DEPARTMENT OF COMPUTER SCIENCE

ACTIVE TEACHING DISCIPLINES
For administrative use only; please do not edit federal NCES information below.

<table>
<thead>
<tr>
<th>CIP Code</th>
<th>Title</th>
<th>Definition</th>
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<tbody>
<tr>
<td>11.0101</td>
<td>Computer and Information Sciences, General</td>
<td>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.</td>
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<tr>
<td>50.0102</td>
<td>Digital Arts</td>
<td>A general, undifferentiated program that focuses on the use of computerized digital images as the primary medium of expression in the visual and performing arts, and that may prepare individuals for a wide variety of careers using new media, including graphic design, digital animation, motion graphics, 3D visualization, game and interactive media design, music and sound design, video production, web design, photography, and other fields.</td>
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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

General description of the unit, including academic programs and course offerings²

The Department of Electrical Engineering and Computer Science (through its Computer Science division) offers these programs:

- Computer Science BS
- Computer Science MS
- Computer Science PhD
- Digital Forensics MS
- Information Technology BS

Education and research in Computer Science reflects the broad nature of the field, which encompasses the areas of programming systems and languages, software engineering, computer architecture, networks, artificial intelligence, vision and graphics, user interfaces, bioinformatics, computer security and forensics, and computer
science theory. Computer Science is a dynamic field that cuts across so many disciplines that its applications are numerous, and there are many opportunities for interdisciplinary research. The mission of the Computer Science Division is to educate students in the principles and practices of Computer Science, preparing them for graduate school, careers in hardware and software development and computing systems technology, and a lifetime of learning. The BS Computer Science program is accredited by the Computing Accreditation Commission under the auspices of the Accreditation Board for Engineering and Technology (ABET). Information Technology majors learn both technical skills as well as management skills, and they learn to apply these skills to meet the information needs of individuals and organizations. Digital Forensics is a multidisciplinary field, which focuses on the application of computer science and technology to the legal problems of digital evidence. The MS in Digital Forensics majors learn the scientific principles and practical issues related to the handling of computer hardware, operating and file systems, and computer networks, in the context of legal system. The MS in Digital Forensics majors also take elective courses offered by Criminal Justice, Chemistry, and Legal Studies Departments.

Teaching Computer Science at the undergraduate level typically requires an MS or PhD in Computer Science or one of the closely related Computer Science disciplines noted below. Teaching Computer Science at the graduate level requires a PhD in Computer Science or one of the closely related disciplines noted below. Teaching Digital Forensics courses at the graduate level requires a Ph.D. in Computer Science or one of the closely related disciplines noted below. Teaching Information Technology undergraduate courses requires an MS or Ph.D. in Information Technology, Computer Science, or one of the related disciplines below.

Qualifying degree(s) for each discipline taught in the unit

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.

PhD Computer Science
PhD Information Technology

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 - Broadly Related Disciplines
- Electrical Engineering
- Computer Engineering
- Image Processing
- Computer Technology

Information Technology - Broadly Related Disciplines
- Computer Science
- Computer Engineering
- Electrical Engineering

Digital Forensics - Broadly Related Disciplines
- Computer Science
- Law
- Criminal Justice
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 – Selectively Related Disciplines
- Mathematics
- Statistics
- Management Information Systems

Information Technology – Selectively Related Disciplines
- Engineering Technology
- Industrial Engineering
- Instructional Technology
- Management Information Systems

Digital Forensics – Selectively Related Disciplines
- Computer Engineering

Justification for use of faculty members with “other” teaching qualifications and additional information

Qualified instructors with a BS in Information Technology or a related discipline and extensive industrial experience in the particular topics covered by the specific course being taught may also be qualified (or even the most qualified) to teach a course.

Qualified instructors with a MS in Digital Forensics may be well-qualified to teach at the master’s level in Digital Forensics if they have appropriate job-related experience in the legal and criminal justice system.

The Computer Science Division teaches service courses for which the appropriate academic qualification can be a PhD or MS in Instructional Technology.

Interdisciplinary graduate courses (especially research and dissertation courses) with an emphasis on the optical sciences may be taught by instructors with a PhD in Optical Science.

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, master of social work). 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, course work) 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.