

FACULTY SENATE
CURRICULUM COMMITTEE

Approval Form

Department Physical Sciences - via The New Jersey Marine Sciences Consortium

Title Marine Invertebrate Paleobiology

Sponsor(s) C.J. Waring and D.W. Zalusky No. of Credits 4

COURSE _____ CONCENTRATION _____

Approved by the department Graduate ()

Not recommended by the department Undergraduate (X)

Information copies forwarded: Academic Dean; Chairman; Curriculum Committee

[Signature]
Signature: Department Chairman

DIVISION

Consultation on proposal has been held

Comments:

[Signature] 3/5/76
Signature: Academic Dean/and/or Divisional Committee

CURRICULUM COMMITTEE

Proposal received 3/5/76

Open Hearing held 3/17/76

Returned to the department for the following reason(s): See meeting

Approved by the Curriculum Committee

Presented to Executive Committee of the Faculty Senate as information

Notifications forwarded: Vice President for Academic Affairs

[Signature]
Signature: Chairman, Curriculum Committee

ACADEMIC DEAN

I have reviewed the final documents as approved and concur with same.
Budget, faculty and library resources are adequate for immediate implementation.

I have reviewed the final documents as approved and concur with same.
Budget, faculty and/or library allocations for the current academic year
are inadequate for immediate implementation or implementation in the next
fiscal year. The earliest that the proposal might be implemented would be

HEGIS Taxonomy Number: 1918-701

Signature: Academic Dean

Copies forwarded: Chairman, Curriculum Committee; Department Chairman;
Provost; Registrar

REGISTRAR

Approved course description received

Signature: Registrar

PROVOST

Official copy and approval sheet filed

Signature: Provost (or designee)

- Note:
- 1) Course proposal format is attached
 - 2) A copy of this approval form should accompany each proposal
 - 3) A copy of a proposed catalogue description of the course must accompany the proposal as a separate page.

70-76-31

GLASSBORO STATE COLLEGE
DEPARTMENT OF PHYSICAL SCIENCES

TO: Dr. Shirley O'Day, Chairperson, Curriculum Committee

FROM: Department of Physical Sciences

SPONSOR: Prof. C. Joseph Waring

DATE: January 28, 1976

TOPIC: Proposal for new course through New Jersey Marine Sciences Consortium

I. Basic Description of the Course:

Geology 400 level I MARINE INVERTEBRATE PALEOBIOLOGY - 4 Cr. Hrs.

Marine invertebrate fossils, their classification, morphology, evolution and ecology. Emphasis is placed on the fossils as organisms rather than as an aspect of the geologic record.

Prerequisite: Invertebrate Zoology, or its equivalent.

II. General Aim of the Course

To acquaint the student with the basic principles of invertebrate paleontology through classroom, laboratory and field experiences.

III. Specific Objectives of the Course

To familiarize the student with the concepts of evolution, paleoecology, and paleogeography as determined from the fossil record. To analyze the paleontologic record with emphasis on the significance of fossils. To learn the general techniques associated with the collection, identification and curation of fossils.

IV. Content and Scope of the Course

The following topics are among those covered: (1) The organism and its environment; (2) Fossils, their occurrence and significance; (3) Development of the individual (ontogeny), growth and form; (4) Genetic principles; (5) Organic evolution and extinction; (6) Taxonomic principles and binomial nomenclature; (7) Details of the invertebrate fossil record based on studies of each of the phyla; classification, morphology, evolutionary trends. (8) Procedures and techniques involved in the collection, identification and curation of invertebrate fossils; and (9) Literature of fossil invertebrates.

V. Procedures, Techniques and Methods

Lecture and laboratory presentation. Laboratory preparation and identification of specimens collected in the field.

VI. Instructional Materials

Field and laboratory equipment; fossil, living and preserved laboratory and demonstration specimens; slide transparencies; library materials.

VII. Basic Requirements for the Completion of the Course

Assigned outside reading supplements the regular text assignments. Final and mid-term examinations; required participation in field trips; fossil collection and field report.

VIII. Selected Bibliography

- Ager, D.V., 1963, Principles of Paleoecology, McGraw-Hill Book Co., N.Y.; 371 pp.
- Beerbower, J. R., 1960, Search for the Past, Prentice-Hall, Englewood Cliffs, N. J.; 652 pp.
- Dunbar, C. and Waage, K., 1959, Historical Geology, John Wiley & Sons, Inc., N. Y., 3rd ed.; 556 pp.
- Fenton, C. L. and Fenton, M. A., 1953, The Fossil Book, Doubleday and Company, Garden City, L.I.; 482 pp.
- Kay, M. and Colbert, E., 1965, Stratigraphy and Life History, John Wiley & Sons, N.Y.; 736 pp.
- Kummel, B. and Raup, D., eds., 1965, Paleontological Techniques, W. H. Freeman and Company, San Francisco; 852 pp.
- Matthews, W. H., III, 1962, Fossils, an Introduction to Prehistoric Life, Barnes and Noble, Inc., N.Y.; 337 pp.
- Mayr, E., 1963, Animal Species and Evolution, Harvard Univ. Press, Cambridge; 797 pp.
- Moore, R. C., 1954-present, ed., Treatise on Invertebrate Paleontology, (separate volumes on invertebrate taxa, Geol. Soc. Amer. and Univ. Kansas Press)
- Moore, R. C. and others, 1952, Invertebrate Fossils, McGraw-Hill Book Co., Inc., N. Y.; 766 pp.
- Moore, Ruth, 1953, Man, Time and Fossils, Alfred Knopf, N.Y.; 411 pp.
- Murray, M., 1967, Hunting for Fossils, The Macmillan Company, N.Y.; 348 pp.
- Olson, F.C., 1965, The Evolution of Life, The New American Library, Mentor Book MT 648; 302 pp.
- Palmer, E. L., 1965, Fossils, D. C. Heath and Company, Boston; 124 pp.
- Ransome, J.E., 1964, Fossils in America, Harper and Row, N.Y.; 402 pp.
- Raup, D. and Stanley, S.M., 1971, Principles of Paleontology, W. H. Freeman and Company, San Francisco; 388 pp.
- Shimer, H. and Shrock, R. R., 1944, Index Fossils of North America, The Technology Press, M.I.T., Cambridge, Mass. and John Wiley & Sons, Inc., N.Y.; 837 pp., 303 pls.
- Simpson, G.G., 1959, The Meaning of Evolution, The New American Library, Mentor Book, N. Y.; 192 pp.
- Stirton, R. A., 1959, Time, Life and Man, John Wiley & Sons, Inc., N.Y.; 558 pp.
- Valentine, J. W., 1973, Evolutionary Paleoecology of the Marine Biosphere, Prentice Hall, Inc., Englewood Cliffs, N. J.; 511 pp.

IX. Text

- Tasch, P., 1973, Paleobiology of the Invertebrates, John Wiley & Sons, Inc., N.Y.: 946 pp.