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ABSTRACT

The Student Trainee Work-Study Training and Promotion Plan is designed to furnish the Coast Guard with a long-range program for recruiting, developing, and retaining the best potential professional talent available. Students are selected for participation in the program on the basis of demonstrated scholastic ability and must maintain a relatively high level of scholastic performance. Sixty-one colleges and universities participate in providing training. The candidates must have been enrolled or accepted for enrollment in a cooperative work-study program in one of the colleges of universities in a curriculum leading to a bachelor's degree in, or closely allied to, the field in which they will receive on-the-job training. The training program covers the following fields: Accountant, Aeronautical Engineer, Architect, Business Administration, Civil Engineer, Comptrollership, Electrical Engineer (Marine or Power), Electronics Engineer (Communications and Search, Navigational Aids, Radio Station, Electronics Engineering), Mathematician, Mechanical Engineer (Heating, Air Conditioning and Ventilating; and Marine), Naval Architect, Oceanographer, and Physicist. Instructional materials and plan, facilities and equipment, performance standards, a rating factors form, and definition of rating factors are discussed. (DB)

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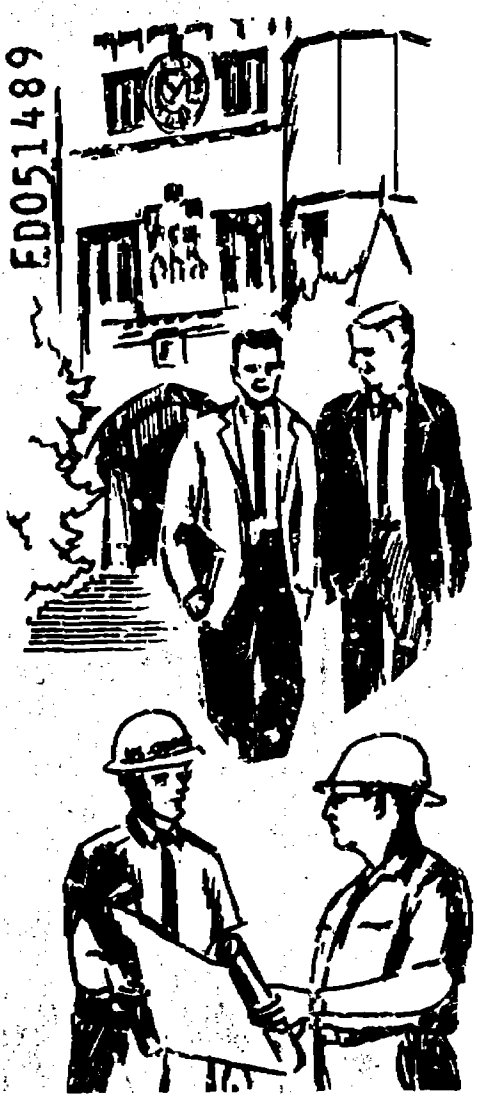

COOPERATIVE WORK-STUDY PROGRAM OF THE U.S. COAST GUARD

TRAINING PROGRAM FOR

COOPERATIVE STUDENT TRAINEES IN

PROFESSIONAL CAREER OPTIONS

GS-Trainee-2 to Trainee GS-7

FOREWORD

1. Scope. This is a Coast Guard-Wide Agreement and covers Cooperative Student Trainees enrolled in professional career options and assigned to:

a. Coast Guard Headquarters, Washington, D. C.
b. First Coast Guard District, Boston, Massachusetts
c. Second Coast Guard District, St. Louis, Missouri
d. Third Coast Guard District, New York, New York
e. Fifth Coast Guard District, Portsmouth, Virginia
f. Seventh Coast Guard District, Miami, Florida
g. Eighth Coast Guard District, New Orleans, Louisiana
h. Ninth Coast Guard District, Cleveland, Ohio
i. Eleventh Coast Guard District, Long Beach, California
j. Twelfth Coast Guard District, San Francisco, California
k. Thirteenth Coast Guard District, Seattle, Washington
l. Fourteenth Coast Guard District, Honolulu, Hawaii
m. Seventeenth Coast Guard District, Juneau, Alaska
n. Washington Radio Station, Alexandria, Virginia
o. Electronic Engineering Center, Wildwood, New Jersey
p. Oceanographic Unit, Washington, D. C.
q. Coast Guard Yard, Curtis Bay, Maryland (Baltimore)

2. Work Assignments. Projects to which students will be assigned are explained in detail under the various options so that each student will know in advance what will be expected of him and what he can expect of Coast Guard.

3. Coordinator. The Chief, Employee Development Branch, Civilian Personnel Division, Office of Personnel, U. S. Coast Guard Headquarters, Washington, D. C., is the Coordinator for all Cooperative Student Trainees assigned to Coast Guard by participating colleges and universities.

TRAINING PROGRAM FOR

COOPERATIVE STUDENT TRAINEES IN

PROFESSIONAL CAREER OPTIONS

GS-Trainee-2 to Trainee GS-7

CONTENTS

A. PARTICIPATING COLLEGES AND UNIVERSITIES

This Agreement between the United States Coast Guard and the colleges and universities listed below is applicable to the engineering, scientific and administrative career options described in detail in Section V page iii.

1. University of Alabama, University, Alabama
2. Alderson-Broaddus College, Philippi, West Virginia
3. University of Arizona, Tucson, Arizona
4. Auburn University, Auburn, Alabama
5. Antioch College, Yellow Springs, Ohio
6. Arlington State College, Arlington, Texas
7. University of Akron, Akron, Ohio
8. Bradley University, Peoria, Illinois
9. California State Polytechnic College, Pomona, California
10. University of California at Berkeley, Berkeley, California
11. The Cleveland State University, Cleveland, Ohio
12. Cornell University, Ithaca, New York
13. University of Cincinnati, Cincinnati, Ohio
14. University of Denver, Denver, Colorado
15. University of Detroit, Detroit, Michigan
16. Drexel Institute of Technology, Philadelphia, Pennsylvania
17. Evansville College, Evansville, Indiana
18. University of Florida, Gainesville, Florida
19. Florida State University, Tallahassee, Florida
20. Georgia Institute of Technology, Atlanta, Georgia
21. University of Houston, Houston, Texas
22. Illinois Institute of Technology, Chicago, Illinois
23. University of Illinois, Urbana, Illinois
24. Iowa State University of Science & Technology, Ames, Iowa
25. Kent State University, Kent, Ohio
26. Louisiana Polytechnic Institute, Ruston, Louisiana
27. Louisiana State University, Baton Rouge, Louisiana
28. University of Louisville, Louisville, Kentucky
29. Lamar State College of Technology, Beaumont, Texas
30. Marquette University, Milwaukee, Wisconsin
31. Massachusetts Institute of Technology, Cambridge, Massachusetts
32. University of Michigan, Dearborn, Michigan
33. Milwaukee School of Engineering, Milwaukee, Wisconsin
34. University of Minnesota, Minneapolis, Minnesota
35. University of Missouri at Rolla, Rolla, Missouri
36. University of Missouri, Columbia, Missouri
37. Mississippi State University, State College, Mississippi
38. University of Miami, Coral Gables, Florida
39. New Mexico State University, University Park, New Mexico
40. New Mexico Institute of Mining & Technology, Socorro, New Mexico

41. Northeastern University, Boston Massachusetts
42. Northwestern University, Technological Institute, Evanston, Illinois
43. Old Dominion College, Norfolk, Virginia
44. Purdue University, Lafayette, Indiana
45. The Pennsylvania State University, University Park, Pennsylvania
46. Pratt Institute, Brooklyn, New York
47. Rensselaer Polytechnic Institute, Troy, New York
48. University of South Florida, Tampa, Florida
49. Southern Technical Institute, Marietta, Georgia
50. San Jose State College, San Jose, California
51. Southern Methodist University, Dallas, Texas
52. Southern University A & M College, Baton Rouge, Louisiana
53. Tuskegee Institute, Tuskegee, Alabama
54. Tennessee Technological University, Cookeville, Tennessee
55. University of Tennessee, Knoxville, Tennessee
56. Texas A & M University, College Station, Texas
57. Virginia Polytechnic Institute, Blacksburg, Virginia
58. Wilberforce University, Wilberforce, Ohio
59. University of Wisconsin, Milwaukee, Wisconsin
60. Wisconsin State University-Platteville, Platteville, Wisconsin
61. University of West Florida, Pensacola, Florida

I. REASON FOR TRAINING PROGRAM

The purpose of the Student Trainee Work-Study Training and Promotion Plan is to furnish the Coast Guard organization a sound, long-range program for recruiting, developing and retaining in its employ the best potential professional talent available. The selection process at the professional level will be improved by permitting the trainee and the management staff to evaluate each other during the training process. A better "end product" is anticipated from this plan than from ordinary full-time college study since the work experience will be a valuable supplement to the trainee's academic work. It will assist in alleviating the shortage of technically trained personnel by providing college training for some students who could not otherwise afford it and by attracting into these professions students who would otherwise follow other lines of endeavor. This plan will also be of direct recruiting value since students participating in the program will learn about and publicize opportunities for application of professional skills in the Coast Guard organization.

Students are selected for participation in the Student Trainee Work-Study Program on the basis of demonstrated scholastic ability, and each student must maintain a relatively high level of scholastic performance to retain his status at education institution. This responsibility rest with the school in which the student is enrolled. The Coast Guard assumes a parallel responsibility which ensures the school and the trainee full cooperation at all levels of the organization for maximum development of potential professional skills.

II. COVERAGE

This Training and Promotion Plan is intended to apply to employees who are engaged in a Cooperative Work-Study Program in engineering, scientific and administrative fields, accredited by the Engineer's Council for Professional Development or one equivalent thereto in type, scope, content and quality, which provides for continuation of study until completion of requirements for a Bachelor's degree in one of the options listed in Section V, page iii.

a. GS-2 to be trained as GS-3
b. GS-3 to be trained as GS-4
c. GS-4 to be trained as GS-5
d. GS-5 to be trained as GS-5
e. GS-5 to be trained as GS-7

III. SELECTION REQUIREMENTS

Candidates must have been enrolled or accepted for enrollment in a cooperative work-study program in an accredited college or university in a curriculum leading to the bachelor's degree with specialization in or closely allied to the field in which they will receive training on the job. The degree of specialization in this field must have been such that at time of graduation the specific course requirements which are specified for eligibility in the U.S. Civil Service Commission's examination for the corresponding GS-5 or GS-7 professional positions can be met.

Additional requirements

For Student Trainee GS-2:	None.
For Student Trainee GS-3:	One full academic year (one or more periods) of study at a college equal in length to two semesters or three quarters.
For Student Trainee GS-4:	Two and one-half full academic years or eight quarters of study; or one-half of the total number of periods of study in college required for the bachelor's degree plus one period of employment as Student Trainee GS-3.
For Student Trainee GS-5:	Three-fourths of the total number of periods of study in college required for the bachelor's degree and one period of employment as Student Trainee GS-4; or upon completion of 6 months of Student Trainee GS-4 work experience.

By "period of study in college" is meant a semester or quarter of attendance at college in a cooperative curriculum. A "period of employment" is one of the work periods of an alternating work-study program of a cooperative curriculum, or part-time employment equivalent to 60 days' full-time employment.

The additional requirements are expressed in terms of the time occupied in attendance at college. Thus, if a cooperative curriculum consists of 11 quarters in college and 8 in employment, the minimum requirement for advancement to GS-4 is ½ of 11, or after 5½ quarters of college attendance, regardless of the relative arrangement of the study and work periods.

IV. QUALITY IN SELECTION AND RETENTION

Students selected for the cooperative work-study program must have demonstrated better than average ability or potential. This provision may be satisfied by any one of the following:

1. The candidate satisfies a "quality" standard applied by the school for entrance into the cooperative program which is clearly more demanding than the standard applied to students not in cooperative programs.

2. The candidate has a "B" average in his high school or college work.

3. The candidate stands in the upper half of his class, including all departments of the college or university, based on completed academic work in college or high school, or on his score on college entrance tests.

4. The head of the department or other responsible school official certifies that considering the candidate's total qualifications including achievements, demonstrated leadership, motivation, and personal characteristics, the candidate is very likely to perform in a highly successful manner.

Student trainees are required to satisfy both the academic standards of the school and the work performance standards of the employing agency. Students who fail to maintain appropriate academic standards will be dropped from employment.

V. OUTLINE OF TRAINING PROGRAM

1. ACCOUNTANT (PLANNING, PROGRAMMING, BUDGETING)

The in-service training will consist of three to five progressively responsible assignments (approximately thirteen weeks each) at U. S. Coast Guard Headquarters. Occasional travel for familiarization and orientation may be required.

a. GS-099-3 Assignments — Minimum 13 weeks

(1) This period will be under guidance of Program Analysis Division and will include an orientation period to familiarize the trainee with the organization, mission and operations of the Coast Guard.

(2) Routine collection of statistical and operational employment data for all Coast Guard activities.

(3) Routine comparison of work-load history and projections on Capital Improvement Projects to current work-load reports.

(4) Collect statistical data for use in alternative analysis on the Coast Guard's Long Range Planning Simulation Model.

(5) Review files of Capital Improvement Project (Acquisition, Construction and Improvement Projects), Unit Development Plans and Operational Planning Proposals.

(6) Review procedure of the Coast Guard Planning, Programming, and Budgeting System.

b. GS-099-3 Assignment — Minimum 13 weeks

Work assignments will be under direction of the Chief, Budget and Cost Analysis Division.

(1) Investigate measurement of output at shore stations for program budget cost allocation.

(2) Study method of measuring military readiness costs for vessels.

(3) Review cost data and outline gaps in management information as preliminary steps in revision of cost accounting structure.

(4) Study and dovelop method of projecting five-year retired personnel plan including RSFPP participation.

(5) Make a series of case studies on facilities replacements, (AC&I), using last year's issue paper as a starting point. Extend to small boat replacements.

(6) Make study on "in house" user charge concept for allocating cost of multi-mission facilities.

c. GS-099-3 Assignments — Minimum 13 weeks

Work assignments will be under the direction of the Chief, Administrative Management Division.

(1) Participate with staff analysts in:

(a) Organization studies and reviews

(b) Systems and procedures studies

(c) Workload and staffing studies

(2) Perform administrative and analytical functions associated with preparation and development of:

(a) Amendments to the Coast Guard Organization Manual, CG-229

(b) Amendments to the Coast Guard Headquarters Organization Manual, CG-229-1

(c) Functional Statements, Position Lists, and Structural Organization Charts on major field commands as required by the Coast Guard Manpower Utilization Program.

(3) Review and analysis of Coast Guard reports

(4) Review, analysis and design of Coast Guard forms.

(5) Evaluation of machine utilization reports.

(6) Comparison of ADP equipment proposals.

(7) Development of ADP requirements.

(8) Computer Systems design.

(9) ADP documentation.

d. GS-099.4 Assignments Minimum 13 weeks

Work assignments will be under the direction of the Chief, Program Analysis Division.

(1) Review status of Coast Guard approved Long Range Plan. Determine what portions of the plans have been implemented.

(2) Collect and coordinate data for on-going long-range planning studies.

(3) Review outputs from computer runs of the Coast Guard Long Range Planning, Simulation Model.

(4) Review and assist in coordination and preparation of Coast Guard budget documents.

(5) Develop operational justification for selected projects.

(6) Assist in preparation of Budget Issue Papers.

e. GS-099-4 Assignments Minimum 13 weeks

Work assignments will be under direction of the Chief, Data Processing Division.

(1) Automatic Data Processing Equipment Orientation and Familiarization. Through orientation sessions and reading assignments, will cover basic elements, relationships to other equipment and business-type applications.

(2) Machine and Computer Principles and Concepts. Reading selections on EAM and ADP equipment.

(3) Operation of Computer. On-site orientation in ADP equipment and practice in its operation under close supervision.

(4) ADP Budget and Finance Applications. Attend seminars and lectures at Civil Service Commission or U. S. Department of Agriculture Graduate School.

(5) Orientation in Input-Output Control for Management ADP Applications. Through orientation in nature and timing of the output required, trainee is given appreciation of control of input data, error detection routines, and correction procedures.

(6) Programming (basic) - Attend manufacturers' school.

(7) Installation Management. Intensive on-the-job training in such subjects as work measurement, conversion procedures, work scheduling, and application of new procedures.

f. GS-099-4 Assignments Minimum 13 weeks

Work assignments will be under direction of the Chief, Operations Planning and Programming Staff.

(1) Review and coordinate operations input to:

(a) AC&I Project

(b) Unit Development Plans

(c) Operational Planning Proposals

(2) Maintain corrections to Long Range Plans and planning documents.

(3) Assist in preparation of input documents for Planning-Programming and Budgeting System.

(4) Assist in preparation of selected Budget Issue Papers.

(5) Assist in development of operational justification for selected projects.

g. GS-099-5 Assignments Minimum 13 weeks

Work assignments will be under direction of the Chief, Program Analysis Division.

(1) Assist in planning studies through data collection and analysis of routine data.

(2) Assist in preparing alternative analysis of Coast Guard facility requirements through Long Range Planning Simulation Model.

(3) Assist in review of Unit Development Plans and related AC&I Projects.

(4) Assist in review and up-date of Long Range Facility Requirements Plans.

(5) Assist in preparation of annual PPBS submission by analysis of Program and Financial Plan data submitted by Program Managers and Directors.

2. AERONAUTICAL ENGINEER

a. GS-899-3 Assignments 13 - 26 weeks

(1) A short orientation period in Coast Guard Headquarters to familiarize trainee with organization, mission and operations of the Coast Guard, as well as familiarization with Coast Guard engineering (mostly Aeronautical) and Aeronautical support.

(2) Assignment to Coast Guard Aircraft Repair and Supply Base, Elizabeth City, N.C., with a short orientation course to familiarize trainee with AR&SB organization and objectives.

(3) Assignment to shops in Overhaul and Repair Division at AR&SB for 10 weeks. In each shop, trainee will study and become familiar with manuals, instructions, notes etc. govering work performed in the shop. He will learn and perform the simpler operations involved in the shop functions, in the following shops: Metal Welding, Electro-plating, Tool Crib, Machine, Landing Gear and Hydraulics, Controls and Floats, Wings and Deicers, and Hull Repairs, Aircraft Disassembly and Assembly, and Fixed Equipment Removal and Installation.

(4) Home study: The trainee's superior will assign home study work from references dictated by the trainee's interest and/or as indicated by his project assignments.

b. GS-899-4 Assignments 13 - 26 weeks

(1) Continued assignment in shops of the Overhaul and Repair Division, as follows: Instrument, Engine Build-up, Accessory, Engine Removal and Installation, Fuel Systems, Paint, Fabric, Parachute Loft, Helicopter Components, Propeller, and Electronics, for a period of 9 weeks.

(2) Assignment to AR&SB Field Supply Division. In each section and subsection, the trainee will study and become familiar with manuals, instructions, notes, etc., governing the work performed in the section. He will learn and perform the simpler operations involved in the functions of the Inventory Section, Supply Control, Stock Control, Storage Control, and Traffic Control Subsections, and the Technical Section, for a period of 3 weeks.

(3) Home Study: The trainee's supervisor will assign home study work from references dictated by the trainee's interest and/or as indicated by his project assignments.

(4) Assignment to Coast Guard Air Station, Elizabeth City for 9 days for familiarization with the functions of a typical air station.

c. GS-899-5 Assignments Minimum 13 weeks

(1) Assignment to the AR&SB Production Control and Engineering Division, to participate in planning and engineering of structural reparis, prototyping of various installations, for a period of 9 weeks.

(2) Assignment to the Elizabeth City Air Station as follows:

(a) Assist Engineering Officer to schedule and perform routine inspections of aircraft. Perform necessary research in manuals and records to determine need for parts replacement or repair, and to obtain data for preparation of Unsatisfactory Reports (UR's). Prepare UR's and perform such other duties as the Engineering Officer may decide, for a period of 3 weeks.

(b) Assist Operations Officer to schedule flights, training, etc. Perform such duties as the Operations Officer may decide, for 1 week.

(3) Home Study: The Training Officer will assign home study work from references dictated by the trainee's interest and/or recommended by his supervisors.

d. GS-800-5 Training for GS-800-7 Minimum 3 months

(1) Assigned to Headquarters. The trainee will spend one week in the Aviation Division of the Office of Operations, becoming familiar with the functions of the Operations Section and the Personnel and Services Section.

(2) The trainee will spend remainder of period in the Aeronautical Engineering Division, as follows:

(a) Study and make organization charts (list sources) of main Government Departments, substitute Transportation for Treasury, Coast Guard, Coast Guard Headquarters, Office of Engineering, EAE, CAU, AR&SB, typical Air Stations and Detachments.

(b) List Air Stations and Detachments (and AR&SB) with aircraft types, numbers, personnel, engineering capabilities, location, reason for location (Ice Patrol, intercept, etc.) and give a brief history.

(c) Review Standard Aircraft Characteristics Charts on Coast Guard aircraft; review MIL specifications pertaining to the charts.

(d) Read a brief history of Coast Guard aviation.

(e) Study specification and technical order system of CG, USN, USAF, AN, NAF, and SAE, indices, etc.

(f) Field trips to aircraft manufacturers' plant and air stations.

(g) Review SD-24, and individual Coast Guard aircraft specification, SR-6 and corresponding data. For one airplane, find and list all pertinent publications. Study and list directives establishing Coast Guard UR system; review and list Navy FUR scheme and correspondence, etc. on CG participation in same. Make a list of UR's on assigned airplane and perform brief analysis of same.

(h) Read and list directives establishing Engineering Change Proposal system. Study ECP's on assigned airplane, correlating them to UR list. Read and list directives relating to working of Intra-Bureau Change Committee system. Read and list directives relating to ASC system, and correlate ASC's to UR-ECP list on assigned airplane.

(i) Read and list directives pertaining to Coast Guard Bulletin, Change, Technical Order and Technical Memo series. List and correlate Coast Guard publications to UR-ECP-ASC list. (Publications and Administrative Management Divisions organization, functions and directives relative to preparation of CG publications.)

(j) Study and make organization chart of Supply Division; scan through Comptroller's Manual; list pertinent paragraphs. Study manual of Budgetary Administration: how Coast Guard obtains funds; duties and responsibilities of persons and offices charged with fiscal affairs, etc.

(k) Study and make organization chart of AR&SC Supply Division and typical Air Station Supply Section.

(l) Study and list publications, correspondence, etc. which establish procedure for ordering kits for Coast Guard aircraft. Prepare sample paper work for kit procurement.

(m) Write a critique of the training program.

3. ARCHITECT

a. GS-099-2 Assignments — Minimum 13 weeks

(1) Operate ozalid machine

(2) Observe photostatic and photographic methods of reproducing drawings.

(3) File and procure building materials information.

(4) Make tracing details of simple construction, such as windows, doors, stairways, etc.

(5) Letter drawings, using freehand and mechanical devices.

b. GS-099-3 Assignments — 13 - 26 weeks

In addition to a. above, the trainee shall accomplish the following:

(1) Trace elementary building plans such as sheds, garages, and aids to navigation shelters.

(2) Calculate the area and cubic contents of buildings.

(3) Draft sections and details of small buildings such as dwellings.

(4) Assist professional architects in measuring up existing facilities for which plans for additions, alterations, or repairs are required.

(5) Act as rodman or chainman on topographic surveys.

c. GS-099-4 Assignments — 13 - 26 weeks

In addition to b. above, the trainee shall accomplish the following:

(1) Develop elementary floor plans and elevations using standardized symbols.

(2) Pick off quantities of materials involved in elementary building projects.

(3) Layout structural framing and foundations for small structures.

(4) Act as note keeper on surveys and prepare topographic maps of building sites.

d. GS-099-5 Assignments Minimum 13 weeks

In addition to c. above, the trainee shall accomplish the following:

(1) Analyze the requirements for portions of proposed construction and prepare reports containing alternate schemes and definite recommendations for providing the necessary facilities.

(2) Develop floor plans and elevations of buildings such as lifeboat station and loran station barracks.

(3) Draft outline specifications to accompany building plans developed in (1) above.

(4) Layout standardized items of electrical and mechanical equipment to satisfy the requirements of the proposed construction.

(5) Revise plot plans of existing sites indicating the relocation of buildings, access roads to the buildings, property boundaries and any changes in utilities such as power lines, water supply systems, and sewage disposal systems.

(6) Develop plot plans for proposed sites for a limited number of buildings, roads, utilities, and having uncomplicated boundaries.

e. GS-1040-5 Training for GS-1040-7 Minimum 3 months

(1) Under the guidance of a senior professional architect, prepare plans for simple buildings.

(2) Coordinate architectural work with the electrical and mechanical engineering work.

(3) Prepare rough specifications for the architectural work to be incorporated into the general specifications by the chief specification writer.

(4) Prepare complete architectural details for the construction.

(5) Assist Government Superintending Officer on building construction.

(6) Prepare estimates of costs of construction including all phases of the project.

(7) Check contractors' drawings and specifications for agreement with contract.

4. BUSINESS ADMINISTRATION (Accounting-Computer)

I. Introduction

The in-service training will consist of assignments from thirteen to twenty-six weeks each at U. S. Coast Guard Headquarters, Washington, D. C., where all aspects of the Coast Guard data processing program are carried out. Each such assignment will be determined on the basis of its value as on-the-job training in developing the capability of the trainee to perform assignments at a higher level of difficulty, and or with greater independence and responsibility. Assignments will be related to the trainee's academic program and positive evaluation of the trainee's skills, abilities, and stage of development.

To avoid minor amendments to the agreement, sufficient flexibility is permitted to:

1. Tailor within the total scope and overall objectives of the training program, the length and intensity of the subject matter to meet the individual needs of the trainees. In no instance, however, will the training be less than seventy-eight weeks.

2. Alter the sequence of training to allow for learning experience to be responsive to actual work situations as they arise during the training period when conditions or experience indicate the desirability of such alteration.

3. Add or modify subject material depending on technological change, the needs of the activity, the needs of the trainee, and the conclusions drawn from evaluation experience of the program.

The program will be conducted by the Data Processing Division, Headquarters, U. S. Coast Guard. Orientation, on-the-job, and classroom instructors will be of recognized executive, journeyman, or supervisory level, as practicable in the appropriate occupational field. All instructors will be fully qualified and will have demonstrated aptitude for conducting training. As a matter of general practice, the instructors will be at the GS-9 level or above.

II. GS-334-3 Assignments — Thirteen Weeks

1. Basic orientation and familiarization in automatic data processing (hereafter referred to as ADP). Orientation in basic elements and relationships and punched card equipment (EAM), peripheral equipment,

computers, telecommunications equipment, and total ADP systems - on line and off line.

2. Specialization and technical knowledge, as such, is not the program aim at this point; i.e., not concentration on any single aspect of ADP. The purpose here is to lay a firm foundation for the student to proceed to technical specialty and to appreciate related functions. The student, under professional guidance, will study and or perform, as appropriate:

   (1) ADP terminology

   (2) ADP processing methodology

   (3) Punched card and magnetic tape code structure

   (4) Relationship of ADP to Coast Guard organization, missions, and programs

   (5) Career program and opportunities for ADP personnel

   (6) Operation and use of in-house EAM equipment

III. GS-334-3 Assignments — Thirteen Weeks

Duties during this period include a combination of study, individual performance, and assistance to experienced personnel pertaining to:

1. Data collection and recording techniques applied to Coast Guard ADP applications.

2. Familiarization with Coast Guard ADP applications; input/output media, reporting requirements, systems concept, and the advantages, weaknesses, etc., concerning the systems application.

3. Collect and assemble computer utilization, scheduling, and work measurement data into a usable and accessible format; prepare graphs and tables of analyzed data and prepare technical reports on results found.

4. Problems confronted concerning control of input data; approach to solution; methods now used, and consequences of inadequate control.

5. Prepare computer run time estimated for newly developed programs.

IV. GS-334-3 or 4 Assignments — Thirteen Weeks

Duties during this period include a combination of study, class sessions, individual performance, and assistance, to experienced personnel pertaining to:

1. Operation of the Headquarters computer system.

2. Use of equipment manufacturers program software packages.

3. Use of Coast Guard developed computer utility programs.

4. Exposure to the problems of conversion to ADP.

5. Requirements, procedures, techniques, and documentation associated with an ADP feasibility study for a given application, or a complete reporting system, or hardware change, or a new computer installation.

V. GS-334-4 Assignments — Thirteen Weeks

During this period the trainee is assigned complete but relatively simple programming, testing and debugging routines. Each programing assignment will require the student to:

1. define the problem

2. design the program logic

3. develop systems flow charts

4. develop program block diagrams

5. code the program in specified language

6. prepare complete clerical and operational procedures

7. include complete documentation in accordance with prescribed procedures

8. develop test data

9. perform all duties for testing and debugging as required to obtain acceptable results.

VI. GS-334-4 or 5 Assignments — Twenty-Six Weeks

Trainee is given problems or tasks which require application of knowledge, skills and techniques gained to date. Continued emphasis is placed upon the problems of conversion, control of input, error detection routines, correction procedures for inaccurate input data, and the detailed duties as itemized in paragraph V.

The trainee is given assignments of increasing difficulty, variety, and length. He may be assigned as an individual, member of a team, or as assistant to a senior analyst.

Even though work is carried on under close supervision, the objective is to bring the student to journeyman skill level and to progress to the point where he can receive an assignment and carry it through to satisfactory completion unassisted.

5. CIVIL ENGINEER

a. GS-899-2 Assignments — Minimum 13 weeks

(1) Make simple drawings from sketches or oral instructions.

(2) Operate ozalid machine.

(3) File and procure from technical files information required by the instructor.

(4) Assist professional engineers in field inspections, investigations for new construction, expansion of existing facilities, and alterations to correct troubles or deficiencies by taking notes and assisting in taking measurements.

(5) Act as rodman and Chainman on land surveys and construction surveys.

b. GS-899-3 Assignments — 13 - 26 weeks

In addition to a. above, the trainee shall accomplish the following:

(1) Under close supervision, act as a note keeper on a survey party.

(2) Trace moderately complex engineering drawings of structures, roads, air strips, wharfs, piers, and drainage systems.

(3) Under close supervision, assist in the preparation of property maps, topographical maps, cross-sections and profiles from survey notes.

(4) Compute earth work quantities from survey notes and cross-sections.

c. GS-899-4 Assignments — 13 -26 weeks

In addition to b. above, the trainee shall accomplish the following:

(1) Write property descriptions and compute property areas.

(2) Act as instrument man on land and construction surveys.

(3) Under the guidance of a professional civil engineer, act as detailer on construction drawings using handbooks, textbooks, and reference books as guides.

(4) Make computations of simple steel, concrete, and wooden structural members and designs and make detailed drawings involving such members.

d. GS-899-5 Assignments Minimum 15 weeks

In addition to c. above, the trainee shall accomplish the following:

(1) Under the guidance of a professional civil engineer, make elementary structural analyses; design simple foundation structures; design simple drainage systems; and layout road systems within a typical Coast Guard installation.

e. GS-800-5 Training for GS-800-7 Minimum 3 months

(1) Act as chief of party, under the guidance of a senior professional civil engineer, on land and construction surveys.

(2) Independently compute the quantities of material involved in heavy construction projects.

(3) Design portions of moderately complex structures such as buildings, bridges, dams, wharfs, piers, and towers.

(4) Design simple water supply systems for Coast Guard installations following established guidelines.

(5) Design simple sewage disposal systems for Coast Guard installations following established guidelines.

(6) Write portions of specifications for civil engineering construction projects.

(7) Assist Government Superintending Officer on civil engineering projects.

6. COMPTROLLERSHIP (ACCOUNTING)

The in-service training program will consist of assignments of 13 weeks' duration in operating divisions and branches of the Office of the Comptroller, Coast Guard Headquarters to provide comprehensive and complete indoctrination and on-the-job training in all aspects of Comptrollership in the Coast Guard and their relationship to Coast Guard organization missions and programs. Each such assignment will be determined on the basis of its value as on-the-job training in developing the capability of the trainee to perform progressively more important and complex comptrollership functions and will be related to the trainee's academic program and a positive evaluation of the trainee's skills, abilities and stage of development.

a. SUPPLY DIVISION
GS-599-3 Assignments 13 weeks

(1) Orientation in all operating programs involving logistic and supply support and property management functions of the Coast Guard by planned briefings and assigned reading material.

(2) Under the guidance of the Chief, Real Property Branch, participate in all aspects of the Coast Guard Real Property Management Program.

(3) Under the guidance of the Chief, Transportation Branch, participate in all aspects of the program for providing transportation services by commercial or governmental carriers for personnel, material, household effects and house trailers.

(4) Under the guidance of the Chief, Material Management Branch, participate in all aspects of the Coast Guard Inventory Management Program including:

(a) Cataloging and standardization of Coast Guard materials, including item identification, classification, stock nomenclature, and interchangability of parts and equipment in use in the Coast Guard;

(b) Maintenance of centralized review and analysis of detailed inventory data furnished by Coast Guard inventory points to determined stock level requirements and authorize stock replenishments and redistributions.

(c) Declaration, utilization and disposal of surplus Coast Guard personnel property; and review and evaluation of surplus personnel property reported by other government agencies for potential utilization by the Coast Guard.

(d) Maintenance of stock control over all Headquarters Controlled Material Inventories; reporting inventory status to controlling divisions with recommendations for reevaluating requirements; and authorization of shipment orders for issuance of material from inventory.

b. PAYMENTS AND CLAIMS DIVISION
GS-599-3 Assignments 13 weeks

(1) Orientation in responsibilities and functions of the payments and Claims Division and their relationship to functions performed at district offices and Coast Guard operating units.

(2) Under the guidance of the Chief, Voucher Branch, participate in the examination of all categories of billings, vouchers and claims for legality, propriety of the purchase order, contract, or other procurement or authorization document; supporting documents which acknowledge receipt of the supplies, materials or services ordered; and terms of the contract or purchase order. Participate in the examination and review of vouchers processed and scheduled for payment certification.

(3) Under the guidance of the Chief, Payroll and Retirement Branch, participate in all aspects of the payrolling function performed for Headquarters military personnel; for transient military personnel; for all Coast Guard retired military personnel; and for retired personnel of the former lighthouse service.

(4) Under the guidance of the Chief, Allotment and Dependents Allowance Branch, participate in all aspects of the maintenance of records and controls over military voluntary allotments, and preparation and certification of military allotment payrolls. Review and processing of all applications for dependents allowances for compliance with current laws and instructions, including determinations of dependency and preparation of correspondence in connection therewith.

(5) Under the guidance of the Chief, Claims and Examination Branch, participate in the servicewide examination of military pay records for propriety of entitlements and accuracy of payments. Initiate collection action to recover overpayments. Receive, review, process and reply to notices of exception received from the General Accounting Office. Process claims concerning past payments to or on behalf of Coast Guard personnel and for services furnished to the Coast Guard.

performed by the division, such as designation of military and civilian personnel to perform accountable duties as certifying officers assistant disbursing officers and cashiers; guidance of field accounting officers in resolution of voucher examination problems; and overall coordination of all functions performed by the division.

c. ACCOUNTING DIVISION
GS-599-3 Assignments 13 weeks

(1) Orientation in the accounting system of the Coast Guard in relation to principles and standards for Federal governmental accounting; Coast Guard accounts structure, subsidiary records, controls and document flow; cost accounting system; resource accounting; financial reporting; and relationship of Coast Guard field accounting offices to the servicewide accounting, reconciliation and reporting function performed at Coast Guard Headquarters.

(2) Under the guidance of the Chief, Headquarters Accounting Branch, participate in all accounting functions performed by the branch, namely:

(a) Processing of accrued expenditure transactions with particular attention being given to propriety of cost accounting and resource accounting factors.

(b) Reconciliation of document files for outstanding undelivered orders and unpaid liabilities with accounting controls; review of outstanding documents for validity, follow-up action and potential adjustment.

(c) Maintenance of accounting controls for transactions affecting allotment and expenditure accounts, disbursements and receipts, appropriation apportionment, including review of document propriety and coding, document lotting, reconciliation of controls, and month-end journalization of accounting activity.

(d) Maintenance of accounting controls and processing of transactions involving cash collections; receipts and issues from Headquarters controlled inventories; advances to the Coast Guard Yard; cross-disbursing payments made by other armed services; and for off-site accounting service performed for Coast Guard field units.

(e) Familiarization with the financial management reporting system in meeting the day-to-day requirements of program managers; month-end requirements for reconciliation with accounting control records and journalization to general ledger control accounts; and quarterly reporting of costs

incurred and status of resources available for future periods.

(3) Under the guidance of the Chief, Control and Reports Branch, participate in all functions performed by the branch, namely:

(a) Review and reconciliation of inter-office reciprocal accounts.

(b) Review and reconciliation of financial reports rendered by all Coast Guard accounting offices for propriety of financial data and general ledger control account balances.

(c) Preparation of servicewide subhead, management, and appropriation status reports for information of Coast Guard management and external reviewing authorities and reconciliation of these reports to Coast Guard accounting control records prior to their release.

(d) Performance of off-site accounting for transactions affecting inventories financed under the Coast Guard Supply Fund, including financial raporting, reconciliation, and follow-up action with the inventory unit.

(e) Maintenance of general ledger control accounts for resources, liabilities, revenue and costs under accounting control of Coast Guard Headquarters; inter-office reciprocal accounts; reconciliation of related account balances; and preparation of monthly general ledger trial balances.

(f) Preparation of servicewide statements of financial condition and operating results of the Coast Guard Supply Fund and all other assets and liabilities of the Coast Guard.

(4) Under the guidance of the Assistant Chief, Accounting Division, review other functions performed by the division such as centralized deposit and accounting for Federal income and FICA taxes of military personnel; mortgage insurance for military personnel; reimbursable programs; objectives in meetings financial information requirements of Headquarters program managers and relationship with Coast Guard field accounting offices; and integration of Coast Guard accounting records with centralized records maintained by the Bureau of Accounts, Treasury Department.

d. DATA PROCESSING DIVISION
GS-599-4 Assignments — 13 Weeks

(1) ADPE orientation and familiarization. Basic elements, relationship to other equipment such as EAM, application of ADPE to business-type activities.

(2) Machine and computer principles and concepts. Trainee develops approximately three hours a week reading literature on EAM and ADP equipment and use. Selection of reading material made with assistance of Data Processing Division Staff.

(3) Operation of computer. Trainee is given on-site orientation in ADP equipment and practice in its operation under close supervision.

(4) ADP budget and finance applications. Trainee attends seminars and lectures given by Department of Agriculture Graduate School or Civil Service Commission to learn the planning and systeming necessary prior to automation of budget and finance applications, the advantages to be gained and the pitfalls to be avoided.

(5) Orientation in input-output control for Comptroller applications. The trainee is given thorough orientation in the nature and timing of the output required, control of input data, error detection routines, and correction procedures for inaccurate input data.

(6) Programming (basic). Trainee attends manufacturer's school to obtain knowledge of programming for ADPE.

(7) Installation management. Trainee receives intensive on-the-job training in such subjects as work measurement, conversion procedures, work scheduling, application of new procedures.

(8) Evaluation of progress. Trainee evaluated as to progress. This is an informal discussion between trainee and his supervisor for the dual purpose of highlighting successful learning experience and focusing attention on "soft spots". Evaluation should occur at approximately one month intervals.

e. CONTRACTING AND PROCUREMENTS, SUPPLY DIVISION
GS-599-4 Assignments 13 weeks

(1) Under the guidance of the Chief, Procurement Branch, receive indoctrination in the scope of the contracting and procurement functions performed at Coast Guard Headquarters and field offices; policies and regulations governing the performance of the functions; and assignment of responsibilities at Headquarters and field offices for the performance of all duties related to those functions.

(2) Participate in the review, maintenance and utilization or records which provide contacts with sources of supply to meet potential requirements of the Coast Guard.

(3) Participate in the processing negotiation, and preparation of purchase orders for the procurement of supplies materials and services available from acceptable commercial sources of supply which do not require advertising and contract award. Participate in the maintenance of control records, follow-up action to obtain deliveries or negotiation of corrective action for erroneous or unacceptable deliveries, and processing of receiving reports which finalize and complete the procurement transactions.

(4) Participate in the processing of procurements of supplies materials and services from governmental sources of supply, including Milstrip requisitions. Receive indoctrination in the Milstrip system, document coding format follow-up action, and ultimate clearance of each procurement transaction.

(5) Participate in all phases of the Coast Guard contracting function from the development of contract specifications, selection of potential bidders, advertising for bids, review and evaluation of bids, contract negotiations and awards, contract administration, contract amendments, and acceptance of contract performance including authorization of progress payments pursuant to contract terms.

(6) Indoctrination in the functions of contract compliance review with respect to the Equal Employment Opportunity Program for government contracts and the application of Title VI Civil Rights Act of 1964, to real and personal property matters and grants.

f. INTERNAL AUDIT DIVISION
GS-599-4 Assignments 13 weeks

(1) Indoctrination in scope of internal audit operations under the guidance of the Chief, Internal Audit Division.

(2) Assists in performing a specific segment of the audit program under close supervision of a senior auditor.

(3) Performs other segments of the audit program on a rotating basis to obtain work experience in all types of audits.

(4) Prepare drafts of advices of audit findings.

(5) Prepare drafts of the actual audit report on completion of an audit from advices of audit findings.

g. FISCAL PROCEDURES BRANCH
GS-599-5 Assignments 13 weeks

(1) Indoctrination in purposes and objectives of fiscal precedures as a formal method for systemizing and standardizing accounting performance as a management tool for precisely defining financial management policies for evaluation and audit of financial controls, accountability and operating results.

(2) Indoctrination in modern techniques of procedures writing, starting with the preliminary research effort to establish a complete and comprehensive understanding of the subject; utilization of procedural instructions and formats which are designed to communicate definitive and understandable instructions in an orderly manner for use by operating personnel; and utilization of forms and illustrations to facilitate a ready understanding of the procedures.

(3) Review and familiarization with the contents and organization of Volumes 1 and 2 of the Comptroller Manual as related to the personnel who use the manuals at all levels of Coast Guard organization and the purposes served thereby.

(4) Perform specific assignments by drafting revisions of those sections of the Comptroller Manual which are more closely related to on-the-job training experience of the trainee, namely:

(a) Revise and update Chart and Definition of General Ledger Accounts (Chapter 1B07).

(b) Revise and update Subhead Definitions (Chapter 1B03).

(c) Revise and update cost accounting instructions for Special Cost Accounts (Chapter 1B04).

(d) Revise and update other parts and sections of the manual to clarify problem areas which the trainee may have encountered at other training points.

7. ELECTRICAL ENGINEER (MARINE)

a. GS-899-2 Assignments — Minimum 13 weeks

(1) Assist engineers in the collection of technical electrical data from technical files and plan files for various projects including electrical generation and distribution systems, catalog data, electrical components such as generators, motors and special navigational equipment, such as gyros.

(2) Prepare simple charts and illustrations from rough sketches for technical publications such as instruction books on electrical equipment, bar charts and charts for exhibits.

(3) Keep electrical catalogs up to date by inserting amendments as issued by manufacturers.

(4) Keep Navy standard electrical plans up to date by inserting new and altered drawings.

b. GS-899-3 Assingments — 13 - 26 weeks

(1) Prepare cross index of plan files for electrical drawings of older vessels.

(2) Prepare tracings of electrical record drawings from electrical engineer's sketches and pencil type record plans.

(3) Make minor revisions to record tracings including electrical diagrams and schematics, wiring diagrams and wiring layouts.

c. GS-899-4 Assignments — 13 - 26 weeks

(1) Prepare demand load analyses for minor vessels and boats having direct current auxiliary power. Select wire sizes for installation of individual pieces of equipment involved in ShipAlts.

(2) Check and assist in conducting electrical load studies of individual pieces of equipment and the effect of such equipment on generator voltage and frequency.

(3) Alter or modify electrical record tracings which have been affected by ship alterations or boat alterations.

d. GS-899-5 Assignments — Minimum 13 weeks

(1) Make calculations of horsepower-torque-speed requirements for AC and DC electrical equipment, AC and DC motor inrush currents at starting and their effect on line voltage, and voltage drops in electrical lines and use AC power relationsips, e.g. voltage, current, power, reactive power and power factor, in evaluating the performance of electrical equipment.

(2) Assist marine and mechanical engineers in the selection of controller and master switch characteristics for motor driven equipment.

(3) Prepare detail estimates of electrical load and demand for major changes in electrical systems of existing vessels and for the electrical systems of new designs.

(4) Prepare and correct electrical drawings and plates for instruction books and manuals for equipment and systems.

e. GS-800-5 Training for GS-800-7 — Minimum 3 months

(1) Under supervision of the senior electrical engineer prepare calculations such as load analyses for generator and switchboard requirements, analyses of wiring loads, selection of electric motors, controllers and switch gear and special control applications.

(2) Select and describe installation of special power sources for electronic equipment, application of voltage regulators, governors, and other equipment affecting generator characteristics.

(3) Conduct and assist in conducting surveys, investigations of power characteristics of existing vessels with regard to the voltage and frequency variations and regulations.

(4) Prepare from calculations by others or own studies electrical plans such as generation, control and distribution of electric auxiliary power.

(5) Prepare reports and analyses of tests of individual electrical components and minor portions of electrical systems of Coast Guard Vessels.

8. ELECTRICAL ENGINEER (POWER)

a. GS-899-2 Trainee Assignments — Minimum 13 weeks

(1) Prepare simple electrical systems drawings using conventions and symbols of the profession.

(2) Study and apply the electrical symbols in the preparation of drawings covered in (1) above.

(3) Operate ozalid machine.

(4) File and procure from technical files information necessary to accomplish (1) and (2) above.

b. GS-899-3 Assignments — 13 - 26 weeks

In addition to a. above, the trainee shall accomplish the following:

(1) Make simple mathematical analyses and computations associated with electrical problems of minor complexity.

(2) Prepare electrical systems drawings using data developed in b. (1) above.

(3) Assist professional engineers in field inspections and investigations for new construction, expansion of existing facilities and correcting troubles and deficiencies by recording data obtained.

c. GS-899-4 Assignments — 13 - 26 weeks

In addition to b. above, the trainee shall accomplish the following:

(1) Make simple quantitative and qualitative computations involving D.C. voltage drop, resistance, power, connected load, and demand.

(2) Prepare electrical drawings and wiring diagrams using the data developed in c. (1) above.

d. GS-899-5 Assignments — Minimum 13 weeks

In Addition to c. above, the trainee shall accomplish the following:

(1) Make simple quantitative and qualitative analyses and computations involving A. C. power systems and machinery using applicable electrical codes.

(2) Develop simple manual, automatic and remote controls for electrical machinery and systems.

(3) Design portions of power distribution systems.

(4) Prepare drawings and specifications involving d. (2), and (3) above.

e. GS-800-5 Training for Gs-800-7 Minimum 3 months

(1) Under guidance of a senior electrical engineer, design electrical systems of some complexity, and draft specifications and drawings.

(2) Prepare portions of operating instructions and manuals for electrical machinery used in systems which he designs.

(3) Work with Government Superintending Officer on projects involving electrical construction and electrical machinery installation.

(4) Work with a senior engineer in the supervision of construction, alteration, and repair of electrical systems performed by Government personnel.

9. ELECTRONICS ENGINEERING DIVISION OR BRANCH

1. ELECTRONICS ENGINEER (COMMUNICATIONS AND SEARCH)

The entire training period will emphasize engineering principles as they apply to complete equipments or systems, rather than to specific isolated circuits as is the case with most academic programs.

a. GS-899-2 Assignments — Minimum 13 weeks

(1) Review technical information and references, with particular emphasis being placed on the objective and actual capabilities of various types of equipment, including elementary wiring arrangements, circuit schematics, and equipment arrangements.

(2) Extract pertinent data for files from various reports, letters, etc., as to the utilization of the various types of electronic equipment, including data as to the progress of installation programs.

(3) Trace simple drawings of circuits and electronic equipment arrangements.

(4) Study the drawing classification and filing system in use, and file drawings received by the Section.

(5) Briefly study MILITARY Specification for electronic equipment in order to become familiar with the specification system.

b. GS-899-3 Assignments — 13 - 26 weeks

(1) Continue studies and work under a. above, advancing to more difficult drawings.

(2) Assist in preparing instructions for field changes to equipment in order to familiarize the student with methods of effecting field changes, including format, method of distribution, etc.

(3) Assist in proofreading specifications.

(4) Keep records of equipment transactions in the unit files.

c. GS-899-4 Assignments — 13- 26 weeks

(1) Assist in procurement planning and programming by assembling equipment population data from existing records.

(2) Assist in system planning in order that configuration of equipment meets operational requirements.

(3) Perform simple computations where the applicable formulas have been previously set forth in order to achieve systems.

d. GS-899-5 Assignments — Minimum 13 weeks

(1) Continue work under a., b., and c., advancing to more complex systems, e.g. integrated control systems, power requirements, etc.

(2) Make comparative cost and performance studies of available equipments designed to accomplish the same purpose.

(3) Assist in preparation of procurement documents, including purchase descriptions and specifications.

10. ELECTRONICS ENGINEERING DIVISION OR BRANCH

1. ELECTRONICS ENGINEER (NAVIGATIONAL AIDS)

The entire training period will emphasize engineering principles as they apply to complete equipments or systems, rather than to specific isolated circuits as is the case with most academic programs.

a. GS-899-2 Assignments — Minimum 13 weeks

(1) On-The-Job

(a) Review technical information and references, with particular emphasis being placed on the objective and actual capabilities of various types of equipment.

(b) Extract pertinent data for files from various reports, letters, etc., as to the utilization of the various types of electronic equipment.

(c) Trace simple drawings of circuits and electronics equipment arrangements.

(d) Study the drawings classification and filing system in use, and file drawings received by the Section.

(e) Briefly study MILITARY Specification for electronic equipment in order to become familiar with the specification system.

(2) Special Instruction (Elementary)

(a) Principles of Navigation.

(b) Principles of Charting

(c) Navigational Aids Systems, component block diagrams.

(d) Simplified Circuitry.

b. GS-899-3 Assignments 13 - 26 weeks

(1) On-The-Job

(a) Continue studies and work under a. above, advancing to more difficult drawings.

(b) Assist in preparing instructions for field changes to equipment in order to familiarize the student with methods of effecting field changes, including format, method of distribution, etc.

(c) Assist in proof reading specifications.

(d) Keep records of equipment transactions in the unit files.

(2) Special Instruction (Elementary)

(a) Subject in a. (2), (a) through (d), above.

(b) Electronic Navigation - Charts

(c) Detailed study of equipment circuitry.

c. GS-899-4 Assignments 13 - 26 weeks

(1) On-The-Job

(a) Assist in procurement planning and programming by assembling equipment population data from existing records.

(b) Assist in system planning in order that configuration of equipment meets operational requirements.

(c) Perform simple computations where the applicable formulas have been previously set forth in order to achieve systems.

(2) Special Instruction

(a) Review subjects included in b. (2), (a) through (c).

(b) Circuit analysis - Intermediate.

(c) Use of system mathematics.

(d) Systems installations

(e) Automation principles.

(f) Supply procedures.

d. GS-899-5 Assignments — Minimum 13 weeks

(1) On-The-Job

(a) Assist in preparing preliminary system plans by performing computations, layouts, chart overlays, etc.

(b) Study current system mathematics.

(c) Review-revise system mathematics.

(d) Review and assist in purchase description preparation.

(e) Review analysis of problems wherein field units report discrepancies in the system.

(2) Special Instruction

(a) Review subjects included in c. (2), (a) through (f).

(b) Basis for system mathematics.

(c) Systems engineering block diagram circuit application.

(d) Automation techniques.

e. GS-800-5 Training for GS-800-7 — Minimum 3 months

(1) Prepare purchase descriptions and specifications, and review similar documents, prepared by others, for technical errors.

(2) Review project reports from the Electronics Engineering Laboratories, prepare analyses of these reports, and recommend courses of action.

(3) Intensify study of circuitry of individual equipment, including minor design problems with a view to improving performance of existing equipment.

(4) Study and evaluate system techniques, making recommendations for improvements.

(5) Assist design engineers by developing minor system accessories and components.

11. ELECTRONIC ENGINEER (WASHINGTON RADIO STATION, ALEXANDRIA, VIRGINIA)

a. GS-899-2 Assignments — Minimum 13 weeks

(1) This period will include a 1- to 2- week orientation period in Coast Guard Headquarters to familiarize the trainee with the organization, mission and operations of the Coast Guard.

(2) Familiarization with laboratory organization.

(3) Indoctrination in laboratory work by way of a brief assignment as assistant to each project currently active in the laboratory.

(4) Equipment familiarization - performing simple tasks with various pieces of laboratory equipment to become acquainted with their uses.

(5) Prolems - problems will be assigned in the laboratory tailored to the trainee's background and intended to encourage home study.

(6) Home study - from references dictated by the trainee's own interests and/or recommended by supervisor.

b. GS-899-3 Assignments — Minimum 26 weeks

(1) Study of fundamental electronic circuits.

(2) Plotting and interpretation of electronic data in graphical form.

(3) Elementary test procedures and laboratory techniques.

(4) Familiarization with the system of military specifications (study of MIL-test specifications)

(5) Continue assistance on current laboratory projects.

(6) Continue home study and consultation with supervisor.

c. GS-899-4 Assignments — Minimum 26 weeks

(1) Report writing

(2) Mathematics of circuit analysis.

(3) Familiarization with equipment procurement descriptions and MIL standards (Military specifications).

(4) Circuit layout and design techniques.

(5) Work on current projects in the laboratory will advance to the stage of having the trainee conduct minor investigations with as little supervision as his progress indicates is possible.

d. GS-899-5 Assignments — Minimum 13 weeks

(1) Increased emphasis on the performance of project work allowing the trainee to evaluate his own capabilities and deficiencies by personally conducting the planning and execution of minor projects. Supervision and assistance will be kept to a minimum or given when requested by the trainee.

(2) Special Instruction will be continued on the job and will consist of those aspects of electronics that

(a) the trainee himself finds troublesome.

(b) appear to the supervisor to be in need of explanation to the trainee.

e. GS-855-5 training for GS-855-7 — Minimum 3 months

(1) Make electrical measurements of Coast Guard electronic communications and test equipment and component parts.

(2) Prepare layout and design less complex apparatus such as antennae coupling networks and audio amplifiers.

(3) Work with a senior electronics engineer on layout and design of equipment such as a frequency measuring and remote control system where a course of development is not clearly defined.

(4) Instrumentation for (1) and (2) above.

(5) Collect and interpret data concerned with (1), (2) and (3) above.

(6) Make mathematical computations of data and circuit studies.

(7) Prepare reports on project work.

12. ELECTRONIC ENGINEER (ELECTRONICS ENGINEERING CENTER, WILDWOOD NEW JERSEY)

a. Program of development for GS-899-2 training GS-899-3, 4 and 5

(1) The in-service training will consist of a series of progressively responsible assignments at the U. S. Coast Guard Electronics Engineering Station where electronics project work is carried out. Each such assignment will be determined on the basis of value as on-the-job training and will be directly related to and correlated with the trainee's skills, abilities and stage of development. The projects involve the making of sensitive measurements receivers, transmitters, antennas and other electronic equipment; the testing and evaluation of new components prior to procurement by the Coast Guard; the development of modifications to existing equipment to correct a deficiency or to adapt the equipment for uses other than for which it was designed; the design and development of equipment to meet an operational requirement and other similar work. The station is well equipped with the test instruments required to accomplish this work. A drafting room and machine shop augment the facilities.

(2) In each assignment the trainee will have a specifically designated supervisor, a professional engineer, who will be responsible for outlining at the beginning of each assignment, the schedule of work to be followed. The schedule of work shall insure that the assignments are selected for their training value, providing the trainee with intensive training in the various phases of the organization's research, developmental and operational activities.

(3) Each of the above assignments will include at least one formal conference between the trainee, his supervisor, and the Commanding Officer of the U. S. Coast Guard Electronic Engineering Station, Wildwood, New Jersey to insure the trainee's adjustment to the work situation and to discuss his progress and future training.

(4) During the course of the assignment, the student may be required to submit reports concerning the project work. These reports will be prepared in conjunction with the supervisory engineer. The performance of the trainee will be evaluated at intervals determined by the cooperating schools. In general, the performance evaluation interval will be no less than three months.

13. ENGINEERING STAFF

1. MATHEMATICIAN

a. GS-1599-2 Assignments 13 weeks

(1) Learn Fortran IV and its use on the IBM 1130. The student is to prepare at least five subroutines for inclusion in the subroutine library.

(2) Assist in maintaining the Engineering Library's Automated Library System.

(3) Prepare and maintain abstracts of publications on Library systems for computers.

(4) Order publications for E staff.

(5) Serve as Technical liaison with other libraries.

b. GS-1599-3 Assignments 13 weeks

(1) Operate Engineering Library Computer Indexing System.

(2) Maintain abstracts on:

(i) Library systems

(II) Fortran programs suitable for IBM 1130 use.

(3) Assist in programming for Engineering.

(4) Write subroutines for numerical analysis techniques.

(5) Publish in the eleventh week and index of subroutines currently prepared and Fortran routines for the IBM 1130 for which detailed specifications are available in the literature.

(6) Study Linear Programming and write at least one program using this technique.

c. GS-1599-4 Assignments 13 weeks

In addition to b. above

(1) Prepare bibliographies on request.

(2) Program and assist in solving problems with computer applications.

(3) Study auto coder machine language for application to IBM 1410.

d. GS-1599-5 Assignments 13 weeks

In addition to c. above

(1) Prepare a report on library systems based on personal studies and abstracts of library systems developed.

(2) Assemble abstracts on information retrieval. It is intended that the student learn the basics of the science during this period.

(3) Prepare and maintain abstracts for engineers on request.

(4) Write one technical article for The Engineer's Digest.

e. GS-1520-5 Training for GS-1520-7

(1) Implement improvements in automated library system.

(2) Assist in solutions to problems with applications to the IBM 1130 and 1410.

(3) Instruct as required new employees in the use of IBM 1130.

(4) Study systems analysis and prepare a detailed study of a system in current use.

14. MECHANICAL ENGINEER (HEATING, AIR CONDITIONING AND VENTILATING)

a. GS-899-2 Assignments — Minimum 13 weeks

(1) Make simple tracings and drawings of portions of mechanical engineering projects.

(2) Operate ozalid machine.

(3) File and procure technical file information on mechanical engineering subjects required by the instructor.

(4) Assist professional mechanical engineers in field inspections and investigations for new installations, alterations to existing installations and improvements to machinery or mechanical plants by taking notes and assisting in taking measurements.

b. GS-899-3 Assignments — 13 - 26 weeks

In addition to a. above, the trainee shall accomplish the following:

(1) Make simple mechanical analyses and computations associated with mechanical engineering installations of minor complexity.

(2) Trace moderately complex engineering drawings of machinery and mechanical installations.

(3) Compute materials quantities, tank capacities, and weights of machines; and solve other problems involving mensuration.

(4) Prepare simple schematics, technical sketches and layouts of mechanical installations under the guidance of a mechanical engineer.

(5) Under supervision, make heat load calculations and prepare heat load estimates for air-conditioning and heating problems.

c. GS-899-4 Assignments — 13 - 26 weeks

In addition to b. above, the trainee shall accomplish the following:

(1) Under the guidance of a professional engineer, act as a detailer, using handbooks on mechanical engineering, drawings, textbooks, and reference books as guides.

(2) Assist a professional engineer in making layouts or drawings from measurements obtained.

(3) Write brief reports describing existing mechanical engineering processes, flow processes, and mechanical systems, with sufficient clarity to permit application to Coast Guard engineering.

d. GS-899-5 Assignments — Minimum 13 weeks

In addition to c. above, the trainee shall accomplish the following:

(1) Under the guidance of a professional mechanical engineer, make elementary machine designs and layouts for machinery installations, fuel systems, heating plants and piping following published guides and previous designs of a similar nature.

e. GS-800-5 Training for GS-800-7 — Minimum 3 months

(1) Under the guidance of a senior professional mechanical engineer, develop necessary plans of layout involving simple building heating plants, ventilating and air-conditioning systems, power plants, rotating machinery installations and piping systems of a more complex nature.

(2) Design Machinery installations including specifying the size of piping, size of power transmission shafts, foundations for machinery, and conventional electrical power distribution systems where no unusual problems will be involved.

(3) Write portions of specifications and operating instructions for mechanical engineering construction projects.

(4) Assist Government Superintending Officer on machinery and mechanical engineering construction projects.

15. MECHANICAL ENGINEER (MARINE)

a. GS-899-2 Assignments — Minimum 13 weeks

(1) Assist Marine and Mechanical Engineers in the collection of technical data and plans from technical files and plan files for various projects, including main propulsion machinery, machinery arrangements, machinery and piping systems, etc.

(2) Prepare simple charts and illustrations from rough sketches for technical publications, including machinery instruction books, cost studies, bar charts and exhibits.

b. GS-899-3 Assignments — 13 - 26 weeks

(1) Prepare cross index of machinery plan files for older Coast Guard vessels.

(2) Prepare tracings of record machinery plans from existing pencil tracings and detailed sketches of machinery arrangements, components and systems.

(3) Make minor revisions to record tracings of machinery arrangements and diagrammatics of systems.

(4) Compile ship's photo files of machinery photographs as a basis for ShipAlts and technical reference.

c. GS-899-4 Assignments — 13 - 26 weeks

Prepare detail weight and moment calculations of machinery components and systems.

(2) Check and assist in conducting standardization and machinery performance trials of Coast Guard vessels.

(3) Correct record plans and tracings of machinery arrangements and diagrammatics.

d. GS-899-5 Assignments — Minimum 13 weeks

(1) Prepare calculations for selection of pumps, compressors, air receivers, small boat propellers under the supervision of Marine and Mechanical engineers.

(2) Prepare studies of endurance, fuel consumption and performance of Coast Guard vessels based on operating and trial data.

(3) Assist senior engineers in detail phases of projects assigned to them. These projects will include studies of shafting, hull and machinery vibration, pressure losses in piping systems, and auxiliary steam requirements.

(4) Prepare estimates of weight and moment changes resulting from ShipAlts and conversions with regard to machinery components.

(5) Prepare and correct charts and illustrations for technical publications such as instruction books and directives.

e. GS-800-5 Training for GS-800-7 Minimum 3 months

(1) Assist project engineers by performing calculations, analyses and investigations of detailed phases of new designs and alterations to existing vessels with regard to machinery arrangements, components and systems.

(2) Prepare detailed and descriptive drawings based on sketches and instructions prepared by project engineers.

(3) Assist project engineers in the review of shipyard and vendor's plans. Compare plans against specifications for the vessel or equipment and refer to the project engineer.

(4) Assist project engineers by executing tests and collecting data for tests and trials of ship's machinery.

16. NAVAL ARCHITECT

a. GS-899-2 Assignments — Minimum 13 weeks

(1) Assist engineers in collection of technical data from technical files and plan files for various projects including hull arrangements, curves of form, structural drawings, boast handling arrangements and details, etc.

(2) Prepare simple charts and illustrations from rough sketches for technical publications related to naval architecture including curves of form, draft diagrams, bar charts, and charts for exhibits.

b. GS-899-3 Assignments — 13 - 26 weeks

(1) Prepare cross index of plan files for hull drawings of older vessels.

(2) Prepare tracings of hull drawings from architect's layout and pencil type record plans.

(3) Make minor revisions to record tracings including hull arrangements, curves of form, structural drawings, boat handling arrangement and details.

(4) Compile ship photograph files from existing photographs to assist Naval Architects and Engineers in reviewing and preparing ShipAlts to ship's hulls and related equipment.

c. GS-899-4 Assignments — 13 - 26 weeks

(1) Prepare detail weight and moment calculations for hull structure, equipment and consumables.

(2) Check and assist in conducting inclining experiments of Coast Guard vessels and boats.

(3) Correct record booklets of plans and docking plans.

d. GS-899-5 Assignments — Minimum 13 weeks

(1) Prepare studies of trim, stability and displacement changes.

(2) Assist senior Engineers by performing detail phases of hull projects.

(3) Prepare estimates of weight and moment changes resulting from ShipAlts and conversions of hull spaces and details of Coast Guard vessels.

(4) Prepare and correct damage control plates and damage control books including flooding effect diagrams, liquid loading, ventilation systems and piping systems.

e. GS-800-5 Training for GS-800-7 Minimum 13 weeks

(1) Prepare hull arrangement and profiles showing access to compartments equipment for storage plans and stress calculations for mast booms and other structural members.

(2) Make detail calculations covering Ships Characteristics, intact and damage stability, strength and scantlings of component part of ships hulls.

(3) As an understudy to senior Naval Architects, assist in compilation of data relative to casualities, proposed changes and alterations to Coast Guard vessels.

17. OCEANOGRAPHER

The in-service training will consist of three to five (approximately thirteen weeks each) assignments of progressively greater responsibility at USCG Oceanographic Unit and in Coast Guard cutters. Each such assignment will be determined on the basis of value as on-the-job training, and it will be related to the trainee's ability, skills, and stage of development.

a. GS-1399-2 Assignments — Minimum 13 weeks

(1) This period will include a one-to two-week orientation period in Coast Guard Headquarters to familiarize the trainee with the organization, mission and operations of the Coast Guard.

(2) Familiarization with Coast Guard Oceanographic Unit organization.

(3) Indoctrination in Unit work by way of a brief assignment as assistant to each project currently active.

(4) Equipment Familiarization - Under directions, use basic oceanographic equipment (Nansen bottles, reversing thermometers, STD's, BT's etc.) and perform routine shipboard analysis of water samples. (Salinity,Oxygen etc.) This work will be performed at sea.

(5) Data processing familiarization - Under direction, perform routine data processing assignments and construct appropriate Charts, sections and profiles.

b. GS-1399-3 Assignments — Minimum 13 weeks

(1) Continuation of assignments 4 and 5 of the GS-1399-2 category but with less supervision.

(2) Examine data from oceanographic observations for quality control purposes.

(3) Prepare for oceanographic stations which will require the use of Nansen bottles and deep sea reversing thermometers; select the depth positions for bottles required for sampling the water column. This work will be performed at sea.

(4) Perform routine checks and preventive measures for maintenance of standard oceanographic instruments.

(5) Test, calibrate and adjust as necessary all oceanographic instruments.

c. GS-1399 Assignments — Minimum 13 weeks

(1) Complete familiarity with all phases of standard oceanographic data processing including use of all current computer programs.

(2) Capability of acting as watch supervisor. In general this includes preparation for, and supervision of, the activities of an oceanographic station, after consultation with the oceanographer of the watch. This work will be performed at sea.

d. GS-1399-5 Assignments — Minimum 13 weeks

(1) Assignment of minor projects that will encompass performance of various related tasks and will allow the trainee to evaluate his own capabilities and deficiencies by personally conducting the planning and execution of the projects. Supervision and assistance will be kept to a minimum or given when requested by the trainee. Part of this work may be performed at sea.

(2) Special instruction will be continued on the job and will consist of those aspects of oceanography that:

(a) the trainee himself finds troublesome; or

(b) appear to the supervisor to be deficient in the trainee's background.

e. GS-1360-5 Training for GS-1360-7 Assignments

(1) With supervision, plan and prepare for execution of minor oceanographic surveys or particular aspects of major surveys. Part of this work may be performed at sea.

(2) Attain thorough knowledge of the theoretical and practical aspects of basic oceanographic data processing.

(3) Attain a thorough familiarity with computer programming, preferably with the capability of programming the Oceanographic Unit computer.

18. PHYSICIST

a. Optional Work Periods

(1) GS-1399-2 Assignments

The student may work up to 13 weeks prior to entering college provided he has either registered or has been accepted by a school which is participating in a Cooperative Physics plan with the Coast Guard. This period is not registered as a work period as defined elsewhere in this plan. Should the student exercise this option he will be assigned to the Civil Engineering Division for general duteis appropriate to the grade and experience.

(2) GS-1399-3 Assignments

Following completion of the first full year of academic study the student may work for a 13-week period in the Civil Engineering Division. his period will not be registered as a work period. Should the student exercise this option he will perform the following duties:

(a) Collect and assemble data in a usable and accessible format.

(b) Prepare graphs and tables from technical data, analyze data, and assist in writing technical reports on the results of the analysis.

(c) Study Coast Guard publications in areas of visual and audio signalling theory.

(d) Perform other duties of a routine nature under close supervision of professional personnel.

b. Required Work Periods

There are six required work periods of 13 weeks each to be completed between the beginning of the sophomore year and the beginning of the senior year as follows:

(1) GS-1300-3 Assignments — Assigned to ECV Minimum 13 weeks

(a) Collect and assemble data into a usable and accessible format.

(b) Prepare graphs and tables from technical data, analyze data, and assist in writing technical reports on the results of the analysis.

(c) Prepare correspondence with signal equipment manufacturers and field units concerning the testing and operation of signal equipment.

(d) Assist in the preparation of directives concerning the use of signalling and other aids to navigation equipment.

(e) Study Coast Guard publications in areas of visual and audio signalling theory.

(f) Perform other duties of a routine nature under close supervision of professional personnel.

(2) GS-1399-3 Assignments Minimum 13 weeks

Part 1 - Assignment to four-week Officers' Aids to Navigation School at Groton, Connecticut. 4 weeks

Part 2 - Assignment in Civil Engineering Division at Coast Guard Headquarters. 9 weeks

(a) Collect and assemble data into a usable and accessible format.

(b) Prepare graphs and tables from technical data, analyze data, and write technical reports on the results of the analysis.

(c) Prepare correspondence with signal equipment manufacturers and field units concerning the testing and operation of signal equipment.

(d) Prepare directives concerning the use of signaling and other aids to navigation equipment.

(e) As assigned, perform research and development work on long term projects to facilitate data collection and analysis.

(f) Make studies of visual and audio signaling theory.

(g) Perform other duties of a routine nature under close supervision of professional personnel.

(3) GS-1399-3/4 Assignments Minimum 13 weeks

Testing and Development Projects at Coast Guard Headquarters.

(a) Study representative testing and development projects for background and familiarization.

(b) Perform portions of evaluations concerning proposed testing and development projects for Aids to Navigation and Search and Rescue equipment and such other products and equipment of application in the Coast Guard as directed.

(c) Assist in drafting portions of specifications for procurement of equipment or services required by a project.

(d) Assist in preparing instructions for conducting the desired testing evaluation of equipment or procedures.

(e) Assist in analyzing test results of various projects.

(f) Perform other duties of a routine nature under close supervision of professional personnel.

(4) GS-1399-4 Assignments Minimum 13 weeks

Testing and Development Projects at Coast Guard Headquarters for 11 weeks:

(a) Assist in evaluating proposed testing and development projects for Aids to Navigation and Search and Rescue equipment and such other products and equipment of application in Coast Guard, by investigating alternative ways of meeting project requirements, comparing costs of alternatives, efficiency, and performance.

(b) Draft portions of specifications for procurement of equipment or services required by a project.

(c) Prepare instructions for conducting the desired testing and evaluation of equipment or procedures.

(d) Analyze test results of various projects.

(e) Draft summary reports of work accomplished, i.e., analyses, results, conclusions and recommendations.

(f) Perform other duties of a routine nature under close supervision of professional personnel.

Assignment to duty aboard a buoy tender for two weeks;

(a) Witness actual operation of a buoy tender involved in Aids to Navigation servicing.

(5) GS-1399-4/5 Assignments 13 weeks

Assignment to Civil Engineering Division at Coast Guard Headquarters

(a) Investigate and analyze project work in areas of theoretical physics applicable to the performance of aids to navigation lights, fog signals, day marks, and power supplies.

(b) Prepare charts, graphs, tables, and reports from technical data submitted by test laboratories.

(c) Prepare detail sketches of equipment components for use in developing final drawings.

(d) Write complete reports on large scale equipment tests.

(e) Assist in supervising other student trainees in the GS-3 and GS-4 levels.

(f) Perform other duties of a routine nature.

(6) GS-1310-5 Assignments Minimum 13 weeks

Field Testing and Development Projects for 10-11 weeks

(a) Familiarization with test facilities.

(b) Perform photometric tests on light sources and optics, including calorimetric tests, if called for by project.

(c) Perform acoustical tests on sound sources.

(d) Perform various types of environmental and electrical tests on electrical and electromechanical equipment.

(e) Develop experimental methods and equipment, working standards, measuring and calibrating devices as required to accomplish projects of varying degrees of difficulty.

(f) Compile accurate data and records of work performed.

(g) Evaluate and analyze the information in f. above and present in clear and logical written form.

VI OFFICIAL RESPONSIBLE FOR THE PROGRAM

The Chief, Civilian Personnel Division, or his designated representative has general overall responsibility for the Coast Guard-Wide Cooperative Program, but the specific operating responsibility rests with the following officials:

A. At Coast Guard Headquarters, the chiefs of the several offices in which cooperative students are employed and their designated division chiefs.

B. In District Offices, the chiefs of the respective divisions employing cooperative students and designated subordinate supervisory personnel.

C. In Coast Guard Units, the commanding officers and designated subordinate supervisory personnel.

VII QUALIFICATIONS OF INSTRUCTORS

Personnel designated to instruct cooperative students will:

A. Be an officer or civilian in a supervisory, professional or technical position in the organizational unit to which cooperative students are assigned.

B. Have satisfactorily completed a course in Job Instructor Training given by the Training Branch of the Civilian Personnel Division or its equivalent.

C. Have demonstrated his ability to instruct, make job analyses, and prepare job instruction sheets.

VIII INSTRUCTIONAL MATERIALS

Coast Guard organization manuals, charts, tables, operating procedures manuals, and complete files of directives, instructions, regulations, memoranda, and other data pertinent and applicable to the efforts, responsibilities, and tasks of various offices, divisions, and branches of the Coast Guard and its District Offices and Headquarters Units are available for reference and study by trainees. Other instructional materials which are adapted to the specific requirements of certain study options of the Cooperative Work- Study Program of the Coast Guard are also available. This is particularly true of the various specialties under the engineering option. For example, there are numerous handbooks, engineering codes and standards, research reports, technical periodicals, and special technical texts which are always available for reference and use by the students. For those students who have major interests in computer technology, there are special reference sources

available in numerical analysis, linear programming, systems analysis, theory of games, and an IBM Programed Instruction Course entitled Fortran for the IBM 1130.

IX INSTRUCTIONAL PLAN

A. The major portion of the in-service training period will be devoted to on-the-job training. Trainees will be assigned tasks according to their abilities as indicated by their training and experience. Assigned tasks will involve the various and complex technical or professional aspects of the work of the organizational unit to which they are assigned. Assignments will be carried out under the guidance of designated supervisory, technical or professional personnel in the respective functional areas.

B. Classroom instruction will be provided at Headquarters as follows:

1. Orientation
2. Technical courses and lectures
3. Supervisory Appreciation Course

C. Field Trips - Trainees will visit projects, installations, bases, and activities as an integral part of the plan to ensure maximum training and development for cooperative students in the technical and professional aspects of their areas of professional interest and to acquaint them with the mission and tasks of the Coast Guard.

D. On campus each trainee pursues the curriculum prescribed for his educational objective.

X FACILITIES AND EQUIPMENT TO BE USED IN TRAINING

At Coast Guard Headquarters there is a technical library, a central film library, projection equipment and other visual aids, reviewing rooms, classrooms, and an auditorium all of which are available to assist in furnishing and reinforcing the on-the-job training phases of students in this program. Similar facilities are available for this purpose at Coast Guard District Offices and Headquarters Units.

Other specialized facilities are available which are specifically adapted to the duties and functions of certain study options included in the Cooperative Work-Study Program of the Coast Guard. For example: accounting students working in the Office of the Comptroller will have access to various official accounting records and controls, accounting reconciliation statements, financial reports, and other similar documentation which will

thoroughly familiarize them with a large scale, practical accounting system necessary for efficient control of funds and property of a large agency. In addition, they will participate in bid-opening ceremonies and evaluation of bids leading to contract awards. As part of the work phase of the program, official visits are arranged to several Coast Guard inventory stocking points. The Coast Guard has an IBM - 1410 data processing system with a variety of peripheral and auxiliary equipment which also will be utilized in training students in the comptrollership function. During a training period of thirteen weeks in this area, students may be scheduled to attend IBM - 1410 programer or systems analysis classes conducted by the International Business Machines Corporation.

In addition to the usual standard equipment such as drafting instruments, calculators, comptometers, and slide rules, other specialized equipment and instrumentation is available for training use depending upon the specialty of the engineering options in which the students' interests lie. Typically such equipment includes precision electrical measuring instruments, surveying equipment, building products samples, electronic test equipment, integrators and planimeters, ship models, ship curves, battens and ducks, aircraft models, and various other visual and demonstration aids such as lanterns, flashers, and lamp changers. The Office of Engineering also has an IBM 1130 computer system and an IBM 1410 computer system together with a variety of associated equipment available for use of the engineering staff.

XI TRAINEE STANDARDS OF SATISFACTORY PERFORMANCE

A. Chiefs of units in which cooperative students are assigned will maintain a current progress record for each trainee. Entries will be made weekly, bi-weekly, or monthly on Form CGHQ-3744 (Rev. 1-59) showing for each of the work elements involved (as shown in Item V, Outline of Training Program), the number of hours devoted to each element of training in which the trainee participated and an adjective rating of weak, fair, average, very good, or excellent for each rating factor.

B. If an element or factor is rated weak or fair, special emphasis will be given to the weakness in the succeeding week(s).

C. The section chief to whom the trainee is assigned will discuss progress to date with each trainee at the end of each weekly or bi-weekly period.

D. Progress of each trainee will be reviewed by the division chief at approximately semi monthly intervals. Progress records will be continually available for review by the supervisory division chief and the Chief, Civilian Personnel Division, or their designated represnetatives.

E. Any trainee who fails to attain satisfactory progress will be dropped from training status.

F. During the final week of training for each grade level, all assignments of the trainee will be observed or reviewed by the division chief or his designated representative, and a rating will be assigned on all rating factors.

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-3741 (Rev. 4-67)	STUDENT TRAINEE ASSIGNMENT RATING FACTORS	PERIOD ENDED

TRAINEE

WORK ASSIGNMENT(S)	NO. HOURS ON ASSIGNMENT THIS WORK PERIOD

SCORING CODE: (1) Weak (2) Fair (3) Average (4) Very Good (5) Excellent

HOURS LEAVE GRANTED		
ANNUAL	SICK	OTHER (Specify type)

RATING FACTORS (See reverse for definitions)	SCORE (Circle applicable code)	REMARKS (Use reverse if more space is needed)
(1) Ability to learn and profit by experience	1 2 3 4 5	
(2) Judgment and Discretion	1 2 3 4 5	
(3) Initiative	1 2 3 4 5	
(4) Dependability	1 2 3 4 5	
(5) Industry	1 2 3 4 5	
(6) Stability and Adjustment	1 2 3 4 5	
(7) Work Habits	1 2 3 4 5	
(8) General Ability	1 2 3 4 5	
(9) Interest in Assignment(s)	1 2 3 4 5	
TOTAL		

GENERAL COMMENTS: (Use reverse if more space is needed)

Appraisal - Trainee (should) (should not) be continued in the program.

REVIEWING OFFICIAL	RATING OFFICIAL

DEFINITION OF RATING FACTORS

1. Ability to Learn and Profit by Experience

   Consider the trainee's mental ability in learning new concepts, methods, procedures and techniques, as well as his ability to retain and use such knowledges and skills.

2. Judgment and Discretion

   Consider the wisdom of the trainee's decisions in the absence of detailed explanation, how he handles unusual situations and what degree of self-reliance is shown.

3. Initiative

   Consider the trainee's imagination and ability to think along original creative lines and his willingness to initiate action.

4. Dependability

   Consider whether or not the trainee can be depended upon to carry through an assignment and how reliable and conscientious he is. Consider the willingness of the trainee to assume the responsibilities necessary to accomplish the assigned task(s).

5. Industry

   Consider the diligence shown by the trainee in accomplishing the completed task.

6. Stability and Adjustment

   Consider the trainee's relationship with his working group, his conformance and adaptation, the harmony with which he works with others. Consider his reaction to changing assignments and conditions and his reactions to situations which were not anticipated.

7. Work Habits

   Consider the neatness and thoroughness of his work, particularly as reflected in the quality of his finished task(s). Consider the way in which he plans and organizes the work assigned, the effective utilization of time and effort, and his application of safe practices which have been taught.

8. General Ability

   Consider the trainee's overall ability in relation to his educational level, work assignments completed, length of time employed by Coast Guard, and maturity. Consider whether his skills and aptitudes lend themselves not only to the immediate task(s) but to future Coast Guard employment after training.

9. Interest in Assignment(s)

   Consider the trainee's curiosity and enthusiasm for the work assigned in the immediate work period.

GENERAL COMMENTS AND REMARKS CONTINUED