DISCIPLINE DESCRIPTION

COMPUTER SCIENCE

ACTIVE TEACHING DISCIPLINES

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

CIP Code	Title	Definition
11.0101	Computer and Information Sciences, General.	A general program that focuses on computing, computer science, and information science and systems. Such programs are undifferentiated as to title and content and are not to be confused with specific programs in computer science, information science, or related support services.

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 Computer Science offers baccalaureate degree programs in computer science and information technology; master's degree programs in computer science, computer vision, cyber security and privacy, data analytics, and digital forensics; a doctoral degree program in computer science; and a number of undergraduate and graduate certificates in such disciplines as computer forensics and cyber operations.

Education and research in the department reflect the broad nature of the field, which encompasses programming systems and languages, software engineering, computer systems, computer architecture, networks, machine learning, artificial intelligence, computer vision, image and video processing, computer graphics, user interfaces, virtual and augmented reality, bioinformatics, computer security and forensics, computer science theory, data analytics, quantum computing, parallel computation, and computational biology.

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]

- PhD in computer science

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 Science
- Artificial intelligence
- Bioinformatics
- Computer engineering
- Cybersecurity
- Electrical engineering
- Image processing

Computer Vision
- Medical computing
- Natural language theory
- Robotics

Cyber Security and Privacy
- Cybersecurity
- Digital forensics
- Information technology

Data Analytics
- Data science
- Information science
- Statistics

Digital Forensics
- Criminal justice
- Cybersecurity
- Digital forensics
- Forensic science
- Law

Information Technology
- Computer engineering
- Computer technology
- Electrical engineering
- Information science

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).

Computer Science
- Information science
- Management information systems
- Mathematics
- Robotics
- Statistics

Computer Vision
- Medical vision computing
- Vision and language models
- Vision robotics

Cyber Security and Privacy
- Computer engineering
- Criminal justice
- Cyber risk management

Data Analytics
- Industrial engineering
- Management information systems

Digital Forensics
- Computer engineering

Information Technology
- Engineering technology
- Industrial engineering
- Instructional technology
- Management information systems

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. For example, faculty members with a bachelor's degree in information technology or a related discipline and extensive industry experience may be qualified to teach specific courses that are relevant to their background. Likewise, faculty members with a master's degree in digital forensics and appropriate professional experience in the legal or criminal justice systems may be qualified to teach graduate-level courses in digital forensics. In addition, faculty members with a doctoral degree in the optical sciences may be qualified to teach interdisciplinary graduate courses (especially doctoral research and dissertation hours) with an emphasis on the optical sciences or quantum computing.

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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.