



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND

WASHINGTON, D.C. 20362

IN REPLY REFER TO

NAVSEAINST 1211.1A CH-1

00Z5/174

8 May 1984

NAVSEA INSTRUCTION 1211.1A CHANGE TRANSMITTAL 1

From: Commander, Naval Sea Systems Command  
To: All Offices Reporting Directly to COMNAVSEA

Subj: Navy Postgraduate Programs; procedures for the review of

1. Purpose. To revise frequency of reviews.

2. Action. Make the following pen changes:

a. Page 1, Paragraph 3, line 4, change the word "annually" to "biennially."

b. Page 2, paragraph 4, line 1, insert the phrase "and biennially thereafter" following the phrase "(FY) 1982 review."

c. Page 2, paragraph 5a(1), line 1, insert the phrase "odd-numbered" following "1 October each."

d. Page 2, paragraph 5a(1)(c), line 1, delete the phrase "and CNET representative."

e. Page 2, paragraph 5a(3), line 2, delete the word "following" and insert the phrase "next odd-numbered" in its place.

J. H. WEBBER  
Vice Commander

Copy to: (2 copies unless otherwise indicated)  
SNDL A3 CNO (OP-09B1)  
A5 CHNAVPERS (NMPC 445)  
C37F3 NAVMATDATASYSGRU  
FF42 NAVPGSCOL  
FKA1B COMNAVELEXSYSCOM  
FKP Activities under the command of COMNAVSEA  
FT74 NROTCU (MIT only)  
NAVSEA Special List Y1  
SEA 00Z5 (25)  
09B354 (50)

S-077





# DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND  
WASHINGTON, D.C. 20362

IN REPLY REFER TO  
NAVSEAINST 1211.1A  
00Z5/PES  
Ser 634

18 January 1982

## NAVSEA INSTRUCTION 1211.1A

From: Commander, Naval Sea Systems Command  
To: All Offices Reporting Directly to COMNAVSEA

Subj: Navy Postgraduate Programs; procedures for the review of

Ref: (a) NAVPERS 15839E, subj: Manual of Navy Officer Manpower and  
Personnel Classifications  
(b) OPNAVINST 1000.16E of 2 Mar 1981, subj: Manual of Navy Total  
Force Manpower Policies and Procedures

Encl: (1) Postgraduate Programs  
(2) Procedures for Review of Curricula

1. Purpose. To provide procedures for the formal review of Navy Postgraduate program curricula for the subspecialty education or skill fields for which Commander, Naval Sea Systems Command (COMNAVSEA) is Primary Consultant.

2. Cancellation. This instruction cancels NAVSEAINST 1211.1 of 22 Dec 1977.

3. Background. Reference (a) designates COMNAVSEA as a Primary Consultant for several technical education or skill fields leading to Naval Systems and Weapons Systems Engineering subspecialties. Reference (b) requires the Primary Consultant to evaluate, annually, the degree to which education and training meets consultant and sponsor needs and to recommend the establishment, location, content and disestablishment of curricula required for the assigned education or skill fields. Enclosure (1) lists each education or skill field for which COMNAVSEA is a subspecialty Primary Consultant with its corresponding Navy Postgraduate Program. In addition, COMNAVSEA is a Primary Co-consultant with Commander, Naval Electronic Systems Command (COMNAVELEX), for the Underwater Acoustics (XX56) subspecialty education or skill field. Prior to 1976, curricular evaluations were conducted during the annual meeting of the Engineering Education committee with minimum prior involvement by committee members. Commencing with the 1976 review, the procedure was revised to formalize the preparation for the review by the prior development and approval of the subspecialty Educational Skill Requirements (ESRs) and the comparison of course content with the ESRs prior to the meeting so that issues could be identified for discussion during the meeting. Committee discussions of the issues regarding curricular content were thus directed and structured. For the 1981 review, Curricular Review Teams were formed to conduct the review, and their findings were forwarded to Superintendent, Naval Postgraduate School (NPS); Commanding Officer, Naval Officer Training Unit, Massachusetts Institute of Technology (MIT); and the Chief of Navy Education and Training (CNET) as the formal review without a flag-level meeting at NPS.



4. Discussion. Beginning with the fiscal year (FY) 1982 review, it is desired to combine the use of standing Curricular Review Teams to perform the reviews throughout the year culminating in a formal flag-level review at NPS, all in conjunction with the Naval Electronic Systems Command. The reviews will continue to be based on the ESRs developed, reviewed and approved by the Curricular Review Teams for their respective education or skill fields. The formal review will consist of the joint presentation of the findings by the Review Team and the Curricular Officers to a panel of flag officers meeting at the Naval Postgraduate School. The results of this review will be an approved list of action items that, when completed, will improve the ability of the curriculum to meet the needs of COMNAVSEA and COMNAVELEX. The Curricula Review Executive Agent (SEA-00Z5) will monitor the action items for completion and will provide the Review Teams and the reviewing flag officers the status on these items prior to the following year's review.

5. Action

a. The Curricula Review Executive Agent (SEA-00Z5) will:

(1) Publish on or about 1 October each year a joint COMNAVSEA and COMNAVELEX letter that:

(a) Lists the Curricular Review Team members for each COMNAVSEA and COMNAVELEX curricula.

(b) Specifies the year's plan of action and milestones for review.

(c) Lists the flag officers and CNET representative invited to participate in the formal review to be held at NPS the following April.

(2) Nominate Curricular Review Team replacement members for those rotating from this command.

(3) Monitor and assist in the completion of each action item and provide the status on these items by 1 October of the following year.

b. The Curricular Review Teams will complete the reviews following the procedures of enclosure (2).

Copy to:  
(See page 3)

  
J. H. WEBBER  
Vice Commander

Copy to: (2 cys each unless otherwise indicated)  
SNDL A3 CNO (OP-09B1)  
A5 CHNAVPERS (PERS 445)  
C37F NAVMATDATASYSGRU  
FKA1B COMNAVELEXSYSOM  
FKP Activities under the command of COMNAVSEA  
FT1 CNET  
FT73 NAVPGSCOL  
FT74 NROTCU (MIT only)  
FT88 EDOSCOL

NAVSEA Special List Y1

SEA 99634 (50)  
SEA 00Z5 (25)

POSTGRADUATE PROGRAMS

<u>CODE</u>	<u>EDUCATION OR SKILL FIELD</u>	<u>RELATED PG PROGRAM</u>	<u>LOCATION</u>
XX51	NAVAL CONSTRUCTION & ENGINEERING	510	MIT
XX52	NUCLEAR ENGINEERING	520	PENN STATE
XX54	NAVAL OR MECHANICAL ENGINEERING	570	NPS
XX56*	UNDERWATER ACOUSTICS	535	NPS
XX61	WEAPON SYSTEMS ENGINEERING	530	NPS
XX62	CHEMISTRY	382	AUBURN, KANSAS, OREGON STATE, PENN STATE
XX63	WEAPON SYSTEMS SCIENCE	531	NPS

\* COMNAVSEA AND COMNAVELEX ARE PRIMARY CO-CONSULTANTS FOR THIS SUBSPECIALTY

18 January 1982

## PROCEDURES FOR REVIEW OF CURRICULA

1. General. There are three major steps in the review procedure to be accomplished by each Curricula Review Team in the review of its particular curricula:
  - a. Develop, review and approve the Educational Skill Requirements.
  - b. Compare the present educational program with the Educational Skill Requirements.
  - c. Present the findings in conjunction with the appropriate NPS Curricular Officer at the flag-level review resulting in the approval of action items. For curricula not taught at NPS or MIT, the Review Team alone will make the presentation.
2. Educational Skill Requirements (ESRs). As statements of the academic background required of the incumbent of a graduate-level subspecialty-coded billet, their development must be based on a thorough analysis of the skill requirements of all such subspecialty coded billets at all activities where they are authorized. While it may be helpful to use the school curriculum as a guide, the analysis must be billet oriented. SEA O0Z5 will provide each team a list of applicable billets. Review of these billets may require liaison with the incumbent if the educational requirements of the billet are unknown to the team, and the review may result in a recommendation that the subspecialty code of the billet be changed in field or educational level. Because of their knowledge of the educational requirement of their billets, the Review Team will also participate in the biennial review of the subspecialty coding of billets for the Subspecialty Requirements Board (SRB), next meeting in FY 1983. Columns I and II of attachment 1 to this enclosure provide the format (and a sample) for recording the ESRs.
  - a. It is important that, to be of maximum use, the ESRs be detailed enough to provide guidance on the boundaries of the knowledge and skills to be acquired, so that the resultant program will produce an officer asset minimally qualified to fulfill the responsibilities of the subspecialty coded billet.
  - b. Some consideration should also be given to investigating new and emerging technologies and including ESRs that address those that appear to have certain impact during the career span of the officer graduate. However, it should not be necessary nor is it desirable to revise the ESRs during each review cycle.

18 January 1982

3. Program Review. Review of the actual program answers the question "To what degree can this program produce an officer graduate capable of fully meeting the appropriate ESRs?" Using the course and program descriptions in school catalogs and liaison with school faculty where required, the Review Team will complete initially Columns III, IIIA and IIIB of attachment 1. Column IV reflects excesses and deficiencies in the match of courses and ESRs. Care must be taken that the same level of analysis that entered into the development of the ESRs is also applied to the course analysis. The course content must be measured against the course objectives. The comments of Column IV should be reflected in the curricula review presentation.

a. It is anticipated that, using travel funds obtained through SEA 00Z5, members of the review team will visit the appropriate school, if deemed necessary, during the January-March time frame. This will provide the opportunity to interface with the Curricular Officer, the faculty and the students as appropriate, review the educational plan sheets of the students and evaluate the physical facilities.

b. The resources and facilities available to the program must also be evaluated to locate shortfalls as inappropriate resources and facilities contribute to a less effective program.

c. There are many ancillary factors that contribute to the success of an educational program that might well be addressed in the review. These factors include student selection (aptitude and undergraduate major), availability of counselling, scope and frequency of field trips, effectiveness of the guest speaker program, involvement of NAVSEA and other activities in providing appropriate thesis topics and assistance, and the use of non-traditional methods of educating officers to prepare them to pursue graduate education.

4. Curricula Review Presentation. The results of the program review will be presented at the formal flag officer review to be held at NPS in April of each year. The presentation will consist of a briefing on the overall program by the cognizant Curricular Officer (if one is assigned) and a briefing on the problems noted, if any, by a Review Team member. For the curricula taught at civilian schools, a Review Team member will also provide the briefing on the overall program. The result of these briefings will be a list of action items approved by the cognizant flag officer with an action agent assigned for each item. Travel funds for the Review Team presenters and the CO, NROTCU, MIT, may be obtained through SEA 00Z5.

CURRICULUM 570  
EDUCATIONAL SKILL REQUIREMENTS

I. AREA	II. COVERAGE DESIRED	III. LEVEL COURSES	IIIA. LEVEL COURSES	IIIB. LEVEL COURSES	CURRICULAR
(I) MATHEMATICS	Scope supportive of the technical program in all aspects. Includes differential and integral calculus, differential equations through partials, vector calculus, linear algebra, integral transforms, and numerical analysis.	<p>1000/2000</p> <p>*MA 1116 Multivariable Calculus</p> <p>*MA 2047 Linear Algebra Vector Analysis</p> <p>*MA 2121 Differential Equations</p>	<p>3000</p> <p>*MA 3132 Partial Differential Eqns &amp; Integral Transforms</p> <p>*MA 3232 Numerical Analysis</p> <p>ME 3440 Engineering Systems Analysis</p>	4000	IV. OFFICER COMMENTS
(II) DECISION MAKING, RELIABILITY ASSESSMENT, AND QUALITY CONTROL	Basic knowledge of concepts and applications for decision making, reliability, prediction and assessment, and quality control. A practical understanding of relevant probability theory including statistical data analysis techniques, probability distribution and characteristics and standard tests.	*ME 2410 Mechanical Engineering Laboratory	<p>*OS 3104 Statistics for Science and Engineering (or)</p> <p>OS 2102 Intro. to Appl. Probability for EE</p> <p>*ME 3711 Machine Element Design</p>		Development of a course to more precisely cover the ESR is planned. The Development of Mechanical Engineering has been requested to add or strengthen relevant elements in the indicated courses.
(III) COMPUTERS	Basic understanding of computer hardware and software, emphasizing programming of scientific and engineering problems.	<p>*CS 2810 Introduction to Computer Science</p> <p>*CS 2811 FORTRAN Laboratory</p>	<p>*MA 3232 Numerical Analysis</p> <p>ME 3440 Engineering Systems Analysis</p>		Numerical methods are an integral part of the upper level ME courses. Computer utilization is extensive.
(IV) DYNAMICS	Graduate level physical and analytical understanding of the action of forces on resting or moving bodies with emphasis in control systems and mathematical modeling of multi-element systems.	*ME 2502 Dynamics	<p>*EE 3413 Fundamentals of Automatic Control</p> <p>*ME 3521 Mechanical Vibration</p>	<p>ME 4512 Advanced Dynamics</p> <p>ME 4522 Vibration, Noise and Shock</p>	EE 3413 is now provided twice a year in order to increase scheduling flexibility.

Approved:

Date:

Rev. Team Chrmn