EXECUTIVE COMMITTEE
COLLEGE OF NATURAL AND AGRICULTURAL SCIENCES
REPORT TO THE RIVERSIDE DIVISION

MAY 30, 1996

TO BE ADOPTED:

Proposed New Regulations:

Present

Proposed

NR3.5 Life Sciences Core Curriculum

NR3.5.1 All students who are life sciences majors (Biochemistry, Biology, Biomedical Sciences, Botany and Plant Sciences, Conservation Biology, Entomology) will complete a uniform core curriculum prior to advancing to upper division courses not in the core and except as provided in NR3.5.7 and NR3.5.8. Specific courses which satisfy the core will be determined by the college executive committee.

NR3.5.2 Biology: 12 units. The Biology component of the core will consist of a one year introductory biology course sequence.

NR3.5.3 Chemistry: 24 units. The Chemistry component of the core will consist of a one-year course sequence in general chemistry (12 units) and a one-year course sequence in organic chemistry (12 units).

NR3.5.4 Mathematics: 8 units. The Mathematics component of the core will consist of two courses in the calculus.

NR3.5.5 Physics: 15 units. The Physics component of the core will consist of a one-year general physics course sequence, including laboratory.

NR3.5.6 Statistics: 2 units. The Statistics component of the core will consist of one course in statistics.

NR3.5.7 Biochemistry: 4 units. The Biochemistry component of the core will consist of at least one course in elementary or introductory biochemistry. This course may be taken concurrently with other upper division life sciences courses as long as they do not have Biochemistry as a prerequisite.

NR3.5.8 While the intention is that students will complete all of the core courses before proceeding to upper division courses in their major, a student may begin upper division courses while the core is still in progress. Up to 12 units of upper division life sciences courses not being used to satisfy the core may be taken prior to completion of the core; permission of an advisor is required to take upper division units in excess of these 12 units.

JUSTIFICATION: The idea of developing a lower division core curriculum which will prepare students for any upper division major in the Biological Sciences is not a new one. The idea has been put forward with strong justification repeatedly and consistently by every recent CNAS committee (Henry Committee, 1991; Chancellor's Advisory Committee, 1995; CNAS Executive Committee, 1995; Price Committee, 1995 and the BSUCC chaired by C. Lovatt, appointed by Vice Chancellor Warren in 1996) that has addressed the issue of how to recruit and retain high quality undergraduate students in the Biological Sciences and to provide them with the best possible education to enable them to serve as leaders of society in a rapidly changing scientific and technological world.

The benefits of having a lower division core curriculum in the Biological Sciences include:

1) assurance that all students completing the core have been introduced to a specific set of concepts and skills and are prepared to pursue any upper division major or area of specialization

2) organization of courses in a logical progression building on acquired knowledge and skills

3) maintenance of the quality of the curriculum by insuring the presentation of specific concepts and skills, while accommodating participation by more instructors, who, through diversity of viewpoint, illustrations and examples, provide a richness to the educational experience of the students

4) integration between all courses in the core to provide the optimal sequencing of concepts and skills, to eliminate redundancy, and to enable offering courses at a higher level since the level of student preparation is known

5) provision of a clear statement to future students on how to prepare to enroll in or transfer to the Biological Sciences at UCR

A number of specific objectives will be accomplished with a lower division core curriculum for the Biological Sciences in CNAS:

1) A core will provide all our students with the solid grounding in the Biological Sciences they need to succeed in rigorous and specialized upper division courses

2) provide a broad introduction to mathematics and the chemical, physical and biological sciences that prepares students for the rigors of modern biological sciences but does not lock a student into or exclude him/her from any one of a diverse array of upper division majors or specializations

3) provide a diagnostic tool for entering freshmen and a benchmark for transfer students so that they can improve their academic preparation before matriculating as Biological Sciences majors

4) involve more faculty in student advising and to provide more consistent advising to the students.

Effective: Fall 1996

Reviewed and Approved by the Executive Committee CNAS 4/10/96
Reviewed and Approved by the Faculty CNAS: 5/8/96
Reviewed and Approved by Commitee on Educational Policy: 5/10/96
Reviewed and Approved by Rules & Jurisdiction: 5/15/96