

# ECEN 667 – Power System Stability

Fall 2019 TR 8 – 9:15am ETB 1020

**Instructor:** Prof. Tom Overbye, 308C WEB, overbye@tamu.edu

**Office Hours (tentative):** Monday 1 to 3 pm or by appointment

**Instructor Website:** overbye.engr.tamu.edu

**Course Website:** <https://overbye.engr.tamu.edu/course-2/ecen667fa2019/>

**Prerequisite(s):** ECEN 460 or consent of instructor

**Text:** P. W. Sauer and M. A. Pai, *Power System Dynamics & Stability* (either the 2007 edition, which is Prentice-Hall, or the second edition that adds Joe Chow as an author from John Wiley and Sons, 2018 [ISBN-13: 978-1119355779])

**TA:** Hanyue Li, hanyueli@tamu.edu

**TA Office Hours:** Wednesday 9-11 am

## Course Syllabus

## Approx. # of hours

Introduction to power system structures and simulation	3
Electromagnetic transients	2
Synchronous machine modeling	6
Excitation system modeling	2
Turbine-Governor modeling	3
Time-scales and reduced-order models	2
Interconnected multi-machine modeling	5
Transient stability analysis	5
Linearized modeling and the control problem	3
Signal analysis	5
Power System Stabilizer (PSS) design	4
Applications of Synchrophasor Measurements	3
Total	43

<b>Evaluation:</b> Midterm Exams	30%
Final exam	35%
Homework and projects	35%

**Tentative Dates for Midterm:** Thursday, October 10, In Class

**Final Exam:** Monday, December 9, 1 to 3 pm

**NoteSheets for Exams:** All exams are closed-book, closed-notes. You may bring in one notesheet (8.5" by 11"), and may use calculators.

## Grading

All grading in the course is based on a percentage with final grades determined based on this percentage. If your final average falls within the below ranges you are guaranteed to receive at least the letter grade indicated: A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 59 or lower

## **Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.

## **Academic Integrity**

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

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