

GUIDELINES ON SELECTION OF TECHNICAL ELECTIVES  
DEPARTMENT OF BIOLOGICAL SCIENCES  
17 September 2009  
(revised from memos of 7 Nov 2002, 22 Sep 2005 & 22 May 2009)

The following paragraph from the 2009–2010 catalog, p. 31, sets the basic criteria for technical electives:

A technical elective is a course in any field of science or engineering, subject to department or program approval. Courses classified as mathematics, basic science, applied science, engineering science, engineering design or some combination of these satisfies the requirement. These courses should be at a level appropriate to the level at which they appear in the program.

#### DEPARTMENT APPROVAL

The purpose of this document is to establish department approval, as outlined below.

#### APPROVED SUBJECTS

Courses with the following prefixes have the potential for use as a technical elective:

AHF	CHE	CSE	ISC	OCE	SPC
AVS	CHM	CVE	MAE	OCN	SPS
BCM	CIS	ECE	MET	ORP	SWE
BIO	CON	ENS	MTH	PHY	SYS

In addition, PSY-3423 Physiological Psychology has been designated in the catalog for many years until the present catalog as a campus-wide technical elective. The consensus from administrators is that the course still satisfies the intent of a technical elective.

#### APPROVED LEVELS

Technical electives are scheduled in the junior or senior year in biology programs. Only 3000- and 4000- level courses and graduate courses in the above subjects are automatically approved for use as technical electives, unless they are designated as “non-majors” courses, in which case they are excluded. For example, BIO-3010 Microbes and Society is a non-majors course and is, therefore, unavailable. Because restriction of technical electives to the junior and senior years in biology curricula is more a convenience to avoid otherwise full freshman and sophomore years, 1000- and 2000-level courses with the prefixes listed above are also allowed, barring the exceptions that are listed below.

#### EXCEPTIONS

The following 1000-, 2000-, and 3000-level courses are **excluded as technical electives** for biology majors:

AVS-1101	Aviation Chemical Science
AVS-1102	Introduction to Aviation Chemical Science
AVS-1202	Introduction to Aviation Physiology
AVS-2101	Aviation Physical Science
BIO-1162	Survey of Human Anatomy and Physiology
BIO-2332	Primer for Biomath (if MTH-2332 also used for graduation credit)
BIO-3010	Microbes and Society
CHM-1100	Introduction to Chemistry
CSE-1101	Computing Disciplines and Careers
CSE-2234	Introduction to System Administration
CSE-2400	Applied Statistics
MTH-1000	Precalculus
MTH-1701	College Algebra
MTH-1702	Applied Calculus
MTH-1801	Trigonometry Review
MTH-2332	Primer for Biomath (if BIO-2332 also used for graduation credit)
MTH-2401	Probability and Statistics

To: Biological Sciences Faculty  
From: Richard Turner, Associate Professor  
Re: Use of 1-credit-hour courses for Restricted Electives  
Date: 17 September 2009 (revised from memos of 21 November 2002, 22 September 2005 & 8 November 2007)

We have discussed in faculty meetings the overuse of Graduate Seminar and other 1-credit courses to combine with 3-credit Restricted Electives to satisfy graduation requirements for 4-credit Restricted Electives. Although it is possible to add the credit hours for all Restricted Elective listed on a flow chart and to satisfy those totaled credit hours with various combinations of classes, the intent of splitting Restricted Elective into 3- and 4-credit quanta is to allow students to take some lecture courses and some lecture-laboratory courses. Moreover, it is the intent that Restricted Electives generally include advanced courses of a level appropriate to juniors and seniors. We are a science department, and laboratory work is an essential part of doing science. Many courses are offered in Biology, Chemistry, Environmental Science, and Oceanography having combinations of lecture and laboratory and 4-credit hour loads. The purpose of this memo is to clarify the use of 1-credit-hour courses in fulfillment of graduation requirements.

In general, a student will be allowed to apply to Restricted Elective **a maximum of one** of the following 1-credit-hour courses unless, in appropriate cases (\*), the course is taken with a companion lecture course:

BIO-1200	Introduction to the Health Professions
BIO-1500	Introduction to Aquaculture
BIO-2332	Primer for Biomath (unless MTH-2332 is used for graduation credit)
BIO-4990	Biology Forum
CHM-1091	Nanoscience/Nanotechnology Laboratory
CHM-4901	Senior Research Seminar
COM-2012	Research Sources and Systems
ENS-3105	Atmospheric Pollution Laboratory*
ENS-4901	Special Topics in Environmental Sciences
ENS-4911	Environmental Field Projects 1
OCN-3111	Biological Oceanography Laboratory*
OCN-3211	Marine and Environmental Chemistry Laboratory*
OCN-3311	Geological Oceanography Laboratory*
OCN-3411	Physical Oceanography Laboratory*
OCN-3433	Geophysical Fluids Laboratory*
OCN-4901	Special Topics in Oceanography
OCN-4911	Marine Field Projects 1

\*corresponding lecture course is corequisite/prerequisite

Transfer courses designated as Biology Elective may be used only if they are advanced biology courses (BIO-2XXX, 3XXX, 4XXX) for which we simply do not have an equivalent in our catalog.

Note that some options include BIO-1200 or BIO-1500 in the curricula. Taking either of these required courses does not exclude the student from taking another of the 1-credit-hour courses listed above as a Restricted Elective for that option.

GUIDELINES ON SELECTION OF RESTRICTED ELECTIVES  
DEPARTMENT OF BIOLOGICAL SCIENCES  
17 September 2009  
(revised from memos of 21 November 2002 & 22 September 2005)

Restricted electives are defined as follows in the 2009–2010 catalog, p. 31:

A restricted elective is an elective selected from a specified academic discipline. The academic discipline is included in the specification of the elective, e.g., Restricted Elective (Chemistry) or Restricted Elective (CHM). The level of the elective may be specified by the academic unit.

#### APPROVED SUBJECTS

Most undergraduate options within the Department of Biological Sciences allow selection from Biology (BIO), Chemistry (CHM), Environmental Science (ENS), and Oceanography (OCN). Additional courses bearing other prefixes are permitted for certain options: Biochemistry, BCM, COM-2012; Biomathematics, CSE, MTH; Premedical, PHY, PSY-2442, PSY-3423, PSY-3531.

#### APPROVED LEVELS

Restricted electives are assigned in our curricula in the junior and senior years, although a student might take them earlier if a semester's credit load allows and if prerequisites are met. Assignment to the advanced years in the curricula indicates that the Department intends for the chosen courses to be advanced courses within the disciplines. 1000-level and non-majors courses (e.g., BIO-3010 Microbes and Society) are not allowed. In addition, students in the Aquaculture option must take at least one restricted elective that bears the Q designation in the catalog as part of the university's Quality Enhancement Plan; other options have Q-courses specified as part of the required curricula.

#### EXCEPTIONS

The only 1000-level courses that may be taken for restricted elective are among the one-credit-hour courses listed in the Department policy "Use of 1-credit-hour courses for Restricted Electives" dated 25 August 2009). Refer to that policy for details.

To: Biological Sciences Faculty  
From: Richard Turner, Associate Professor  
Re: Liberal Arts Electives and Military Science Courses (revised; replaces memos of 8/24/99, 9/20/02, 11/21/02, 11/1/03 & 9/22/05)  
Date: 17 September 2009

Elective courses are covered on pp. 31, 121–124, and 162 in the 2009–2010 university catalog. The notes below provide guidance on courses that are allowable as liberal arts and on the use of military science courses in our curricula. The only changes with this revision are page references to the most recent catalog, a note on BUS-3502, and the elimination of outdated notes.

#### Courses Available as Liberal Arts Electives for Options in the Department of Biological Sciences

1. All non-required courses with prefixes COM, HUM, LNG, and PSY.
2. All courses designated in the university catalog as HU elective and SS elective.
3. Any transfer credits designated by the Registrar as HU elective, liberal arts elective, or SS elective.
4. The following courses from the School of Business (3 credits each):

BUS-2601 Legal and Social Environments of Business

BUS-3404 Personal Financial Planning

BUS-3501 Management Principles

BUS-3502 Human Relations in Management (no longer offered, but some students might have taken this course)

BUS-4503 Business Ethics

NOTE: The following courses are already designated in the catalog as social science electives: BUS-1301 Basic Economics; BUS-2303 Macroeconomics; BUS-2304 Microeconomics.

5. The following course from the Department of Science Education:

EDS-1005 Introduction to Education (3 cr)

6. Military science courses as noted in items 1 and 3 below.

#### Application of Military Science Courses

1. MSC-4202 (3 cr), the second semester of Military Science 4, is usable as an HU, liberal arts, or SS elective. This is the only MSC course that may be used for HU or SS elective credits.
2. Up to 3 credits of MSC-XXXX in any combination may be applied to the free elective.
3. Up to 6 credits of MSC-XXXX in any combination may be used as liberal arts electives.
4. Note that the four years of MSC courses vary in their credit-hour loads. Consult course descriptions in the catalog.