UNIVERSITY OF CENTRAL FLORIDA

Faculty Qualifications: Discipine Description

School of Biomedical Sciences

ACTIVE TEACHING DISCIPLINES For Administrative Use Only – *Please do not 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
26.0102	Biomedical Sciences, General	A general, program that focuses on the integrative scientific study of biological issues related to health and medicine, or a program in one or more of the biomedical sciences that is undifferentiated as to title. Includes instruction in any of the basic medical sciences at the research level; biological science research in biomedical faculties; and general studies encompassing a variety of the biomedical disciplines.

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 Burnett School of Biomedical Sciences (BSBS) houses the Department of Molecular Biology and
Microbiology, the Biomolecular Science Center (BMS), and the Pre-Health Professions Advisement Office.
The Department of Molecular Biology and Microbiology offers the following degrees:

Molecular Biology and Microbiology minor
Molecular Biology and Microbiology B.S.
Biotechnology B.S.
Medical Laboratory Science B.S.
Molecular Biology and Microbiology M.S.
Biotechnology M.S. and
Biotechnology MS/MBA

The department is also a major partner with Chemistry and Biology in the interdisciplinary Ph.D Program in Biomedical Sciences administered by the Biomolecular Science Center.

Education and research in the school span many areas within the biomolecular/biomedical sciences that are by nature interdisciplinary and include: biochemistry, molecular biology, cell biology, and the biomedical sciences (microbiology, immunology, anatomy, physiology, pharmacology, pathology and the neurosciences). The Medical Laboratory Science program provides laboratory training in the clinical biomedical areas. The Biotechnology B.S. prepares students to function in the industrial biotechnology environment, providing them with more "hands on" laboratory experiences and opportunities for research. The research emphasis of BSBS, both department and center, includes biomolecular/biomedical areas with emphasis in cancer, cardiovascular, neurodegenerative, and infectious diseases. The undergraduate teaching programs provide a broad and thorough core background in molecular biology and the biomedical sciences (including microbiology, biochemistry, and immunology) and allows for additional electives in the areas of biotechnology, tissue engineering, human anatomy, physiology, cell-biology, hematology, histology, e. t. c. These prepare students for admission to both graduate and health professional school programs. The school also provides a biotechnology/genetic engineering general education course in the science foundation group.

The school provides courses in human anatomy, human physiology, and health microbiology required for admission to the nursing program and certain programs in health professions. A number of the courses taught in the department are electives in the biology and chemistry programs, and some are required for the forensic science program.

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]**

School Information

Terminal Degree for each discipline taught in Burnett School of Biomedical Sciences, including both the BMS and Molecular Biology and Microbiology Department: Ph.D in the Biomolecular/Biomedical Areas: including Biochemistry (Biological Chemistry), Bioinformatics, Microbiology (or Bacteriology, Virology, Mycology), Microbiology and Cell Science, Molecular Biology, Cell Biology (or Cell Science), Biomolecular Science, Molecular Genetics, Medical Sciences (Biomedical), Anatomy, Physiology, Medical Microbiology, Pathology (Cellular Pathology), Pharmacology (or Pharmaceutical Sciences, Toxicology), Health Sciences, and Neuroscience.

The MD (Doctor of Medicine) and DVM (Doctor of Veterinary Medicine) will be considered equivalent to a
Ph.D. in biomedical areas.

Terminal Degree for Medical Laboratory Sciences: M.S. with a concentration in related area; or any Masters and B.S in Medical Laboratory Science (Medical 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)

Related Degree(s): Ph.D in Chemistry, Organic Chemistry, Genetics (or Genetics subspecialty area), Molecular and Cellular Pathobiology, Biological Sciences (Life Sciences, Botany, Zoology, or Marine Biology) or Biophysics as these are subjects needed to teach in core courses of the Biomolecular Science Ph.D interdisciplinary program and also provide biomolecular background for the undergraduate courses.

Related Degree(s) for Medical Laboratory Sciences: M.S. Health Sciences and M.S. Clinical Chemistry or other Biomedical M. S. degree.

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]

These related interdisciplinary disciplines are also involved in biomolecular teaching and research. The chemistry and organic chemistry disciplines are related to drug design and discovery and enzymatic mechanisms needed for both the teaching and research areas of the Center and Department: infectious, cardiovascular, neurological diseases and cancer. Genetics is a discipline that provides background in genetic basis of diseases. Molecular and Cellular Pathobiology provides background to teach and perform research in the molecular, physiological and pathological areas. A Ph.D Biological Sciences (Life Sciences, Botany or Zoology) is also suitable for teaching and research in the biomolecular/biomedical areas if the concentration is in the biomolecular/biomedical or biophysical areas as these interdisciplinary areas are within the modern emphasis of the Biological Sciences. Genetics and subspecialty areas of genetics like Agricultural Genetics provide the molecular background for teaching in the biomolecular sciences or direction of research dissertations in the areas of biomolecular science especially related to the molecular basis of disease. PhD in Botany includes coursework in molecular biology and cell biology of plants which qualifies faculty to teach or direct research in the biomolecular areas related to plants.

An MS in a Health or Biomedical Area qualifies faculty to teach in the undergraduate medical lab sciences program.

[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.