

CERTIFICATE IN ELECTRIC POWER SYSTEMS AND ENGINEERING



SACRAMENTO STATE
Redefine the Possible

In Workflow

1. EEE Committee Chair (pheedley@csus.edu)
2. EEE Chair (mahyar.zarghami@csus.edu)
3. ECS College Committee Chair (figgess@csus.edu)
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15. WASC (amy.wallace@csus.edu)
16. Catalog Editor (torsetj@csus.edu)
17. Registrar's Office (wlindsey@csus.edu)

Approval Path

1. Sat, 02 May 2020 01:41:03 GMT
Mahyar Zarghami (mahyar.zarghami): Approved for EEE Committee Chair
2. Sat, 02 May 2020 16:38:00 GMT
Fethi Belkhouche (fbelkhou): Approved for EEE Chair
3. Fri, 18 Sep 2020 17:10:37 GMT
Gareth Figgess (figgess): Rollback to Initiator
4. Fri, 25 Sep 2020 21:24:40 GMT
Perry Heedley (pheedley): Approved for EEE Committee Chair
5. Fri, 25 Sep 2020 21:25:51 GMT
Mahyar Zarghami (mahyar.zarghami): Approved for EEE Chair
6. Fri, 02 Oct 2020 17:55:28 GMT
Gareth Figgess (figgess): Approved for ECS College Committee Chair
7. Fri, 16 Oct 2020 17:34:35 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

New Program Proposal

Date Submitted: Wed, 23 Sep 2020 19:12:27 GMT

Viewing: Certificate in Electric Power Systems and Engineering

Last edit: Fri, 02 Oct 2020 17:54:52 GMT

Changes proposed by: Mahyar Zarghami (214200923)

Academic Group: (College)

Engineering & Computer Science

Academic Organization: (Department)

Electrical and Electronic Engineering

Catalog Year Effective:

2021-2022 Catalog

NOTE: This degree major program will be subject to program review evaluation within six years after implementation.

Individual(s) primarily responsible for drafting the proposed degree major program:

Name (First Last)	Email	Phone 999-999-9999
Mahyar Zarghami	mahyar.zarghami@csus.edu	916-278-7113

Type of Program Proposal:

Certificate

Is this a pilot program?

No

Is this a Fast Track program?

No

Title of the Program:

Certificate in Electric Power Systems and Engineering

Designation: (degree terminology)

BS, Certificate

Abstract of the proposal:

Electrical and Electronic Engineering undergraduate students studying at CSU Sacramento can take a collection of courses to show their proficiency in the area of electric power systems and engineering.

Briefly describe the program proposal (new or change) and provide a justification:

We propose the students to select a collection of courses during their undergraduate study to enhance their knowledge in the area of electric power systems and engineering. The collection of courses include a core set plus an elective set. The core set is designed to provide a broad level of knowledge and the elective set is designed to provide more in-depth knowledge associated with electric power systems and engineering. We surveyed all students currently studying in the power area about their interest in the certificate. Survey results were overwhelmingly in favor.

Objectives of the degree program:

Many companies such as power utilities, independent system operators and consulting agencies require specialized knowledge in the area of power systems and engineering before hiring our graduates. The proposed certificate can demonstrate this level of proficiency to potential employers .

University Learning Goals**Undergraduate Learning Goals:**

Competence in the disciplines
Integrative learning
Intellectual and practical skills

Will this program be 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

Please attach a Comprehensive Program Assessment Plan (required)

EEE_assessmentplan.pdf

Please attach a Curriculum Map Matrix (required)

CurriculumMapMatrix_PowerCertificate.pdf

Please attach a five-year budget projection (required)

Budget_Projection.pdf

Please attach the Smart Planner roadmap:

SmartPlanner_2018_EEE_Electrical & Electronic BS.pdf

Catalog Description:

The certificate in Electric Power Systems and Engineering will recognize the commitment and accomplishments of students studying in this area, and provide potential employers with evidence of the skills students have developed. Students studying in this area will become knowledgeable and proficient in the different skills this demanding field requires. This requires studying multiple subjects such as power system analysis, electric power distribution, relay protection, and smart grids. In addition, students will learn the methods and tools used to analyze and design power systems.

Admission Requirements: Course prerequisites and other criteria for admission of students to the degree major program, and for their continuation in it.

This certificate program is embedded in the Electrical and Electronic Bachelors degree program.

Program Requirements: (If new courses are being created as part of a new program, it will be useful to propose courses first.)**Required courses (11 units):**

- **EEE 141** Power System Analysis I (3 units lecture)
- **EEE 142** Power System Analysis II (3 units lecture)
- **EEE 143** Power System Laboratory (1 unit lab)
- **EEE 192A** Electrical Power Design Project I (2 units)
- **EEE 192B** Electrical Power Design Project II (2 units)

Required elective courses (7 units):**Option 1**

- Two 3-unit elective lecture courses in the power area
- One 1-unit elective lab course in the power area

Option 2

- One 3-unit elective lecture course in the power area
- One 4-unit elective lecture+lab course in the power area

Note: All such Power Engineering elective courses are listed in the BS EEE catalog located in <https://catalog.csus.edu/colleges/engineering-computer-science/engineering-electrical-electronic/bs-in-electrical-and-electronic-engineering/>

Attach the results of a formal survey in the geographical area to be served indicating demand for individuals who have earned the proposed degree and evidence of serious student interest in majoring in the proposed program:

Power Certificate Surveys Fall 2019.pdf
Power Certificate Survey Data.xlsx

Provide justification for any discrepancies between national/statewide/professional manpower surveys and local findings:

This certificate program is embedded in the Electrical and Electronic Bachelors degree program.

For graduate programs, the number of declared undergraduate major and the degree production over the preceding years of the corresponding baccalaureate program:

N/A

Professional uses of the proposed degree major program:

Companies in need of graduates with specialized knowledge in the power systems and engineering.

The expected number of majors in:**1st Year Enrollment:**

30

3rd Year Enrollment:

35

5th Year Enrollment:

40

1st Year Graduates:

30

3rd Year Graduates:

35

5th Year Graduates:

40

Reviewer Comments:

Gareth Figgess (figgess) (Fri, 18 Sep 2020 17:10:37 GMT): Rollback: As discussed

Key: 420