

APPROVAL FORM

12

Handwritten notes: "Main Sciences", "Consent", "C. Waring"

- 1) An approval form must accompany each proposal.
- 2) A proposed catalogue description of the course must accompany the proposal as a separate page.
- 3) Results of all consultations must be attached to the proposal.

Proposal Title 1- Scientific Photography  
2- The New York Bight: the MESA Monographs

Sponsor(s) Dr. C. Joseph Waring Dept. Physical Sciences

Check One { Course  Credit/Level/Title Change  or deletion  Other   
 Concentration  Specialization  Major Program  Certification

Graduate  Undergraduate  No. of Credits 2 each

Approved  
 Not Approved \_\_\_\_\_

Lawrence J. Delaney  
 Dept. Curr. Comm. Chairperson  
Feb. 20, 1981  
 Date

Division Curr. Comm.  
 Reviewed \_\_\_\_\_  
 Date \_\_\_\_\_

Approved \_\_\_\_\_  
 Not Approved \_\_\_\_\_  
 Date \_\_\_\_\_

Dean of Division  
 Reviewed 2/20/81  
 Date \_\_\_\_\_

Approved  
 Not Approved \_\_\_\_\_

See A. D. ...  
 Chairperson, Department  
2/20/81  
 Date

Chairperson Div. Curr. Comm.

Man ...  
 Signature

SENATE CURRICULUM COMMITTEE

SCC # 80-81-29A10 Proposal Received 2/15/81 Open Hearing Held 4/10/81

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

Approved by the Curriculum Committee: Date 4/10/81

Presented to Executive Committee of the Faculty Senate as information: Date 5/11/81

Notifications forwarded: Vice President for Academic Affairs: Date \_\_\_\_\_

Richard C. ...  
 Signature: Chairperson, Senate Curriculum Committee





4. Specific advantages of color vs. black and white film selection

C. Microphotography:

1. Construction and operation of the bright-field microscope: including attachments necessary to permit photography; specific limitations
2. Subject considerations: differential staining and contrast; specimen-background ratio
3. Film selection vs. subject (endpoint): rationale for color vs. black and white films
4. Exposure criteria

VI Instructional Materials

Various conventional cameras, ortholux-orthomat light microscope and associated equipment and supplies. Darkroom facilities, chemicals and supplies.

VII Basic Requirements for the Completion of the Course

Written examination and individual project.

VIII Text

Blaker, A. 1976. Field Photography. W.H. Freeman and Co. San Francisco, Cal.

Eastman Kodak Company. 1974. Photography Through the Microscope. Kodak Publication No. P-2. Rochester, N.Y.

IX Bibliography

Chamot, E. and F. Mason. 1958. Handbook of Chemical Microscopy. John Wiley and Sons, Inc. N.Y.

Clark, G.L. 1961. The Encyclopedia of Microscopy. Reinhold Publishing Corp. N.Y.

Eastman Kodak Company. 1971. Processing Chemicals and Formulas. Kodak Publ. No. J-1. Rochester, N.Y.

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\_\_\_\_\_. 1969. Kodak Plates and Papers for Science and Industry. Kodak Pub. No. P-9. Rochester, N.Y.

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Pub. No. R-20. Rochester, N.Y.
- Engel, C.E. 1968. Photography for the Scientist. Academic Press,  
Inc. New York.
- Gander, R. 1969. Photomicrographic Techniques. Hafner Publishing  
Co., Inc. New York.
- Gumpertz, W.E. 1967. How to Get Photomicrographs. Laboratory Manage-  
ment 5:1-28.
- James, T.H. and G.C. Higgins. 1970. Fundamentals of Photographic  
Theory. Morgan and Morgan. New York.
- Lawson, D.F. 1960. The Technique of Photomicrography. MacMillan Co.  
New York.
- Loveland, R.P. 1970. Photomicrography, A Comprehensive Treatise.  
Vol. I and II. John Wiley and Sons, Inc. New York.
- \_\_\_\_\_. 1971. Characteristics and Choice of Photographic  
Materials for Photomicrography. The Microscope 19:177-203.
- Mess, C.K. and T.H. James. 1966. The Theory of the Photographic  
Process. MacMillan Co. New York.

NEW JERSEY MARINE SCIENCES CONSORTIUM

COURSE OUTLINE

500 Level

THE NEW YORK BIGHT: The MESA  
Monographs as an educational resource

2 credits

I Brief Outline of the Course

A series of lectures and a field trip will introduce teachers to the MESA monographs, and through them to the ecology, resources and problems of the New York Bight.

Prerequisite: Bachelor of Arts or Sciences. No particular courses are required, but students should be aware that considerable reading will be required for successful completion of the course.

II General Aim of the Course

To introduce pre-college teachers to the MESA (Marine Ecosystems Analysis) New York Bight Atlas Monographs, and their value as educational materials.

III Specific Objectives of the Course

- A. To enable teachers to use the MESA monographs as texts in a wide variety of courses from social studies to the natural sciences, or to use them effectively as resource materials.
- B. To inform teachers about the New York Bight, and increase their awareness of the interaction of this marine area with the lives of the people living in surrounding land areas.
- C. To increase teachers' skills in leading field trips and in using marine related materials in their teaching.

IV Content and Scope of the Course

- A. Introduction to the Monographs: where to go to obtain the information you need, the titles in the series.
- B. Water movement in the Bight: circulation, tides, storm surge, climate.
- C. Geology of the Bight: sediments, beaches, erosion.

IV Content and Scope of the Course (continued)

- D. Biology of the Bight: plankton, benthos, fishes.
- E. Uses of the Bight: maritime operations, mining, demographic patterns, waste disposal.
- F. Cruising the Bight: a one day field trip on a research vessel to sites representative of both the values and problems of the Bight.

V Procedures, Techniques and Methods

Lectures and demonstrations, field work.

VI Instructional Materials

MESA New York Bight Atlas Monographs; audio-visual equipment and materials.

VII Basic Requirements for Completion of the Course

Assigned readings; examinations and quizzes; class and field trip participation.

VIII Texts

The MESA New York Bight Atlas Monograph Series

Hydrographic Properties Malcolm J. Bowman, with cartographic assistance by Lewis D. Wunderlich, Marine Sciences Res. Ctr., SUNY

Chemical Properties James and Elizabeth Alexander, Institute of Oceanography, SUS Florida

Circulation Donald Hansen, Atlantic Oceanographic and Meteorological Laboratories

Tides R.L. Swanson, MESA New York Bight Project

Storm Surge N. Arthur Pore and Celso S. Barrientos, National Weather Service

Marine Climatology Bernhard Lettau, National Science Foundation, William A. Brower, Jr., and Robert G. Quayle, National Climatic Center

Gravity, Magnetism, and Seismicity James R. Cochran and Manik Talwani, Lamont-Doherty Geological Observatory

Surficial Sediments George Freeland and Donald J.P. Swift, Atlantic Oceanographic and Meteorological Laboratories

VIII Texts (continued)

- Beach Forms and Coastal Processes Warren E. Yasso, Columbia University, and Elliott M. Hartman, Jr., Westchester Community College
- Plankton Production Charles S. Yentsch, Bigelow Laboratory for Ocean Sciences
- Plankton Systematics and Distribution Thomas C. Malone, City University of New York
- Benthic Fauna John B. Pearce and David Radosh, National Marine Fisheries Service
- Fish Distribution Marvin D. Grosslein and Thomas Azarovitz, National Marine Fisheries Service
- Fisheries J.L. McHugh, Marine Sciences Research Center, SUNY, and Jay J.C. Ginter, NY Sea Grant Institute
- Aquaculture Orville W. Terry, Marine Sciences Research Center, SUNY
- Artificial Fishing Reefs Albert C. Jensen, NYS Department of Environmental Conservation
- Recreation E. Glenn Carls, University of Waterloo, Ontario
- Port Facilities and Commerce Alfred Hammon, The Port Authority of New York and New Jersey
- Sand and Gravel John S. Schlee, US Geological Survey, with a section by Peter T. Sanko, NY Sea Grant Advisory Service
- Jurisdictional Zones and Governmental Responsibilities Paul Marr, SUNY at Albany
- Demographic Patterns Charles Koebel and Donald Krueckeberg, Rutgers University
- Transportation Richard K. Brail and James W. Hughes, Rutgers University
- Electricity Generation and Oil Refining H.G. Mike Jones, Harold Bronheim, and Philip F. Palmedo, Brookhaven National Laboratory
- Waste Disposal M. Grant Gross, Chesapeake Bay Institute, Johns Hopkins University
- Water Quality Donald J. O'Connor, Robert V. Thomann, and Henry J. Salas, Hydroscience, Inc.
- Air Quality Volker A. Mohnen, Atmospheric Sciences Research Center, SUNY
- The Lower Bay Complex Iver Duedall, Harold O'Connors, Robert Wilson, and Jeffrey H. Parker, Marine Sciences Research Center, SUNY

VIII Texts (continued)

Industrial Wastes James A. Mueller and Andrew R. Anderson, Manhattan College

Marine and Coastal Birds Marshall A. Howe, Roger B. Clapp, and John S. Weske, US Fish and Wildlife Service

Environmental Health Joseph M. O'Connor, Chun Chi Lee, and Merrill Eisenbud, Institute of Environmental Medicine, NYU Medical Center /