

EEE 212: MODERN ANTENNA DESIGN

In Workflow

1. EEE Committee Chair (mahyar.zarghami@csus.edu)
2. EEE Chair (fbelkhou@csus.edu)
3. ECS College Committee Chair (troy.topping@csus.edu)
4. ECS Dean (kevan@csus.edu)
5. Academic Services (torsetj@csus.edu;%20212408496@csus.edu;%20cnewsome@skymail.csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate (james.german@csus.edu;%20celena.showers@csus.edu)
8. Dean of Graduate (cnewsome@skymail.csus.edu)
9. Catalog Editor (212408496@csus.edu;%20torsetj@csus.edu;%20cnewsome@skymail.csus.edu)
10. Registrar's Office (wwd22@csus.edu;%20wlindsey@csus.edu;%20sac19595@csus.edu;%20danielle.ambrose@csus.edu;%20h.skocilich@csus.edu;%20205109584@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Fri, 30 Nov 2018 22:48:53 GMT
Perry Heedley (pheedley): Approved for EEE Committee Chair
2. Fri, 15 Feb 2019 23:28:21 GMT
Fethi Belkhouche (fbelkhou): Approved for EEE Chair
3. Fri, 01 Mar 2019 18:27:07 GMT
Troy Topping (troy.topping): Rollback to Initiator
4. Fri, 13 Sep 2019 22:13:40 GMT
Perry Heedley (pheedley): Rollback to Initiator
5. Mon, 16 Sep 2019 20:27:41 GMT
Mahyar Zarghami (mahyar.zarghami): Approved for EEE Committee Chair
6. Wed, 18 Sep 2019 19:16:09 GMT
Fethi Belkhouche (fbelkhou): Approved for EEE Chair
7. Fri, 27 Sep 2019 17:30:14 GMT
Troy Topping (troy.topping): Approved for ECS College Committee Chair
8. Fri, 27 Sep 2019 19:21:43 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Sun, 15 Sep 2019 23:02:23 GMT

Viewing: EEE 212 : Modern Antenna Design

Last edit: Thu, 19 Sep 2019 20:19:07 GMT

Changes proposed by: Milica Markovic (101025232)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Milica Markovic	milica@csus.edu	9162787327

Catalog Title:

Modern Antenna Design

Class Schedule Title:

Modern Antenna Design

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Electrical and Electronic Engineering

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2020 (2020/2021 Catalog)

Subject Area: (prefix)

EEE - Electrical and Electronic Engineering

Catalog Number: (course number)

212

Course ID: (For administrative use only.)

127326

Units:

3

In what term(s) will this course typically be offered?

Fall, Spring

Does this course require a room for its final exam?

Yes, final exam requires a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

This change is to update the catalog description to reflect the current course content. This course has been offered for several years now with new content, modern antenna design. Content has changed because students majoring in Communications Electronics must have experience with antenna design. Communication electronics classes have been updated several years ago, and 212 content has been moved to other classes at that time. The first part of the current course description (filter design) has been taught in 211, noise and system-level use of ferromagnetic components are discussed in 214. New course content gives a student with no experience in antenna design an overview of antenna design, analysis, simulation, fabrication, and measurement methods. The prerequisite EEE 161, Applied Electromagnetics is a fundamental EEE course that is needed to prepare the students for this course. This is consistent with other graduate courses in this area in EEE.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

Antenna analysis, design, simulation, manufacturing and measurements. Antenna properties. Classification of antennas. Microstrip patch and printed circuit antennas. Dipole antennas. Aperture antennas. Antenna arrays. Antenna measurements. Simulations using full-3D electromagnetic software.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

EEE 161

Prerequisites Enforced at Registration?

No

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Seminar

Seminar Classification

CS#05 - Seminar (K-factor=1 WTU per unit)

Seminar Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."

Students will be able to:

ELO 1. Design microstrip, wire and aperture antennas.

ELO 2. Simulate, analyze antennas using 3-D electromagnetic software

ELO 3. Design, analyze, simulate and fabricate one antenna.

ELO 4. Measure fabricated antenna using the anechoic chamber to perform antenna pattern measurement and a Network Analyzer to measure antenna impedance

Attach a list of the required/recommended course readings and activities:

EEE 212 Schedule.xlsx

EEE 212 Course Syllabus.docx

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

Individual Homework Notes-- ELO 1

Group Projects & HWs -- ELO 1 and 2

One take home midterm -- ELO 1 and 2

One take-home Final Project -- ELO 3 and 4

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Graduate (Masters) Learning Goals:

Disciplinary knowledge

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Is this a Graduate Writing Intensive (GWI) course?

No

Reviewer Comments:

Troy Topping (troy.topping) (Fri, 01 Mar 2019 18:27:07 GMT):Rollback: AC discussed 4 items that need clarification for approval.

1. The prerequisites are different on the syllabus and the Form A. 2. The course name and description are no longer consistent. Microwave Eng II may be confusing to students. 3. The grading breakdowns in the syllabus are inconsistent with standard policy. Please explain. 4. We adjusted the justification to explain the prerequisite. Make sure this is consistent with your intentions. Ask Tracy Touns or Atousa Yazdani for clarification.

Perry Heedley (pheedley) (Fri, 13 Sep 2019 22:13:40 GMT):Rollback: Need to update grading scale to remove overlaps (e.g., is 90% an A or a B?), and clearly define grading ranges for A, A-, B+, B, B-, etc.

Key: 1729