Electrical Engineering Department
California Polytechnic State University

Course Syllabus (12-15- 2025 revision)

EE 529 Microwave Devices

Winter 2026 Dennis Derickson, EE Professor, Electrical Engineering

Text: ***Semiconductor Physics and Devices, 4th edition by Donald Neamen:***
Fundamentals of Microwave and RF Design: Michael Steer, Third Edition
(on canvas – Creative Commons)

Simulation Tools: Keysight ADS – down load before the first meeting
Key Learning Tutorials: ***https://www.youtube.com/@BhargavaAnurag***
Industry Application Notes

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Office Hours:
Monday 4-5PM
Wednesday 12-2 PM
Thursday 1-3PM

Learning Objectives:

Lecture Course:

- Learn about high frequency circuitry and devices
- Learn how to use Keysight ADS and an integrated circuit Foundry Process Design Kit to develop a Microwave Monolithic Integrated Circuit (MMIC).

Laboratory Course:

- Concentrate on high frequency printed circuit board designs
- Design, Build and Test Devices, Circuits, and subsystems in the Microwave Frequency Range

EE529 Grading:
2 Midterm Take-Home Design Projects-RFIC focus - 35%
1 Final Take Home Final Exam Design project -RFIC focus– 20%
Homework 20%
Laboratory Design Projects and Reports – PC Board Design Focus -25%

Extra Credit (10%) Upgrade your amateur radio License level to General or Extra Class.