

EEE 142: POWER SYSTEM ANALYSIS II

In Workflow

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Approval Path

1. Fri, 27 Sep 2019 21:30:06 GMT
Mahyar Zarghami (mahyar.zarghami): Approved for EEE Committee Chair
2. Thu, 03 Oct 2019 21:59:02 GMT
Fethi Belkhouche (fbelkhou): Rollback to EEE Committee Chair for EEE Chair
3. Fri, 04 Oct 2019 04:42:54 GMT
Mahyar Zarghami (mahyar.zarghami): Approved for EEE Committee Chair
4. Fri, 04 Oct 2019 22:37:12 GMT
Fethi Belkhouche (fbelkhou): Approved for EEE Chair
5. Fri, 11 Oct 2019 16:54:00 GMT
Troy Topping (troy.topping): Approved for ECS College Committee Chair
6. Fri, 11 Oct 2019 17:08:59 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Sat, 14 Sep 2019 04:05:21 GMT

Viewing: EEE 142 : Power System Analysis II

Last edit: Fri, 11 Oct 2019 16:53:43 GMT

Changes proposed by: Mahyar Zarghami (214200923)

Contact(s):

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Catalog Title:

Power System Analysis II

Class Schedule Title:

Power System Analysis II

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)

142

Course ID: (For administrative use only.)

126921

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:

Currently, EEE 184 is a pre-requisite for EEE 142. However, the knowledge required from EEE 184 is associated with Laplace transformation and basics of linear control systems, which are taught at the beginning of EEE 184 (usually before midterm). This requirement is associated with ELOs 3 and 4 of EEE 142, which are taught in the second half of EEE 142 (usually after midterm). Therefore, students will be able to take both courses concurrently.

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

Review of the fundamentals in electric energy systems; power flow analysis, disturbance of normal operating conditions, symmetrical components and sequence impedances, analysis of balanced and unbalanced faults; a brief review of protection systems; optimum allocation and dispatching of generators; dynamic system control; introduction to stability studies. Students in the course will use MATLAB to solve problems.

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 130, EEE 141, EEE 184 (EEE 184 may be taken concurrently)

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Discussion

Discussion Classification

CS#02 - Lecture/Discussion (K-factor=1 WTU per unit)

Discussion 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."

After completion of this course, the students will be able to:

1. Apply fundamentals of single-phase and three-phase power systems, including concept of AC phasors, impedance, voltage, current, and active and reactive powers.
2. Perform balanced and unbalanced fault analyses using proper modeling of power system components.
3. Perform optimal dispatch of generation in the systems using optimization techniques.
4. Analyze small-signal and transient stability studies in simple power systems using proper modeling and techniques.
5. Apply fundamentals of frequency and voltage control in power systems using linear control theory.

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

eee142_Course Outline 2.pdf

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.

Assignments associated with ELOs 1 through 5
 Quizzes associated with ELOs 1 through 5
 Exams (midterm and final) associated with ELOs 1 through 5

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**Undergraduate Learning Goals:**

Competence in the disciplines

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

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?

No

Reviewer Comments:

Fethi Belkhouche (fbelkhou) (Thu, 03 Oct 2019 21:59:02 GMT):Rollback: Correct Syllabus

Key: 1689