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About the Institute
The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

TO: EPOB Faculty
FROM: Dave Rogers
March 1, 1977
SUBJECT: Entomology Position

As a member of the committee for selection of an entomologist, I feel that the final results of the faculty selection was not as representative as it should have been, because all four of the top candidates have ecology as their major endeavor, and no taxonomists made the top. I believe that this heavy emphasis occurred more as a result of an arithmetic fluke than a true representation of the desires of at least a large minority of the faculty. Since the position announcement listed ecology as only one of the options; since there was a strong recommendation for a taxonomist from the faculty member for whom this vacancy exists; since there was a strong feeling on the committee that a taxonomist should be included; and since a very good candidate was next in line, I believe that we should review our decision, and replace the last candidate that made the list with the next one below, Kavanaugh, who has the strong support of a number of us. After all, there are now <u>two</u> behaviorists on the list, both from the same school. I cannot believe that they represent the diversity we seek in getting the best person to fill the position. One behaviorist might be all right, but two of them is too much!

I will make a motion at the faculty meeting tomorrow to effect this change. I trust that it has your support.

TO: EPOB Faculty (especially Ecologists)

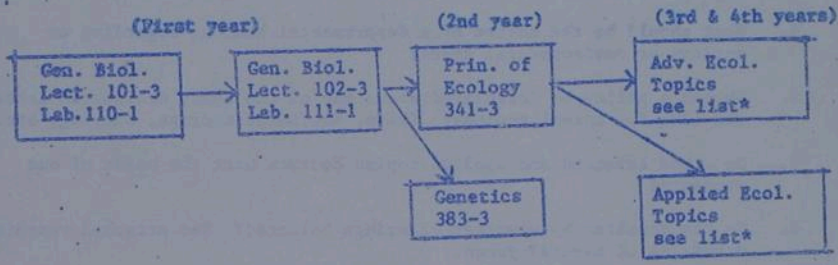
FROM: Ad hoc Ecology Curriculum Chairman, J.T. Wiedeli

RE: Ecology Curriculum and Teaching Assignments

DATE: Febrauary (4), 21, 1977

Part of this memo was written on February 4 and circulated to the Departmental Chairman and 3 or 4 Ecologists for reaction. What follows is a revision based upon the recent teaching load assignments presented at the Wednesday, February 16, faculty meeting.

I. THE FOLLOWING IS A FLOW DIAGRAM REVISED FROM THE MEMO OF FEBRUARY 1, 1977.



* see later.

II. ECOLOGY CURRICULUM REVISION AND PHILOSOPHY

This plan is based upon the idea that NO LARGE SECTIONS WILL BE AVAILABLE (OR FORCED UPON) STUDENTS following their successful completion of General Biology 101, 102, Principles of Ecology 341, and Genetics 383. ONLY sections of advanced and applied ecology topics will be available for students pursuing the departmental environmental or ecology track.

It is proposed (as one alternative) that...

1. Advanced Ecological Topics and Applied Ecological Topics be offered at the 400 and 500 level.
2. All ecological courses presently offered fall under the two course titles as topics. (a step towards simplicity)
3. Several sections of topics be offered each semester according to the desire of each faculty member, realizing that there is a 1 out of 3 year teaching committment to General Biology and/or Principles of Ecology and to graduate seminars.
4. Faculty may simply offer topics and need not be concerned about proposing new courses to the Committee on Courses. Presently offered courses can be retained or dropped and new topics taught with the permission of the Department Chairman.

Dr. David Rogers
Hale 114

III. DECISIONS TO BE MADE BY ECOLOGY FACULTY AT OUR NEXT MEETING.

1. General Biology 101, 110, 102, 111 or the equivalent is a prerequisite to EPOB 341-3?

2. Principles of Ecology 341-3 or the equivalent is a prerequisite to Advanced Ecological Topics and Applied Ecological Topics?

3. The proposed plan of advanced and applied topics is or is not acceptable? This is meant to imply the the bulletins would reflect out total ecological curriculum.

4. What courses in other departments, schools and colleges will be acceptable towards an EPO/major with a speciality in ecology? (see attached) /environmental Remember the departmental rule is that only 12 hours are acceptable outside the major.

5. What should be the nature of a departmental handout regarding an ecology or environmental track?

6. Should a policy be formulated about use of the newly designated laboratory (Rm 130) for animal ecology? (keys, equipment storage, sharing, etc.).

7. Do the advanced and applied topics courses meet the needs of our students?

8. Is the semester by semester offerings balanced? See attached teaching schedules of several years.

9. How many advanced ecology and applied ecology courses should be recommended as a minimum for the environmental major?

IV. PLEASE NOTE COURSES OFFERED IN OTHER SCHOOLS AND COLLEGES.

GEOGRAPHY

Geog. 340-3	Environmental Quality and Human Choice
Geog. 421-3	Climatology
Geog. 433/533-3	Mountain Climatology
Geog. 435-3	Descriptive Biogeography
Geog. 441-3	Conservation Practice
Geog. 422-3	Conservation Thought
Geog. 443-3	Seminar: Conservation Trends
Geog. 450/550-3	Water Resources & Water Management of Western U.S.
Geog. 474-3	Environments and Peoples
Geog. 545-3	Analysis of Environmental Systems
Geog. 635-3	Biogeography

GEOLOGY

Geol. 370-3	Environmental Geology
Geol. 552-3	Paleoecology

INTEGRATED STUDIES

Biol. Sci. 304-3	The Darwinian Revolution
Nat. Sci. 401-3	Environmental Studies
Nat. Sci. 402-3	Environmental Studies

ENGINEERING

Engr. 131-3	Man and His Environment
Aero. 380-3	Bioengineering
Aero. 525-3	Air Pollution
Aero. 527-3	Noise Pollution and Abatement
Aero. 578-3	Oceanography

CHEMICAL ENGINEERING

Ch.E. 501-3	Environmental Modelling
Ch.E. 569-3	Industrial Wastes and Solid Wastes Pollution Control

CIVIL & ENVIRONMENTAL ENGINEERING

C.E. 533-3	Applied Hydrology
C.E. 537-3	Water Law, Policy and Institutions
C.E. 539-3	Seminar in Water Resources Development and Management
C.E. 540-3	Water Pollution Chemistry
C.E. 543-3	Adv. Waste Water Treatment

ENVIRONMENTAL DESIGN

Env. D. 412-3	Human Nautre and Environment
Arch. 450-3	Environmental Systems
U.D. 540-3	Basic Ecology of Environmental Impact Statements

V. TENTATIVE ECOLOGY SCHEDULE FOR FALL 1977 AND SPRING 1978 BASED UPON INFORMATION GATHERED AT FEB. 3RD FACULTY MEETING

FALL 1977

Principles of Ecology		
Section 1		C. Bock
Section 2		J. Bock
Advanced Ecology Topics		
Section 1	Introduction to Arctic & Alpine Environments	J. Marr
Section 2	Plant Population Biology (584-4)	Y. Linhart
Section 3	Tropical & Insular Biology (524-3)	A. Cruz
Section 4	Plant Ecology (441-541-4)	J. Marr
Section 5	Stream Biology (429/529-3)	J. Windell
Section 6	Evolution & Ecology of Domestic Plants	R. Bye
Section 7	Physiological Adaptations to Environment	C. Carey
Applied Ecological Topics		
Section 1	Environmental Measurement (515-2)	B. Pollock
Section 2	Stream Biology Techniques (5 -2)	J. Windell
Section 3	Introduction to Biostatistics	S. Bernstein
Section 4	Biometry (438/538-3)	M. Grant
Seminars (Graduate) Environmental Biology		
Section 1	Evolutionary Ecology (615-2)	Barnstein
Section 2	Topics in Aquatic Ecology (	J. Windell, W. Lewis,

IV. [illegible]

SPRING 1978

Principles of Ecology (441-3)
- Section 1 — A. Cruz
- Section 2 — P. Webber

Ecology of Man (435-3) — J. Marr

Advanced Ecology Topics
- Section 1 Microbial Ecology (428-3) — W. Segal
- Section 2 Population Dynamics (514-) — Bernstein
- Section 3 Winter Ecology (515-) — Bernstein
- Section 4 Quantitative Ecology (642-2) — P. Webber
- Section 5 Tundra Ecology (522-3) — J. Marr
- Section 6 Limnology (418/518-3) — W. Lewis
- Section 7 Ecology of Fish Populations (548-3) — J. Windell
- Section 8 Dynamics of Mt. Ecosystems (421/521-3) — J. Marr

Applied Ecology Topics
- Section 1 Techniques in Aquatic Ecology (519-2) — W. Lewis

Seminars (Graduate) Environmental Biology
- Section 1
- Section 2
- Section 3
- Section 4

101 Fall 1977	102 Spring 1978	107 (formerly Sect. 6) Fall
A. Bekoff	D. Rogers	M. Jones
E. Bonde	J. Bushnell	
J. Hitton	M. Bekoff	108 Spring
R. Bernstein	D. Norris	
		R. Bye

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341 Fall 1977	341 Spring 1978
C. Bock	P. Webber
J. Bock	A. Cruz

Fall 1978 101	Spring 197[illegible] 102	107
		C. Snyder
W. Lewis	J. Marr	
Y. Linhart	H. Nichols	108
J. Wilson	(R. Gregg's replacement)	
J. Bock	C. Bock	A. Cruz

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341 Fall 1978	Spring 1979
P. Webber	M. Grant
R. Bernstein	J. Windell

Dr. David Rogers
Hale 114

TO: EPOB Faculty

FROM: Graduate Program Committee

Please be reminded that the folders of applicants for Graduate School will be in Ramaley 110 for your review starting February 18. Please make supportive statements on any of the folders of persons you would especially like to have as students.

Thanks.

TO: EPOB Faculty Rogers

CHECK AND RETURN
BY 18 February 1977 (FRIDAY)

FROM: D. Norris

RE: Teaching Assignments

Below is the tentative scheduling for your courses for Fall, 1977. Please make any corrections, additions or suggestions. If you prefer a certain room, please indicate. Check field trip fee amounts. Check with Mrs. to see if adjustments are necessary for old fees. A tentative listing for Spring 1977 is included. A time schedule will be arranged in about two weeks. Please indicate suggested times, rooms and fees where appropriate. I have also indicated large course assignments for 1978-1979 for planning purposes. If you plan to offer any seminars please indicate number, title and when it should meet.

FALL 1977 Plants & Man EPOB 315 MWF 9-950 Hale 103

EPOB 375 Prin. of Tax (EXPERIMENTAL) T Th ~~1400-1450~~ 1400-1450 Hale ___

SPRING 1978 EPOB 102 ~~First~~ half

FALL 1978 Plants & Man

SPRING 1979

—

PROPOSED SEMINARS

TERM _____ NO. _____ TITLE _____

TERM _____ NO. _____ TITLE _____

1. In order to standardize requirements for the MA II degree, the graduate committee would like to recommend that the following rules be adopted:
   1. There be a 3 person committee
   2. The exam will be a 2-day affair, 4 hours each day
   3. No oral will be held unless requested by the committee members
   4. Of the 30 semester hours required for the degree, 4 must be for independent research culminating in a paper directly related to the research project.

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2. The graduate committee would also like to begin to standardize examination procedures for other graduate exams. Specifically, we recommend that a student taking MA I and Ph.D. exams be asked to answer 3 of 5 essay questions in each of his or her chosen topics.

Could you please voice your opinion on each of the above to Liz. After all votes are in, and if there is any question, we can consider it at a faculty meeting. The requirements for the MA II listed above actually fall within the scope of what has been accepted in the past (so we have been told).

Thank you,

Marc Bekoff
Chairman of Graduate Program Committee

Dr. David Rogers
Hale 114

Water Trees

In Pr. Tax - include sampling techniques.

Dr. David Rogers
Hale 114

TO: All faculty, and George Angehr, Steve Telleen

FROM: Smith

RE: Meeting of zoologists in particular, but including anyone else interested, on curricular matters, specifically (1) role of Principles of taxonomy course relative to other taxonomy courses; (2) relative urgency of implementing the Animal Kingdom vs. Vertebrate Zoology; (3) possibility of activating Herpetology; (4) urgency of faculty coverage of other areas.

Where & When: Ramaley 117, noon Thurs. Jan. 27.

TO: All Faculty

FROM: Ad hoc Ecology Committee - Chairman - Windell

Subject: Committee Meeting

Date: January 26, 1977

There will be a meeting at 12:00 on Monday in Ramaley Room 117 to formulate the Ecology Curriculum and teaching preferences for 77-78 and 78-79. The following items need to be discussed.

1. Finalize the possibility of individual or team-teaching 341 on a rotating basis with General Biology and other responsibilities.

2. Finalize each persons' tentative teaching schedule for 77-78, 78-79.

3. Preliminary consideration of standardizing 341 instruction for the approximately 400 students each spring and fall semester and 100 during the summer session for an estimated total of 8-900 students per year. (A study by Dr. Bye & Webber suggest that 55% of the students are non-biology majors).
   Drs. Williams, Webber, Bye, Bernstein, Bock and Marr should send along copies of their course organization for duplication for all committee members.

4. Preliminary consideration of an acceptable text.

5. Other.

Dr. David Rogers
Hale 114

TO: All Faculty

FROM: Rogers and Smith

Recommendations from the Committee on Taxonomy, Jan. 24, 1977.

The Committee recommends that the following be made part of the undergraduate curriculum, as major additions to the current curricular offerings.

1. An undergraduate course at the 300 level entitled Principles of Taxonomy, 2 credits

taught by Rogers in the fall semester, be made a co-, or Pre-requisite for listed* taxonomic courses, and strongly recommended for all EPOB majors.

*Courses for which the Principles course is co- or prerequisite are:

Zoology	Botany
Insect taxonomy	Classification Flowering Plants
Ornithology	Advanced Classification Flowering Plants
Birds of the World	Mycology
Mammalogy	Lichenology

There are courses from the Museum that probably would list this course as co- or prerequisite:

Freshwater invertebrate	Agrostology
Malacology	Bryology

All that is required to institute this course is to change the number from EPOB 575-3 to EPOB 3__-2. It would have as a description: Training in nomenclatural procedures formal taxonomic work, included nomenclature, classification processes, key (identification), literature, and discussions on computer-aided methods. Co-, or Prerequisite to: (the following is not an exhaustive list) 430, 431, 434, 511, 553, 560, etc.

2. This recommendation and the following are also reinstatements: Animal Kingdom. Team-taught, demo lab. Highly recommended for all biology (i.e. non-health science) majors.
3. Plant Kingdom (EPOB 210) reinstate, team-taught, demo lab. Highly recommended for all biology (non-health) majors.

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Insect taxonomy	Classification Flowering Plants
Ornithology	Advances Classification Flowering Plants
Birds of the World	Mycology
Mammalogy	Lichenology

There are courses from the Museum that probably would list this course as co or prerequisite:

Freshwater invertebrate	Agrostology
Malacology	Bryology

All that is required to institute this course is to change the number from EPOB 575-3 to EPOB3__-2. It would have as a description: Training in formal taxonomic work, included nomenclature, classification processes, key (identification), literature, and discussions on computer-aided methods. Co-, or Prerequisite to: (the following is not an exhaustive list) 430, 431, 434, 511, 553, 560, etc.

2.This recommendation and the following are also reinstatements:

Animal kingdom. Team-taught, demo lab. Highly recommended for all biology (i.e. non-health science) majors.

3. Plant Kingdom (EPOB 210) reinstate, team-taught demos and lab. Highly recommended for all biology (non-health) majors.

TO: All EPOB Faculty, George Angehr, Barry Johnson, Steve Telleen

FROM: Dave Rogers, Hobart Smith

RE: Joint meeting of the ad hoc "Special Animal Taxa" group, the "Taxonomy" group and the unofficial "Plant Taxonomy" group

DATE: January 19, 1977.

PURPOSE: Action upon curricular matters pertinent to these groups.

We - the taxonomists of the department - have been requested to devise course offerings in taxonomy that form a coverage we are satisfied with, given the personnel now available, and to submit our conclusions for departmental consideration, first in a circulated memo, and subsequently in joint discussion. To that end a meeting is called of all faculty taxonomists, and the indicated graduate students, at noon, January 24, in Dave Rogers' office and lab, Male 108.

Since we likely will have no more than an hour for discussion, we shall need to act efficiently. It would speed matters up considerably to have available for advance consideration as many propositions as possible for quick rejection, modification or substitution.

Current Taxonomy Offerings

A, Practice:

Zoology
Entomology
*Insect Taxonomy 431
Invertebrate Zoology
*Ornithology — 434
*Birds of the World — 511
*Mammalogy 533
Museum
*(Freshwater Invertebrate)
**Malacology (to be subsumed under F.I.)

Vertebrate Paleo (2 courses)

Botany 430
**Classification Flowering Pl.
Morph. Non-vasc. Pl.
" Vasc. Pls.
**Adv. Class. Flow. Pl. — 560
**Mycology
**Lichenology — 553
Plants of Colorado
Museum
**Agrostology
**Bryology

B. Theory — 2 hrs.
Principles of Biological Taxonomy (300 level) (not now a prerequisite for anything - could become a prerequisite for the strictly taxonomic courses, indicated above by an asterisk)*

Dr. Hobart M. Smith
Ramaley 103

Should Have

Ichthyology
Protozoology
Herpetology
Vertebrate Zoolo[illegible]

Practical Botany
Phycology
Freshwater Plants
Plant Kingdom
?(Class.) Cultiv. Plants

Currently Feasible

Herpetology 1 yr.
(team-taught - Carey, Chiszar, Jones, Nor[illegible]s, Smith, Snyder)

(Vert. Zoo [illegible] most urgently needed, but only one mammalogist, already overloaded, unless volunteers could be obtained).

Breakdown:
Fishes: Wi[illegible]ell, Norris
Herps: as above
Bird: Bock, Cruz (Williams already committed)
Mammals: ? [illegible]urt (Williams already committed)
? Armstrong

Plant Kingdom - 210
(team taught? - Webber, Bonde, Shushan, Bock, Bye, Grant, Marr, Linhart, Nichols). Rogers

1. Princ. Biol. Tax. (Anatomy) a Co- or Prereq. for Taxonomic courses. Strongly recommended for all EPOB majors. (prereq.)

2. Animal Kingdom reinstate, team-taught, demo lab highly rec. for all biology (i.e., non-health science) majors

3. Plant Kingdom (210) reinstate, team-taught (demo) lab highly rec. for all biology (i.e., non-health science) majors

UNIVERSITY OF COLORADO
AT
BOULDER COLORADO 80309

Department of Environmental,
Population and Organismic Biology

October 26, 1976

To: Taxonomists (and friends) - Bonde, Bushnell, Bye, Gregg, Marr, Mitton, Shushan, Smith, Williams

From: Dave Rogers

1. I forgot to mention today that I will not be here from Nov. 1 to Nov. 21. If someone would like to convene the taxonomy brown-bag in the meantime, I sure hope you will.

2. Please let me know what to do with the attached recommendation.

Draft, or preliminary, report of the Taxonomists of the Dept. Please read, and revise as you see fit.

1. Recommendation to the Department.

We think that majors in the dept. should be exposed to a course in "principles" of taxonomy. We do not all think this way, some feeling that if we impose an absolute rule (or requirement), we will have those in the course that will detract from a good course. However, there seems to be a feeling that something must be done for at least a larger segment of our majors with respect to that area of biology dealing with the classificatory process. We feel that the course ought to have principles and might also include some methods (or techniques) of taxonomic study. We generally agree that this course be introductory, and of low credit hours. Perhaps it could be a two hour course. We discussed, but came to no conclusions, about how many students should be taught--if all majors then there would be many more students than most of us think we could handle adequately. We have not considered (in detail) what topics should be included in a general taxonomy course, but feel that future discussions should include decisions on the topics. If I may be so bold, I say that there is a consensus that the subject matter is critical, and that students are not well served when we do not present them with the best taxonomy course we can.

2. Other deliberations.

There should be a set of taxonomic courses that deal with particular groups of organisms. But whether we consider this area, or not, has not yet been decided. We feel that there must be some feed-back from the Chairman and the Executive Committee as to whether we should continue deliberations on other curricular studies by the taxonomically-interested members of the Department. Most of us feel thatthe matter needs review, and request a statement from the Chairman.

Rogers

MEMO TO: Wilson Crumpacker, Chairman

FROM: Committee on taxonomy

12/6/76

After due deliberation, the informal committee on taxonomy (which had a "floating" population, of (usually) 6 to 10 members present) recommends as follows:

That a 300 level course, Principles of Taxonomy, 2 credit hours, 4 contact hours per week of either 2 lectures, 2 hours recitation, or 1 lecture, 3 hours lab, or any other such combination, be offered in EPOB. The course to be offered by D.J. Rogers, guided by an ad hoc committee to oversee and assist in course content. For the first presentation, we would like to keep the course in a "pilot" stage with enrollment limited to 25, to fully develop our own objectives, course outline, syllabus, laboratory exercises, but after the first presentation, we hope that the course becomes permanent, and that it serve the department as a prerequisite for all other courses in systematics or taxonomy (except in certain cases where students may be admitted to the other courses by instructor's consent). We do not expect that the course would be offered more than one semester per year, and preferably (from Rogers' standpoint) in the fall.

JUSTIFICATION:

Taxonomy is the major correlative science for biology. Its methods and logic provide a means of synthesizing vast quantities of data, and organizing these into meaningful, hierarchical categories which makes the communication of these data possible. The driving force behind taxonomy is the study of evolution, which provides the major stimulus to the studies. However, other pragmatic reasons demand that the student be introduced to taxonomic principles and practices, as a necessary part of their biological education. They should

know, for example, what biologists think a species is, for there is no biological course taught where the word species is not used, though the term may not be defined. There should also be the understanding of the means by which species are designated, why names may change, how to identify an unknown (a powerful information retrieval technique) how decisions are made about new species. These are combinations of methods and principles--there needs to be a balance offered to the student, and the proposed course will seek such a balance.

We do not believe that there is a single text that will cover our interests--there are separate texts for zoologists, mecrobiologists, and botanists, but we believe that the course should be meaningful in all these contexts, and we should, therefore, prepare our own, as the course develops.

For Further deliberation on an overall curricular look at taxonomy and systematics offerings in the department, we hope to continue discussions on a bi-weekly basis. There are several good suggestions we believe the faculty will appreciate (at least some of the faculty). These deal with modern methods of biosystematics, chemotaxonomic work, SEM work, taximetric (or numerical taxonomy) etc. Surveys of specific taxa, plant and animal are also considered as necessary and valuable, but the proper balance is still a matter of discussion.

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TO ALL EPOB FACULTY

FROM DAVE ROGERS

SUBJECT TAXONOMY BROWN BAG MEETING

DATE 11/30/76

All interested in continuing discussions on the taxonomy curriculum in the dept., please join us

TUESDAY DEC. 7, 1976
at 12:00 noon, Hale 109

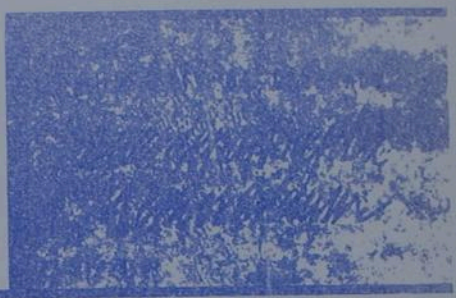
Purpose: 1) Complete memo to be sent to Dept. Chairman at this meeting; Refer to draft sent out in October. 2) Get some topics to be included in a taxonomy introductory course.

TO EPOB FACULTY

FROM BUSHNELL

SUBJECT Systematic-Taxonomy

DATE 11-12-76



THERE WILL BE A BROWN BAG LUNCH TUES. 11-16-76 AT 12 NOON IN HALE 109. THERE WILL BE A CONTINUING DISCUSSION OF THE PLACE OF, AND CONTENT OF, SYSTEMATICS-TAXONOMY IN THE EPO CURRICULUM.

IF YOU ARE INTERESTED, WHETHER YOU ATTENDED EARLIER MEETINGS OR NOT, ARE ENCOURAGED TO ATTEND. IF YOU DO NOT ATTEND AND YOU DO COVER SYSTEMATICS-TAXONOMY IN ANY OF YOUR COURSES EVEN BRIEFLY, WOULD YOU PLEASE SEND ME A NOTE AS TO THE NATURE OF THE MATERIAL WHICH YOU COVER IN THIS RESPECT.

Arguments for a Structured Program in Training Biologists

Students in this department should have a broad-based foundation in the science of biology. In order to achieve this end, the curriculum of the undergraduate major needs a core of specified courses, with prerequisites, and departmental enforcement of these requirements. In no other way can we be certain that our graduates obtain the credentials (facts, principles, techniques) necessary for them to qualify as professional biologists. If we give them our approval without such a foundation we expose ourselves to embarrassment and justificable censure.

It matters not what highly specialized field a student eventually enters, for he should receive instruction in all the major areas of biology. These will include morphology, physiology, classification, genetics, and ecology at least, and he will need additional courses in one or more of these areas to pursue in-depth studies at the advanced level. Teaching is the biggest outlet for our graduates, even though some may wind up engaged in other pursuits, and we should keep this fact in mind in designing a curriculum. And since a student cannot expect to teach only his particular interest, or research area, he should be sufficiently prepared to carry out teaching assignments in a fair variety of fields at least at the introductory level. Future departmental obligations and service will demand such of him. This is especially true in the high schools.

Sooner or later, the student (and subsequent professional biologist) will be confronted with the need to know the names, structure, relationships, etc., of particular organisms. This is so because every example of life is a particular kind and has its own peculiar constitution. It is inescapable that every type of biological investigation must deal with highly specific materials. This is axiomatic, of course, but I think that too often we delude ourselves by assuming we can ignore such basic facts. The student's ignorance of one or more areas force him to seek help on things that should not be necessary. His independence and self-reliance are badly undermined if he does not have a working knowledge of organisms. I have seen instances of this too numerous to document.

Since organisms exist as plants, animals, or micro-organisms, the teaching of biology, in my opinion, ought to be arranged from this standpoint for a good foundation. Other kinds of biology, such as ecological, populational, behavioral, etc. etc., are of primary interest to some, but I believe these can be best understood and mastered if a solid base in organismic biology is required first. Structure of various types can be studied successfully without collateral considerations, to begin with at least, but the study of functions, interrelations, evolution, ecology, require a much broader base and input from other disciplines, both inside and outside of biology.

With this philosophy as justification, I should like to suggest certain curricular pathways that we could adopt in order to achieve better training of our students during the undergraduate years. There follow several programs.

These lists of specified courses assume a minimum of training in cognate branches of biology that every student should have. But they do not require exactly the same program for each student, only basically similar programs. They allow for natural differences in emphasis that students may wish to make, yet hold all registrants to a core of fundamental subjects in the early part of their education. They will have plenty of electives from which to choose in planning a program of advanced work. It is also thought that we should increase the minimum hours required for a major from 30 to 35, and this would make it easier for a student to complete his course of study as here outlined. He can now count up to 45 hours toward the major.

The enrollment will inevitably rise in certain courses if these programs are adopted. Faculty personnel to handle such increases must be found, and two solutions seem possible at this time. One is to hire more staff if we can convince the Dean as to the fundamental soundness of our objectives. The other would be to drastically reduce the enormous offering of specialized courses in the catalogue in favor of the basic subjects. This can be done either by abolishing some of the courses, or by having the instructor supply his students with a reading list of references followed by a comprehensive examination on precisely those references at the end of the semester. No instructional time would be consumed by the latter alternative, and the teacher should have the time to devote to the basic courses.

Suggested required courses for all biology majors

For Botanists:

	Hrs.
General Biology - 101,202	8
Plant morphology - 311	4
Plant morphology - 312	4
Plant physiology - 321	4
Plant taxonomy - 430	4
Genetics - 383	4
Principles of ecology - 341	3
Microbiology - 301	4
	35

For Zoologists:

	Hrs.
General Biology - 101,202	8
Comparative anatomy - 408-9	5
Vertebrate embryology - 461	4
Invertebrate zoology - 411	5
Genetics - 383	4
Principles of ecology - 341	3
Animal physiology - 322	4
or	
Vertebrate physiology - 422	3
Animal taxonomy "400" (special groups)	4 (3,5)
	37 (36,39)

For all other majors: (ecologists, physiologists, geneticists, behaviorists, anatomists, populationists, evolutionists, microbiologists, etc. etc. etc. etc. etc. etc. ----------)

General Biology - 101,202	8
Comparative anatomy or Embryology or Invertebrates or Plant morphology (1 course)	5(4)
Animal physiology or Plant physiology (1 course)	4(3)
Genetics - 383	4
*Principles of ecology - 341	3
Principles of taxonomy - "300"	2
Microbiology - 301	4
	30(29,28)

*Those planning to be ecologists would substitute Biol. 441 (Plant ecology) and Biol. 443 (Animal ecology) for 341 (Principles).

Robert Gregg

TO: All faculty, Steve Telleen and George Angehr

FROM: Smith

RE: Special Animal Taxa Ad hoc Curriculum Committee meeting

In the minutes for the 9/20/76 Executive Committee Meeting, the above committee was created, designating me as chairman. Through the good offices of Ron Duke, graduate student representative on the EC, Steve Telleen and George Angehr were designated as GS representatives on the Special Animal Taxa Committee. Faculty members are any interested. The committee has not yet been convened, solely through procrastination by its chairman. Sorry!

In the meantime the Taxonomy Curriculum Committee, chaired by Rogers, has met several times and has much of the spadework done for both committees. Rogers' committee is to meet Tues. Dec. 7, noon, Hale 109. Dave has agreed that a joint meeting with the Special Animal Taxa Committee would be appropriate at that time. All members of both groups are urged to attend.