



**Engineering Core**

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

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]**

Engineering core courses provide a foundation in the sciences and engineering principles. These courses are typically taught by full-time faculty, but may also be taught by part-time faculty and occasionally, by GTAs.

Service Courses Offered to engineering majors that may be taught by faculty from any engineering department within the college are:

- EGN1006C Introduction to the Engineering Profession and EGN 1007C Engineering Concepts and Methods  
These are freshman seminar courses required of all incoming freshmen with the exception of computer science, information technology, and engineering technology students.
- EGN4903H Honors Directed Readings
- EGN4970H Honors Undergraduate Thesis
- EGN4931H Engineering Honors Seminar-Research
- EGN4412C & 4413C Interdisciplinary Design I & II

These following service courses are offered to other engineering majors through the departments indicated below:

**Industrial Engineering and Management Systems department:**

- EGN3613 Engineering Economic Analysis
- EGN4624 Engineering Administration

- EGN5720 Internal Combustion Engine Analysis and Optimization
- EGN5858C Rapid Prototyping
- STA3032 Probability and Statistics for Engineers

**Civil and Environmental Engineering Department**

- EGN3310 & 3310H Engineering Analysis-Statics
- EGN 3331 Mechanics of Materials

**Electrical and Computer Engineering Department**

- EGN 3210 Engineering Analysis and Computation
- EGN 3373 & 3373H Principles of Electrical Engineering
- EGN 3420 Engineering Analysis

**Mechanical, Materials, and Aerospace Department**

- EGN 1111C Engineering Computer Graphics
- EGN 3321 & 3321H Engineering Analysis-Dynamics
- EGN 3343 Thermodynamics
- EGN3358 Thermo-Fluids-Heat Transfer

**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 in any engineering or closely related discipline

**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)*

**College Service Courses**

Any engineering or closely related discipline including:

- Electrical Engineering
- Mechanical Engineering
- Engineering Mechanics
- Environmental Engineering
- Control Systems
- Aerospace Engineering
- Physics (Plasma Physics)

**Industrial Engineering & Management Systems Service Courses**

- Industrial Engineering or closely related discipline

For management courses within Industrial Engineering, business degrees including:

- Engineering Management
- Administration and Supervision

### **Civil and Environmental Engineering Service Courses**

- Civil Engineering
- Structural Engineering
- Other closely related disciplines

### **Electrical & Computer Engineering Department Service Courses**

- Electrical Engineering
- Civil Engineering
- Technical Sciences (Automated Systems Engineering)
- Other closely related disciplines

### **Mechanical, Materials, & Aerospace Department Service Courses**

- Fluids Engineering
- Aerospace Engineering
- Civil Engineering
- Mechanical Engineering
- Materials Science Engineering
- Materials Engineering
- Physical Metallurgy

### **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)*

### **Justification for use of faculty with 'other' teaching qualifications and additional faculty teaching qualifications information [5] [6]**

UCF does not offer a geography program. Two Geography courses at the undergraduate level are offered through the Civil and Environmental Engineering Department as service courses offered to all majors on campus. The courses are taught by part-time faculty with a minimum of a Master's degrees in Geography or a Civil or Environmental Engineering or closely related degree. These courses are:

- GEO 1200 Physical Geography introduces students to the basic physical elements of geography.
- GEO 2370 Resources Geography covers the analysis of basic principles and problems associated with development, use, conservation, and management of natural resources, with special emphasis on the United States.

Certain practical undergraduate courses are best taught by instructors with an MS degree and extensive industrial experience in the particular topics covered by the specific course being taught.

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[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.