DISCIPLINE DESCRIPTION

ELECTRICAL AND COMPUTER ENGINEERING

ACTIVE TEACHING DISCIPLINES

For administrative use only; please do *not* edit federal NCES information below.

CIP Code	Title	Definition
14.0101	Engineering, General.	A program that generally prepares individuals to apply mathematical and scientific principles to solve a wide variety of practical problems in industry, social organization, public works, and commerce. Includes instruction in undifferentiated and individualized programs in engineering.
14.0901	Computer Engineering, General.	A program that generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer hardware and software systems and related equipment and facilities; and the analysis of specific problems of computer applications to various tasks.
14.1001	Electrical and Electronics Engineering.	A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of electrical and electronic systems and their components, including electrical power generation systems; and the analysis of problems such as superconductor, wave propagation, energy storage and retrieval, and reception and amplification.

Note: More information on the National Center for Education Statistics (NCES) Classification of Instructional Programs (CIP) taxonomy is available at https://nces.ed.gov/ipeds/cipcode/.

The qualifications described below represent commonly accepted good practices for teaching in the discipline(s) represented in the unit.[1]

Section 1. General description of the unit, including academic programs and course offerings[2]

The Department of Electrical and Computer Engineering offers baccalaureate, master's, and doctoral degree programs in computer engineering and electrical engineering. Students are served by departmental members whose areas of expertise include computer systems, networks, and architecture; VLSI systems and digital design; robotics and autonomous systems; micro-/nanosystems and quantum technologies; power and energy systems; electromagnetics and RF circuits; and communications, signal processing, control, and machine intelligence. The department also benefits from close ties with other units across campus including the College of Optics and Photonics, the Florida Space Institute, the Institute for Simulation and Training, the NanoScience Technology Center, and the Resilient, Intelligent, and Sustainable Energy Systems (RISES) Center.

Section 2. Qualifying degree(s) for each discipline taught in the unit[3]

A terminal degree in the teaching discipline qualifies a faculty member to teach throughout the broad scope of the teaching discipline at the undergraduate and graduate levels.[4]

Computer Engineering

- PhD in Computer Engineering

Electrical Engineering

- PhD in Electrical and Electronics Engineering

Section 3. Broadly related discipline(s) for each discipline taught in the unit

Specialization qualifies a faculty member to teach throughout the broad scope of the teaching discipline (typically five or more courses on distinct topics).

Computer Engineering

Faculty members with degrees in any of the fields listed below may be qualified to teach throughout the broad scope of the department's offerings in computer engineering, according to the level of their degree (master's for undergraduate, doctoral for graduate):

- Computer and Information Sciences
- Electrical and Electronics Engineering
- Engineering Physics/Applied Physics
- Engineering Science
- Mechatronics, Robotics, and Automation Engineering
- Systems Engineering

Electrical Engineering

Faculty members with degrees in any of the fields listed below may be qualified to teach throughout the broad scope of the department's offerings in electrical and electronics engineering, according to the level of their degree (master's for undergraduate, doctoral for graduate):

- Computer Engineering
- Energy Systems Engineering
- Engineering Physics/Applied Physics
- Engineering Science
- Laser and Optical Engineering
- Materials Engineering
- Mechatronics, Robotics, and Automation Engineering
- Nanotechnology
- Systems Engineering

Section 4. Selectively related discipline(s) for each discipline taught in the unit

Specialization qualifies a faculty member to teach a restricted set of courses in the teaching discipline (typically four or fewer courses on distinct topics).

Faculty members with degrees in mathematics or the physical sciences may be qualified to teach courses on topics related to their area of specialization, according to the level of their degree (master's for undergraduate, doctoral for graduate).

Section 5. Justification for use of faculty members with "other" teaching qualifications and additional information[5]

The department considers other teaching qualifications in conjunction with or in lieu of academic credentials on a case-by-case basis. This is acceptable in special cases in which evidence of a faculty member's exceptional industry experience, research, or other qualifications can be documented, and in which those qualifications are directly applicable to the course or courses being taught.

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1. The unit chair or director, in consultation with unit faculty members, is responsible for identifying and articulating commonly accepted good practices in each of the unit's teaching disciplines and for providing appropriate justification as needed. In the case of an emerging discipline for which common collegiate practice has not yet been established, a compelling case must be made, as necessary, to substantiate the claims presented.

2. Please provide a general description of the unit's course and program offerings at the undergraduate and graduate levels (e.g., degree and certificate programs, minors, unit contributions to interdisciplinary core courses). This section may also be used to provide other pertinent information about the unit and the discipline(s) it represents (e.g., discipline accreditation, faculty research emphases).

3. For each discipline taught in the unit, please list those degrees that are regarded by the respective disciplinary community as terminal degrees in the discipline and thus qualify a faculty member to teach throughout the broad scope of that discipline at the undergraduate and graduate levels. In most fields, a terminal degree is the commonly accepted highest degree in the given field of study. In such instances, the terminal degree is usually considered to be the academic (or research) doctorate (e.g., Doctor of Philosophy). However, some academic fields have, through custom, recognized terminal degrees that are not doctorates (e.g., Master of Fine Arts). Note that terminal degrees in other disciplines may also be appropriate for teaching in the discipline, but such credentials should be listed as broadly or selectively related degrees, as appropriate.

4. A nonterminal master's degree in the teaching discipline qualifies a faculty member to teach throughout the broad scope of the teaching discipline at the undergraduate level but not at the graduate level.

5. Please use this section to provide justification that helps to make the case for special circumstances that apply to the unit, including the use of faculty members qualified to teach by "other" means. Typically, the statements provided in this section should be of a general nature and should not address specific individuals. (Justification for specific individuals is typically handled separately during the teaching certification process.) Please cite appropriate authorities as needed to justify the unit's practices (e.g., discipline accreditation guidelines, governmental regulations).

When a faculty member cannot be qualified to teach on the basis of academic credentials (i.e., degrees, coursework) alone, qualifications other than academic credentials (or combined with academic credentials) that are appropriate for teaching particular courses may be taken into consideration. Such consideration of other teaching qualifications in conjunction with or in lieu of academic credentials must be made on a case-by-case basis. These cases should be exceptional, and the evidence provided of other demonstrated competencies and achievements must be compelling. They should also show significant evidence of professional progress as related to the faculty member's teaching assignment.