



Computer Science

ACTIVE TEACHING DISCIPLINES		
For Administrative Use Only – Please do <u>not</u> edit federal NCES information below		
CIP Code	Description	NCES Definition For more information on the NCES CIP taxonomy, see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55
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.
50.0102	Digital Arts	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.

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

Please provide a general description of unit, including programs and course offerings [2]

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.

Terminal degree(s) for each discipline taught in the unit [3]

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

PhD Computer Science
PhD Information Technology

Broadly related discipline(s) for each discipline taught in the department

Specialization qualifies a person to teach throughout the broad scope of teaching discipline (approximately 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
- Digital Forensics
- Forensic Science

Selectively related discipline(s) for each discipline taught in the department

Specialization does not qualify a person to teach distinct topics throughout the broad scope of the teaching discipline but does qualify to teach a more restrictive set of courses in the discipline (approximately 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 with 'other' teaching qualifications and additional faculty teaching qualifications information [5] [6]

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/director, in consultation with unit faculty, has responsibility for identifying and articulating commonly accepted good practices in each teaching discipline taught in the unit 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 provided as necessary to substantiate the claims made.

[2] Please provide a general description of the unit course and program offerings at the undergraduate and graduate levels (e.g., degree and certificate programs, minors, departmental contribution 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] List those degrees for each discipline taught in the unit 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 both 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 from other disciplines may be appropriate for teaching in the discipline as well, but such credentials should be listed as broadly or selectively related degrees, as appropriate.

[4] A non-terminal master's degree in the teaching discipline qualifies a person to teach throughout the broad scope of the teaching discipline at the undergraduate level, 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 your unit including the use of faculty qualified to teach by 'other' qualifications and other special situations. Typically the statements provided in this section should be of a general nature, and not address specific individuals. (Justification for specific individuals is typically handled separately during the teaching certification process.) As appropriate, please cite to appropriate authorities to justify departmental practices (e.g., discipline accreditation guidelines, state regulations).

[6] When a faculty member cannot be qualified to teach on the basis of academic credentials (degree(s) and course work) alone, qualifications other than academic credentials (or combined with credentials) may be appropriate for teaching particular courses. Consideration of other teaching qualifications either in conjunction with or in lieu of academic credentials must be made on a case-by-case basis. Such cases should be exceptional and the evidence of other demonstrated competencies and achievements provided must be compelling. It should also show substantial and significant evidence of professional progress as related to the faculty member's teaching assignment.