career Resource Center, Reitz Union, 392-1601, career and job search services.
11. Software Use – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.