



DEPARTMENT OF THE NAVY

BUREAU OF MEDICINE AND SURGERY  
2300 E STREET NW  
WASHINGTON DC 20372-5300

IN REPLY REFER TO

BUMEDINST 1553.1 CH-1  
BUMED-53  
19 May 98

BUMED INSTRUCTION 1553.1 CHANGE TRANSMITTAL 1

From: Chief, Bureau of Medicine and Surgery

Subj: MANAGEMENT OF THE CURRICULUM DEVELOPMENT PROCESS FOR  
MEDICAL DEPARTMENT EDUCATION AND TRAINING PROGRAMS

Encl: (1) Requirements for the Curriculum Outline

1. Purpose. To correct examples for formats in enclosure (2) of the original instruction.
2. Action. Remove enclosure (2) of the original instruction and replace with enclosure (1) of this change transmittal.
3. Cancellation. This change transmittal is canceled upon completion of the required action.

A handwritten signature in cursive script, appearing to read "W. H. Snell".

W. H. SNELL  
Assistant Chief for  
Education, Training,  
and Personnel

Distribution:

SNDL, FH12 (NSDAT SDIEGO)  
FH13 (NAVHOSPCORPSCOL)  
FH18 (NAVOPMEDINST)  
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FH26 (NAVENVIRHLTHCEN)  
FH28 (NSHS)



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BUMEDINST 1553.1  
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14 May 97

BUMED INSTRUCTION 1553.1

From: Chief, Bureau of Medicine and Surgery

Subj: MANAGEMENT OF THE CURRICULUM DEVELOPMENT PROCESS FOR  
MEDICAL DEPARTMENT EDUCATION AND TRAINING PROGRAMS

Ref: (a) BUMED Curriculum Development Guide, Technical Training  
(b) Catalogue of Navy Training Courses (CANTRAC)  
(c) BUMEDINST 1553.3  
(d) BUMEDINST 1553.2

Encl: (1) Definitions  
(2) Requirements for the Curriculum Outline  
(3) Requirements for Class Schedules and Course Schedule  
Summaries  
(4) Requirements for the Student Evaluation Plan (SEP)

1. Purpose. To establish policy for developing and managing technical curricula and courses under the cognizance of the Bureau of Medicine and Surgery (BUMED).

2. Cancellation. HSETCINST 1553.1B and HSETCINST 1553.6C.

3. Definitions. See enclosure (1).

4. Curriculum Development and Documentation

a. Curriculum Development Process. Technical training development and revision must adhere to the competency-based model of instructional systems design detailed in reference (a). Central to this model is the use of a training requirements inventory (TRI) to document necessary training outcomes. Existing courses developed under a different model must convert to the competency-based model by the end of fiscal year 1998. Curriculum approval is contingent upon all elements in the TRI being addressed at the appropriate training level.

b. Documentation. All Medical Department courses listed in reference (b) as class A, C, F, G, or T programs (enclosure (1)) must have an approved curriculum outline (based on a validated TRI) and course schedule summary as detailed in enclosures (2) and (3), respectively. All class A, C, and G programs must also have an approved SEP as detailed in enclosure (4). In addition, training sites must maintain master copies of class schedules and lesson topic guides or instructor guides. See enclosure (3) for further information on class schedules. No specific format is required for either class schedules or lesson topic guides.

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c. Exceptions. Submit requests to use alternate means of documenting curricula to the Bureau of Medicine and Surgery, Education and Training Standards Division (MED-53), via the training program manager designated in reference (b). Include a justification for the requested exception and samples of the formats you propose.

d. Curriculum Approvals. The training program manager is the approval authority for Medical Department curricula. All documents may be approved by a single letter or by separate letters for each document. Modify curriculum documents by using the procedures in reference (c).

## 5. Standardization Requirements for All Training Sites

a. Curriculum Uniformity. Each training site must maintain copies of approved curriculum documents for each course conducted. All courses must be conducted following the approved curriculum documents.

b. Contact Hours Uniformity. Contact hours include all scheduled time used for classroom, laboratory, and clinical rotation training to include review for tests, testing, and test feedback; periods students spend as simulated patients during laboratory periods; preparation and restoration of laboratory areas if these tasks are requirements on the job; and other required training and activities specified in enclosure (3). Didactic and laboratory contact hours are 50 minutes each; clinical rotation contact hours are 60 minutes each.

c. Uniform Instructional Day for Students. The instructional day for students in full-time training is an average of eight scheduled 50-minute periods of required training subjects and other required activities per day for didactic training. For clinical training, the instructional day is eight scheduled 60-minute periods of clinical experience per day. Time required for meals is scheduled in addition to the 8-hour instructional day.

d. Uniform Instructional Day for Instructors. The normal instructional day for instructors conducting full-time training is an average of 6 student contact hours in an instructional setting (classroom or laboratory) and 2 hours for other instructor duties, such as planning, curriculum development, and counseling.

e. Student-to-Instructor Ratios. Justification for ratios other than 25:1 will be provided on the course schedule summary, along with a brief description of the instructors' roles during contact hours requiring a ratio other than 25:1 as described in enclosure (3). The following are provided as guidance in establishing student-to-instructor ratios:

(1) Standard Classroom Ratio. A student-to-instructor ratio of 25:1 is the planning standard for formal theory (lecture) work and written tests. This standard may vary if space configurations or other limitations require it. For example, if a classroom can accommodate only 20 students, the ratio for lectures in that classroom should be 20:1. However, the ratio should not be lowered simply because the current class size is less than 25. In some cases, the ratio for lectures may be higher than 25:1 if the higher ratio will not be detrimental to learning.

(2) Practical Ratios. Laboratory and clinical ratios must be set at the highest number of students per instructor that will not cause serious detriment to the quality of training or to the safety of students, staff, or patients. The complexity of the tasks being trained and the availability of equipment are the determining factors in setting the ratio.

(3) Clinical Ratios. The student-to-instructor ratio for clinical rotations reflects the number of students assigned to each instructor (or clinical coordinator) for supervision during clinical rotation. The student-to-preceptor ratio, which reflects the number of students a single hospital staff member would supervise during clinical rotation, will normally be much lower.

(4) Testing. Written tests will normally be accomplished at a student-to-instructor ratio of 25:1.

(5) Other Required Activities. A student-to-instructor ratio of 25:1 is used for scheduled periods of military or physical training if the presence of an instructor is required. Academic counseling periods are scheduled at 25:1 ratio. (Counseling generally is done one-to-one and cannot be scheduled precisely. The intent is to allocate instructor time for counseling during the course.)

6. Additional Requirements for Multiple-Site Programs. Any course conducted by more than one training activity is a multiple-site program. In a standardized multiple-site program, the following curriculum components must be identical:

a. Curriculum Outline. There must be a single approved curriculum outline for each multiple training site program. No variation is allowed from the approved curriculum outline unless specifically sanctioned in writing by the training program manager.

b. SEP. There must be a single SEP for each multiple-site program requiring such a plan. No variation is allowed from the approved SEP unless specifically sanctioned in writing by the program manager designated by BUMED.

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c. Student-to-Instructor Ratios. To the extent possible, each site must use the same student-to-instructor ratio for each segment of the curriculum. However, variations in ratios may be necessitated by differences in facilities.

d. Test Schedules. Test schedules must be uniform in relation to unit or lesson topics. An equal number of tests covering the same range of material and with the same complexity must be used at each site.

e. Performance Checklists and Product Evaluation Forms. Instruments used to evaluate processes or products must be equivalent if cited as standards in learning objectives. Some variation may be necessary to accommodate equipment or facility differences at the training sites. See reference (d) for specific guidelines for developing and using performance checklists and product evaluation forms.

f. Textbooks. Commercial or military publications and student guides cited as standards in learning objectives and for which students are held responsible must be identical at each training site. Texts used only as reference or background material need not be identical.

g. Training Materials. Laboratory supplies and equipment, audiovisual material, models, and mannequins are examples of training materials. Training materials must be comparable, but need not be identical. If a learning objective calls for microscopic examination of prepared slides, each site should provide students with microscopes having the same degree of magnification and illumination. Identical brand or models are not required. Likewise, manikins used in cardiopulmonary resuscitation training must be functionally identical but not necessarily from the same manufacturer.

h. Individualized Study Materials. Learning activity packages, personalized system of instruction packets, self-teaching exportable packages, and computer-based learning software are examples of individualized study materials. When all students in a training program are held responsible for completing individualized study materials, then standardization is required among all training sites. If the individualized study materials are optional, remedial, or enrichment resources, then standardization is not required.

7. Diversification at Multiple Training Sites. Provided no learning objectives are compromised, differences may occur at the various sites in:

- a. Instructor and student activities.
- b. Instructor-prepared materials for students.

- c. Sequence of presentations.
- d. Organization of lectures and demonstrations.
- e. Resource visitors and guest lecturers.
- f. Test items and selection from test-item banks.
- g. Homework assignments.
- h. Reference materials.

8. Use of Electronic Media. Maintain curriculum documentation on electronic media in a format compatible with current BUMED software standards.

9. Action. Echelon 3 activities and components conducting education and training courses under BUMED cognizance and listed in reference (b) as class A, C, F, G, or T programs must implement the guidance and administrative procedures described in this instruction and references (a), (c), and (d).



W. H. SNELL  
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FH28 (NSHS)

**Available at:**

<http://support1.med.navy.mil/bumed/instruct/external/external.htm>

DEFINITIONS

1. Course Types (Definitions taken from the Navy Integrated Training Resources and Administration System (NITRAS))

a. Class "A". Provides the basic knowledge and skills required to prepare for rating entry level performance. Includes initial skill training (i.e., apprenticeship training or "A" schools), rating conversion training (i.e., master at arms), initial skill remedial training and entry level officer training. A Navy enlisted classification (NEC), military occupation specialty (MOS), Air Force specialty code (AFSC), or officer billet specialty training (BST) will not normally be awarded.

b. Class "C". Provides advanced specialized skills, knowledge, aptitudes, and qualifications required to fill a particular billet (one which requires a specific skill code is NEC, MOS, AFSC, or officer BST coded). Course completion awards an NEC or officer BST. May also award an MOS or AFSC.

c. Class "F". Provides individual functional skill or rating-specific refresher training as required by fleet or type commander. No NEC awarded.

d. Class "G". Provides prerequisite knowledge skills and techniques in a segment course of an NEC-awarding pipeline. This is not a rating-wide requirement. Does not, by itself, award an NEC or officer BST.

e. Class "T". Provides team functional skill or rating-specific team refresher training as required by fleet or type commander. No NEC awarded.

2. Developmental Training. Education and training designed to enhance leadership, management, and military professional skills. In contrast to technical training, developmental training is aimed at personnel in diverse billet classifications and environments.

3. Required Training. Training essential to the presentation of the approved curriculum and other topics mandated by higher authority. See enclosure (3) for further information.

4. Required Activities. General military or academic activities that do not directly support the curriculum or do not apply to all students. Required activities include physical fitness training, academic counseling, and student critiques of course materials and presentations. See enclosure (3) for further information.

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5. Technical Training. Training in specific skills and knowledge essential to performance of those tasks and duties related to a technical specialty.

6. TRI. A list of cognitive, effective, skill and task elements that must be addressed in training.

## REQUIREMENTS FOR THE CURRICULUM OUTLINE

The curriculum outline consists of three major sections: the front matter, the outline of instruction, and the annexes. Use at least a 1.25" side margin to allow insertion into a three-ring binder. The samples included here use 1.25" left and right margins and a 12-pitch/10-point font.

1. Front Matter. The front matter for the curriculum outline includes the cover sheet, change record, course data, student data, foreword, unit synopses, contact hours outline, and table of contents. Figures 1 through 11 provide samples of the pages included in the front matter.

a. The Cover Sheet (Figure 1) Includes

- (1) Full course title (no abbreviations).
- (2) Course identification number (as shown in reference (b)).
- (3) Name and address of command developing the curriculum outline ("Prepared by").
- (4) Name and address of command approving the curriculum outline ("Prepared for").
- (5) Date of curriculum outline (month and year; entered upon approval).

b. The Change Record (Figures 2 and 3) lists all of the changes made to the curriculum outline (including changes to the training materials list and TRI) from the implementation date until the curriculum is no longer in use.

c. Course Data (Figure 4) Includes

- (1) Course Mission. A brief statement of the purpose or goal of the course or program.
- (2) Security Classification. The security classification for the curriculum outline; normally unclassified. Please note the curriculum outline may be unclassified even though some classified material is included in the course or program.
- (3) Course Length. The duration of the course is shown in training days and contact hours. In addition, the distribution of contact hours is shown. Both must be consistent with the contact hours outline and the course schedule summary.

(4) Locations at Which Taught. Name of each training site.

(5) Class Capacity and Maximum Number of Convenings per Year. The maximum number of students that can be accommodated in a class without degradation of training, and the maximum number of classes that can be convened within a fiscal year. For multiple-site programs, this information must be shown for each site.

(6) Staffing Requirements. Any qualifications needed for instructors, such as an NEC or Navy officer billet classification (NOBC); instructor training is required for all full-time instructors.

(7) Curriculum Approval Authority. Command approving the course or program.

(8) Quota Control. Command responsible for assigning students to the course or program.

(9) Planned Implementation Date. The projected starting date for the first class that will be taught using the curriculum.

(10) Primary Mode of Instruction. Group-paced or self-paced.

(11) Instruments and Procedures for Measuring Student Performance. A brief statement of the types of evaluations included. (Note: You do not need to state the frequency or length of evaluations.)

(12) Date of Preceding Curriculum Outline. The date shown on the cover sheet of the curriculum outline previously in use.

d. Student Data (Figure 5) Includes

(1) Personnel Physical Requirements. Any physical abilities that are required for the course, or any physical conditions that would make otherwise eligible personnel ineligible.

(2) Security Clearance Required. Any security clearances required before reporting for the course or program.

(3) Prerequisite Training and Test Scores Required. Any courses (including correspondence courses) that must be completed before reporting for the course or program and any test scores (e.g., ASVAB) required for admission to the course.

(4) Personnel and Ratings Eligible. The types of personnel who are eligible to take the course or program; usually described by NEC or NOBC, grade or rate, billet title, and pay grade.

(5) Obligated Service. The length of time graduates must remain in the Navy or a specialty as "payment" for the training; stated as number of months from convening date.

(6) NEC or BST Earned. NEC or officer BST awarded upon completion of the course.

(7) Related or Follow-on Training. Any courses required or recommended for graduates as additional training.

e. The Foreword (Figure 6) includes a brief description of how the course or program was developed and the purpose of the curriculum outline.

f. The Unit Synopses (Figure 7) provide brief descriptions of the scope of each unit included in the course.

g. The Contact Hours Outline (Figures 8 through 10) shows the contact hours assigned to each lesson topic and unit. Use the general format shown in Figures 8 through 10.

(1) The "notes" at the top of each sample clarify the system used to account for test and review hours. Laboratory or practical testing time may be broken out separately if desired. If it is broken out, a note to that effect should replace note 1.

(2) Show didactic test and review time for all programs (didactic testing is counted separately when programs are evaluated for college credits; laboratory or practical testing is not).

(3) If didactic tests include material from more than one lesson, assign test and review hours for the unit as a whole, and show them as indicated on Figure 8.

(4) If all didactic tests are given within each lesson, include test and review time as part of the time assigned for the lesson, as in Figure 9. Using the same pattern for all units makes the outline easier to follow.

(5) If units include tests that cross lesson topics, follow the first sample for test and review time.

(6) The first two samples show comprehensive exams within the clinical rotation unit for a hypothetical program. Please note that contact hours used for written exams within a clinical rotation are didactic periods.

(a) In Figure 8, the 4 hours of testing are in addition to the 15 training days devoted to clinical training.

(b) In Figure 9, the time is taken from the 15 clinical days.

(c) You may also show a comprehensive exam as a separate entry, as if it were a separate unit without a number, as illustrated in Figure 10.

(d) Always include the three columns shown in Figures 8 and 9. You may add a fourth column for clinical contact hours, as shown in Figure 10.

(e) If clinical experience is within one unit only, use the three column format, with the "CL" column replacing the "Lab/Pr" column for clinical rotations.

(f) If clinical experience is incorporated throughout the curriculum, you may use the four-column format if you wish. You must use the four-column format if a single unit includes both laboratory or practical and clinical hours.

(g) Include at least the six entries shown in Figures 8 through 10 in the contact hours summary.

(h) You may also show a total for didactic test and review in parentheses to the right of the subtotal for didactic hours if desired.

h. The Table of Contents (Figure 11) lists the sections of the curriculum outline and the units in the course with page numbers. The table of contents is optional; it may be combined with the contact hours outline or eliminated.

2. Outline of Instruction. The outline of instruction is the longest section of the curriculum outline. It includes all of the learning objectives for the course or program, arranged by units and lesson topics. The outline of instruction includes course or unit conventions pages (optional), unit pages, and lesson topic pages. Figures 12 through 17 are provided as samples.

a. The Course Conventions Page (Figure 12) includes translations of abbreviations, implied or assumed conditions, and standards that apply throughout the outline of instruction. When used, the course conventions page is the first page in the outline of instruction.

b. A Unit Conventions Page (Figure 13) includes any reference or authority for correct performance that applies to all or most of the objectives in a unit, the level of performance required for didactic objectives (if a single level applies for all or most of the objectives in the unit), and translations of abbreviations are used frequently in the unit but are not covered in the course conventions page. Special conditions that apply to objectives throughout the unit may also be shown on the unit conventions page. When used, the unit conventions page is placed immediately before the unit page.

c. A Unit Page (Figure 14) shows the unit title; the didactic, laboratory or practical, and clinical or field contact hours assigned for the unit; and the terminal objective for each lesson topic in the unit. If test and review hours are totaled separately for the unit, those contact hours should also be shown on the unit page. Omit the unit page for short courses with only one lesson topic.

d. Lesson Topic Pages (Figures 15 through 17) show the lesson topic title; the didactic, laboratory or practical, and clinical or field contact hours assigned to the lesson topic; the terminal and enabling objectives for the lesson topic; and a list of the items from the TRI covered in the lesson topic. Each lesson topic should start on a new page.

e. The Sample Provided In Figure 15 is supported by a unit conventions page that establishes the authority for correct performance and the level of performance required for the didactic objectives. No conventions pages support the sample provided in Figure 16. It includes a student reference line to indicate the authority for correct performance in both terminal and enabling objectives and a header for the enabling objectives to indicate the level of performance required. If the level of performance required

or the authority for correct performance varies, then individual objectives must include a statement of the required standard, as shown in Figure 17.

3. Annexes. There are two required annexes to the curriculum outline: a training materials list and the TRI.

a. The Training Materials List (Figure 18) includes all of the training materials (e.g., military publications or instructions, textbooks, audiovisual materials) used by all students. Supplemental materials, such audiovisual materials used to supplement primary references, do not need to be listed. Include the title (with edition where applicable), author, publisher, and publication date for each item.

b. The TRI acts as a cross-reference to the outline of instruction. Each item on the TRI must be referenced to at least one lesson topic in the outline of instruction. References to individual learning objectives are preferred. There is no established format for this cross-reference.

**SAMPLE PAGES** (pages 8-23)

CURRICULUM OUTLINE

SURGICAL TECHNOLOGIST (HM-8483)  
CLASS "C" SCHOOL

B-301-0033

PREPARED BY:

NAVAL SCHOOL OF HEALTH SCIENCES  
BETHESDA, MARYLAND

AND

NAVAL SCHOOL OF HEALTH SCIENCES  
SAN DIEGO, CALIFORNIA

AND

NAVAL SCHOOL OF HEALTH SCIENCES  
PORTSMOUTH, VIRGINIA

PREPARED FOR:

BUREAU OF MEDICINE AND SURGERY  
WASHINGTON, DC

Approved: May 1993

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**Figure 1. Curriculum Outline Cover Sheet.**

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**CHANGE RECORD**

<u>SECTION</u>	<u>DESCRIPTION OF CHANGE</u>	<u>BUMED APPROVAL</u>
LT 5.8	REVD ENABLING OBJECTIVES; ADDED 5.8.9	29 OCT 93
LT 6.5	INCREASED DID. STD TO 80% VICE 75%	15 JAN 94
UNIT 3	REWRITE OF UNIT; REORGANIZATION OF LTs; NEW TOs; NEW STUDENT REFERENCES	10 MAR 94
TRNG MAT.	REVISED TO REFLECT CHANGES IN UNIT 3	10 MAR 94

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**Figure 2. Change Record for a Single-Site Program.**

Enclosure (2)

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**CHANGE RECORD**

<u>SECTION</u>	<u>DESCRIPTION OF CHANGE</u>	<u>PROPOSED BY/ON</u>	<u>CONCURRENCE BY/ON</u>	<u>BUMED APPROVAL</u>
LT 4.3	INSERT NEW EO 4.3.6; RENUMBER BALANCE	BETHESDA 11/15/88	SAN DIEGO 11/30/88	10 DEC 93
UNIT 13	INCREASE STANDARD FOR TOs 13.7 & 13.8 FROM 70% TO 75%	SAN DIEGO 01/17/89	BETHESDA 02/03/89	15 FEB 94

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**Figure 3. Change Record for a Multiple-Site Program.**



**STUDENT DATA**

1. **PERSONNEL PHYSICAL REQUIREMENTS:** Must be physically qualified for transfer per article 15-30 of the Manual of the Medical Department (MANMED) and chapter 7.01 of the Enlisted Transfer Manual (ENLTRANSMAN). Must be medically qualified to work in the operating room. No dermatological disease of the hands or arms or recurrent infection. Members requiring medical attention, including pregnancy, shall not be transferred to this school.
2. **SECURITY CLEARANCE REQUIRED:** None.
3. **PREREQUISITE TRAINING:** Selected Hospital corpsmen in pay grades E-2 through E-4 with an ASVAB (5/6/7): WK+ARI=105 or ASVAB (8/9/10/11/12/13/14/J1): VE+AR=105.
4. **PERSONNEL AND RATING ELIGIBLE:** Hospital Corpsmen E-2 through E-4.
5. **OBLIGATED SERVICE:** 36 months as an HM-8483 as required by chapter 7, ENLTRANSMAN.
6. **NEC EARNED:** HM-8483.
7. **RELATED AND/OR FOLLOW-ON TRAINING:** Interdepartmental continuing education.

**FOREWORD**

This curriculum outline is the result of a cooperative effort between Surgical Technologist School staff members and instructional systems specialists at the Naval Schools of Health Sciences in Bethesda, Portsmouth, and San Diego.

Satisfactory completion of this course indicates the student has met the basic requirements to be a safe member of the surgical team. It should not be construed that the graduating student possesses any skills required to function in an area of advanced surgical technology, i.e., cardiovascular surgery. Final qualification of the individual with respect to job proficiency rests with the individual's commanding officer.

**SURGICAL TECHNOLOGIST  
UNIT SYNOPSES**

UNIT 1: Introduction to the surgical environment, including the surgical team, surgical terminology, ethical and legal concerns, practical math applications, and practice in transporting and admitting surgical patients to the operating room suite.

UNIT 2: Introduction to basic microbiology and its effect on the surgical environment, theory and practice of aseptic technique, dress and hygiene requirements for the operating room, practice in donning surgical apparel, policies and procedures for maintaining operating room safety, and policies and procedures for emergencies in the operating room.

UNIT 3: In-depth coverage of surgical instrumentation, equipment, and supplies; theory and practice in preparing surgical instruments and supplies for sterilization and methods of sterilization; basic pharmacology specific to the operating room, including drawing up medications and adding medications to the sterile field; introduction to anesthetic agents; and the role of the operating room technician in assisting the anesthetist and anesthesiologist.

UNIT 4: Theory and practice in positioning the surgical patient; completing skin preparation; care and handling of surgical specimens; catheterization; preparation of the operating room; and carrying out the activities of the circulating technician, including the use of surgical forms and records for documentation.

UNIT 5: Theory and practice in gowning and gloving; sterile field and instrument setup; preparation and handling of sutures; counts; surgical draping; carrying out the duties of the scrub technician, including use of surgical forms and records for documentation.

UNIT 6: Anatomical structure and function of the human body and how it is affected by surgical procedures in general and gynecologic, obstetric, orthopedic, plastic, peripheral, vascular, urologic, otorhinolaryngologic, thoracic, ophthalmic, and neurologic surgery. Includes considerations of wound healing.

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\* Units 7 - 9 excluded from sample. \*  
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**Figure 7. Unit Synopses.**

**CONTACT HOURS OUTLINE**

Notes:

1. Evaluation of lab/practical or skills performance is an integral part of all lab/practical sessions and is not broken out separately.
2. Didactic test and review hours are in addition to hours shown for individual lesson topics.

		Did	Lab/Pr	Total
<b>Unit 1.0</b>	<b>Unit 1 Title</b>	<b>5.0</b>	<b>14.0</b>	<b>19.0</b>
1.1	Lesson 1 Title	1.0	0.0	1.0
1.2	Lesson 2 Title	2.0	1.0	3.0
1.3	Lesson 3 Title	1.0	3.0	4.0
1.4	Lesson 4 Title	0.0	10.0	10.0
	Didactic Test & Review	1.0	0.0	1.0
<b>Unit 2.0</b>	<b>Unit 2 Title</b>	<b>22.0</b>	<b>0.0</b>	<b>22.0</b>
2.1	Lesson 1 Title	6.0	0.0	6.0
2.2	Lesson 2 Title	3.0	0.0	3.0
2.3	Lesson 3 Title	4.0	0.0	4.0
2.4	Lesson 4 Title	5.0	0.0	5.0
	Didactic Test & Review	4.0	0.0	4.0

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 \*  
 \*                   UNITS 3 - 10 NOT SHOWN IN SAMPLE                   \*  
 \*  
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		Did	CL	Total
<b>Unit 11.0</b>	<b>Clinical Rotations</b>	<b>4.0</b>	<b>120.0</b>	<b>124.0</b>
11.1	Rotation #1	0.0	80.0	80.0
11.2	Rotation #2	0.0	40.0	40.0
	Comprehensive Exams	4.0	0.0	4.0

**Contact Hours Summary**

Curr. Hrs: Didactic	127.0
Lab/practical	82.0
Clinical	120.0
Other Required Training	15.0
Other Required Activities	56.0
<b>Total:</b>	<b>400.0</b>

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**Figure 8. Three Column Format,  
 Didactic Test and Review Added to Unit Total.**

**CONTACT HOURS OUTLINE**

Notes:

1. Evaluation of lab/practical or skills performance is an integral part of all lab/practical sessions and is not broken out separately.
2. Total didactic test and review hours are shown at the end of each lesson topic list. These hours are included in the hours assigned for each lesson topic.

		Did	Lab/Pr	Total
<b>Unit 1.0</b>	<b>Unit 1 Title</b>	<b>15.0</b>	<b>14.0</b>	<b>29.0</b>
1.1	Lesson 1 Title	6.0	0.0	6.0
1.2	Lesson 2 Title	4.0	1.0	5.0
1.3	Lesson 3 Title	5.0	3.0	8.0
1.4	Lesson 4 Title	0.0	10.0	10.0
	Didactic Test & Review: 3.0			
<b>Unit 2.0</b>	<b>Unit 2 Title</b>	<b>27.0</b>	<b>0.0</b>	<b>27.0</b>
2.1	Lesson 1 Title	6.0	0.0	6.0
2.2	Lesson 2 Title	8.0	0.0	8.0
2.3	Lesson 3 Title	5.0	0.0	5.0
2.4	Lesson 4 Title	8.0	0.0	8.0
	Didactic Test & Review: 4.0			

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 \*  
 \*                   UNITS 3 - 10 NOT SHOWN IN SAMPLE                   \*  
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		Did	CL	Total
<b>Unit 11.0</b>	<b>Clinical Rotations</b>	<b>4.0</b>	<b>116.0</b>	<b>120.0</b>
11.1	Rotation #1	0.0	78.0	78.0
11.2	Rotation #2	0.0	38.0	38.0
	Comprehensive Exams	4.0	0.0	4.0

**Contact Hours Summary**

Curr. Hrs: Didactic	131.0
Lab/practical	82.0
Clinical	116.0
Other Required Training	15.0
Other Required Activities	56.0
<b>Total:</b>	<b>400.0</b>

---

**Figure 9. Three Column Format,  
 Didactic Test and Review NOT Added to Unit Total.**

**CONTACT HOURS OUTLINE**

Notes:

1. Evaluation of lab/practical or skills performance is an integral part of all lab/practical sessions and is not broken out separately; except for the skills test included as part of the comprehensive exam.
2. Total didactic test and review hours are shown at the end of each lesson topic list. These hours are included in the hours assigned for each lesson topic.

		Did	Lab/Pr	CL	Total
<b>Unit 1.0</b>	<b>Unit 1 Title</b>	<b>15.0</b>	<b>14.0</b>	<b>40.00</b>	<b>69.0</b>
1.1	Lesson 1 Title	6.0	0.0	0.0	6.0
1.2	Lesson 2 Title	4.0	1.0	0.0	5.0
1.3	Lesson 3 Title	5.0	3.0	16.0	24.0
1.4	Lesson 4 Title	0.0	10.0	24.0	34.0
	Didactic Test & Review: 3.0				

<b>Unit 2.0</b>	<b>Unit 2 Title</b>	<b>30.0</b>	<b>12.0</b>	<b>64.00</b>	<b>106.0</b>
2.1	Lesson 1 Title	6.0	1.0	8.0	15.0
2.2	Lesson 2 Title	6.0	1.0	12.0	19.0
2.3	Lesson 3 Title	6.0	1.0	20.0	27.0
2.4	Lesson 4 Title	12.0	9.0	24.0	45.0
	Didactic Test & Review: 3.0				

\*\*\*\*\*  
 \*  
 \*                   UNITS 3 - 11 NOT SHOWN IN SAMPLE                   \*  
 \*  
 \*\*\*\*\*

	Did	Lab/Pr	CL	Total
<b>Comprehensive Exams</b>	<b>4.0</b>	<b>14.0</b>	<b>0.0</b>	<b>18.0</b>

**Contact Hours Summary**

Curr. Hrs: Didactic	127.0
Lab/practical	82.0
Clinical	120.0
Other Required Training	15.0
Other Required Activities	56.0
<b>Total:</b>	<b>400.0</b>

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**Figure 10. Four Column Format,  
 Didactic Test and Review NOT Added to Unit Total.**

**CURRICULUM OUTLINE FOR SURGICAL TECHNOLOGIST (HM-8483)**

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**Figure 11. Table of Contents.**

**COURSE CONVENTIONS**

The following conventions apply to learning objectives throughout the outline of instruction.

**STANDARDS:** Unless otherwise stated:

A minimum of 75% overall accuracy is required for didactic objectives.

Where a performance checklist is cited as the standard, the minimum level of performance required is detailed on the performance checklist, along with the references used to develop it.

**ASSUMED CONDITIONS:**

Performance is presumed to be in a normal classroom setting with all routine classroom supplies available for all didactic objectives.

When a real or simulated clinical/laboratory/practical setting is specified, it is presumed all routine equipment and supplies for that setting are available.

Unless otherwise stated, reference materials are not used by the student during evaluations.

**SPECIAL TERMS/PHRASES:**

"Identify on (or from) an illustration": Illustrations include diagrams, drawings, photographs, models.

**ABBREVIATIONS:**

OR = operating room  
PCL = performance checklist  
SHO = student handout

**UNIT 4 CONVENTIONS**

The following conventions apply to learning objectives throughout Unit 4.

**STANDARDS:**

Unless otherwise stated, performance will be per the standards of the Association of Operating Room Nurses and the Hospital Policies/Procedures Manual.

For objectives in a simulated operating room (OR):

Aseptic technique will be maintained at all times.

All critical steps will be completed without error.

**CONDITIONS**

"In a simulated OR setting...": Condition indicates a mock-up of the targeted procedure with a manikin or fellow student as the "patient" and an instructor as the "surgeon"; performance may take place in an actual or simulated OR

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**UNIT 4      ACTIVITIES OF THE CIRCULATOR TECHNICIAN**

CONTACT HOURS:    9.5    DIDACTIC                      31.5    LAB/PRACTICAL

TERMINAL OBJECTIVES: Performance will be in a simulated OR setting for all terminal objectives.

- 4.1 Following the principles of aseptic technique, set up and prepare the OR for surgery per PCL 4.3.
- 4.2 Complete forms and records from the data provided during a mock procedure per PCL 4.2.
- 4.3 Transfer and position a surgical patient for various surgical procedures on an OR table per PCL 4.3.
- 4.4 Catheterize a simulated patient in preparation for surgery per PCL 4.4.
- 4.5 Prepare a simulated surgical patient's skin for surgery per PCL 4.5.
- 4.6 Following the principles of aseptic technique, prepare surgical specimens for pathology per PCL 4.6.
- 4.7 Following the principles of aseptic technique, perform the duties and skills required of a circulator technician per PCL 4.7.

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**Figure 14. Unit Page Supported by Conventions Pages.**

**LESSON TOPIC 4.3: POSITIONING THE PATIENT**

CONTACT HOURS: 2.0 Didactic 5.0 Lab/practical

TERMINAL OBJECTIVE: In a simulated operating room, transfer and position a surgical patient for various surgical procedures on an OR table per PCL 4.3.

ENABLING OBJECTIVES:

- 4.3.1 List the objectives for optimum patient positioning.
- 4.3.2 Given a list of surgical patient positions, list the equipment necessary for positioning the patient and state the correct placement of the safety belt.
- 4.3.3 List the safety checks that are performed after the patient is positioned for the surgical procedure.
- 4.3.4 Match the patient positions to the surgical procedure(s) where each is used.

IN A SIMULATED OR, AND PER JOB SHEET 4.3.1 AND PCL 4.3:

- 4.3.5 Position a simulated patient in the supine, lithotomy, jackknife, and lateral positions.

TRI References:

- 101 Applies knowledge of safety precautions in positioning patients (LLEV=Applies).
- 102 Positions patient for surgical procedure (LLEV=Understands; PLEV=Standard)

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**LESSON TOPIC 4.3: POSITIONING THE PATIENT**

CONTACT HOURS: 2.0 Didactic 5.0 Lab/practical

STUDENT REFERENCE: Patient Positioning Workbook

TERMINAL OBJECTIVE: In a simulated operating room, transfer and position a surgical patient for various surgical procedures on an OR table per Performance Checklist (PCL) 4.3.

ENABLING OBJECTIVES: Unless otherwise stated, a minimum of 75% overall accuracy is required for the didactic enabling objectives in this lesson.

- 4.3.1 List the objectives for optimum patient positioning.
- 4.3.2 Given a list of surgical patient positions, list the equipment necessary for positioning the patient and state the correct placement of the safety belt.
- 4.3.3 List the safety checks that are performed after the patient is positioned for the surgical procedure.
- 4.3.4 Match the patient positions to the surgical procedure(s) where each is used.

IN A SIMULATED OR, AND PER JOB SHEET 4.3.1 AND PCL 4.3:

- 4.3.5 Position a simulated patient in the supine, lithotomy, jackknife, and lateral positions.

TRI References:

- 101 Applies knowledge of safety precautions in positioning patients (LLEV=Applies).
- 102 Positions patient for surgical procedure (LLEV=Understands; PLEV=Standard)

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**Figure 16. Lesson Topic Page from Curriculum Outline  
without Conventions Pages (consistent level of performance  
and authority)**

**LESSON TOPIC 4.3: POSITIONING THE PATIENT**

CONTACT HOURS: 2.0 Didactic 5.0 Lab/practical

TERMINAL OBJECTIVE: In a simulated operating room, transfer and position a surgical patient for various surgical procedures on an OR table per Performance Checklist (PCL) 4.3.

ENABLING OBJECTIVES:

- 4.3.1 List the objectives for optimum patient positioning per the Patient Positioning Handbook and with a minimum of 70% accuracy.
- 4.3.2 Given a list of surgical patient positions, list the equipment necessary for positioning the patient and state the correct placement of the safety belt per the standards of the Association of Operating Room Nurses (AORN) and without error.
- 4.3.3 List the safety checks that are performed after the patient is positioned for the surgical procedure per the standards of AORN and without error.
- 4.3.4 Match patient positions to the surgical procedure(s) where each is used per the Patient Positioning Handbook and with a minimum of 70% accuracy.

IN A SIMULATED OR, AND PER JOB SHEET 4.3.1 AND PCL 4.3:

- 4.3.5 Position a simulated patient in the supine, lithotomy, jackknife, and lateral positions.

TRI References:

- 101 Applies knowledge of safety precautions in positioning patients (LLEV=Applies).
- 102 Positions patient for surgical procedure (LLEV=Understands; PLEV=Standard)

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**Figure 17. Lesson Topic Page from Curriculum Outline without Conventions Pages (variable level of performance and authority).**

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**TRAINING MATERIALS LIST**

1. FULLERS, J. R., SURGICAL TECHNOLOGY, PRINCIPLES, AND PRACTICE, W. B., SAUNDERS CO., 1995.
2. GEUDMANN, B. J. AND MEEKER, M. H., ALEXANDER'S CARE OF THE PATIENT IN SURGERY, C. V. MOSBY CO., 1994.
3. TOTORA, GERARD J., AND ANAGNOSTAKOS, NICHOLAS P., PRINCIPLES OF ANATOMY AND PHYSIOLOGY, HARPER AND ROW, 1995.
4. ASSOCIATION OF OPERATING ROOM NURSES (AORN), STANDARDS AND RECOMMENDED PRACTICES FOR PERIOPERATIVE NURSING, (updated as new standards released). (REFERENCED AS AORN STANDARDS IN THE CURRICULUM OUTLINE)
5. KAPIT, W. AND ELSON, L. M., THE ANATOMY COLORING BOOK, HARPER AND ROW, 1994. (STUDY GUIDE FOR STUDENTS)
6. THE HOSPITAL POLICY/PROCEDURES MANUAL (SITE SPECIFIC).

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**Figure 18. Training Materials List.**

REQUIREMENTS FOR  
CLASS SCHEDULES AND COURSE SCHEDULE SUMMARIES

1. Page Layout. Note all of the samples shown use 1.25" left margins to allow placement in a three-ring binder. The samples also use a 12-pitch/10-point font to accommodate the utilization chart from the course schedule summary.

2. Class Schedules. Develop a class schedule for each convening class as a planning document. You do not have to submit these for approval and there is no required format. You may continue to use the course master schedule format if you wish. Class schedules will be constructed to meet the following requirements:

a. Standard Training Workweek. For programs with 15 or more training days, include an average of 35 scheduled 50-minute periods of required training subjects and an average of 5 scheduled 50-minute periods of other required activities per week for didactic training. For programs with less than 15 training days, include an average of 40 scheduled 50-minute periods of required training subjects per week for didactic training. Include 40 scheduled 60-minute periods of clinical experience per week for clinical rotations or field experience. Required training consists of training essential to the presentation of the approved curriculum and other training subjects mandated in instructions issued by the Department of Defense, the office of the Secretary of the Navy, or the Chief of Naval Operations. Required training includes:

- (1) Lectures.
- (2) Classroom exercises or activities.
- (3) Laboratory or practical instruction.
- (4) Tests (including comprehensive exams).
- (5) Review in preparation for a test.
- (6) Feedback to students following a test.
- (7) Set up and restoration of laboratories (if a job requirement).
- (8) Clinical rotations or field experience.
- (9) Law of Armed Conflict (where applicable).
- (10) Navy Rights and Responsibilities (where applicable).
- (11) Cardiopulmonary Resuscitation (where applicable)

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b. Standard Training Day. Include an average of eight scheduled 50-minute periods of required training subjects and other required activities per day for didactic training. For clinical or field training, include eight scheduled 60-minute periods of clinical or field experience per day.

c. Other required activities are defined as activities that are necessary to the conduct of an education and training program, but either are not specific requirements for a particular course (such as general military training and physical fitness training) or are not required for all students (such as academic counseling, remediation and retest sessions). Restrict other required activities to a maximum of four periods for course orientation, two periods for graduation, two periods for registration (for courses affiliated with a university), plus an average of no more than five periods per week during didactic training.

d. Activities Not to Be Included. Do not include command or base indoctrination, check-in and check-out, individual medical and dental time, field day, administrative or command time, or lunch time in the 40 periods of a standard training workweek.

Note: If you do not include specific entries for other required activities on the class schedule, keep a list of the activities included and the approximate distribution of hours among orientation, general military training, physical fitness training, academic counseling, remediation, and any other category you need. You will be asked to submit a sample class schedule if your program is due for review by the American Council on Education (ACE) to establish recommended college credits. Schedules for ACE review must include all periods of the course including other required training and other required activities. Clinical rotations may be summarized (e.g., "Clinical rotation: 120 contact hours, training days 31 through 45") rather than showing each period.

### 3. Course Schedule Summary

a. The course schedule summary is used primarily to determine training days and instructor manpower requirements. The information on instructor utilization will also assist in programs being reviewed for accreditation, as it documents periods where small ratios are required. The overall student-to-instructor ratio is normally higher than the necessary 1:1 or 2:1 ratio for evaluation in critical skills performance during "bottleneck" periods.

b. Bottleneck periods occur when space or equipment limitations restrict the number of students who can be included in a given activity at one time or when close supervision or

observation is required for safety or evaluation of student performance. During a bottleneck period, consider the class as a whole to determine the student-to-instructor ratio. See Chapter 3 of the Curriculum Development Guide: Technical Education and Training for further information. Figure 1 illustrates the format for the course schedule summary. Include the following information in the course schedule summary, as shown in Figure 1:

4. Heading: Course title, centered. Training activity preparing the summary, centered.

5. Course Data (section 1):

a. Course identification number (CIN) from CANTRAC and NITRAS.

b. Course data processing code (CDP) from CANTRAC and NITRAS.

c. Number of instructional days allotted for the course; does not include weekends or holidays.

d. Number of classes per year.

e. Number of periods per week (normally 40); includes all scheduled required training and required activities but excludes lunch.

f. Period length (normally 50 minutes): actual instructional time scheduled per period, excluding break time.

g. Instructor cross-utilization: other courses that instructors of this course teach and instructors from other courses who assist with this course.

6. Student-to-Instructor Ratio Summary

a. Standard ratios: The maximum ratio set for didactic, required training, and required activities (normally 25:1) and for laboratory periods.

b. Ratio-period summary: List each different ratio that you use in the course at your training activity and the number of periods at each ratio. This will be the source of data for the "Course Periods" section of the NITRAS Master Course Reference File. For clinical hours include the student to school staff ratio only. Include the total number of periods at the bottom of the second column.

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c. Justification and Use for Ratios Other Than 25:1. List and provide a brief justification for each ratio that is less than 25:1; for example, "Laboratory facilities accommodate only 10 students at a time."

d. Utilization Chart. For each of the ratios listed, complete the entries under ratio, hours, lesson topic and type (e.g., "LT 2.1; Lab/P"), and instructor utilization (see examples in figure 1).

SAMPLE  
COURSE SCHEDULE SUMMARY  
TECH 1 COURSE (TT-9999)  
NSHS SOMEWHERE

1. Course Data

CIN: B-XXX-0000	CDP: 9999
Instructional Days: 50	Classes per Year: 4
Periods per Week: 40	
Period Length: 50 Min	

Instructor Cross-Utilization: Instructors from TECH 2 course assist with laboratory and practical sessions in LT 8.1.

2. Student-To-Instructor Ratio Summary

a. Standard ratios. Didactic, required training, and other required activities = 25:1 - Practical = 8:1.

b. Ratio-period summary:

<u>Student-Instructor Ratio</u>	<u># Periods</u>
25:1	269
8:1	113
5:1	7
2:1	<u>11</u>
Total	400

3. Justification and Utilization for Ratios Other than 25:1

a. 8:1 Ratio. A student-to-instructor ratio of at least 8:1 is required during practical performance to maintain adequate supervision.

b. 5:1 Ratio. A student-to-instructor ratio of 5:1 is required for small group exercises based on case studies to provide adequate supervision and individual interaction.

c. 2:1 Ratio. Safety precautions require a student-to-instructor ratio of 2:1 during laboratory and practical sessions in LT 8.1.

Utilization Chart

<u>Ratio</u>	<u>Hrs</u>	<u>LT/Type Period</u>	<u>Instructor Utilization</u>
8:1	113	All Lab/P except as noted below	1 instr-2:1 evaluations 2 instrs-supervised practice
5:1	7	LT 3.1; Lab/p	5 instrs-5:1 small group exercise
2:1	11	LT 8.1; Lab/P	2 instrs-1:1 evaluations
Class size = 25.			10 instrs-supervised practice

REQUIREMENTS FOR THE STUDENT EVALUATION PLAN (SEP)

The SEP defines how all students will be evaluated and graded and ensures students at all training sites are evaluated in the same way in multiple-site programs. Refer to reference (d) for guidance on student evaluation and grading issues. The plan specifies the major evaluation activities required and the weight given to each in determining unit and final grades. The plan also includes performance checklists for laboratories and clinical rotations.

1. Page Layout. Please note all of the samples shown use 1.25" left margins to allow placement in a three-ring binder. The samples also use a 12-pitch/10-point font. A sample SEP is shown in figure 1.

a. Sections

(1) Section I - Course Title. State the course title as listed in CANTRAC, followed by the CIN.

(2) Section II - Approval Date. Enter the date the program manager designated by BUMED approved the SEP (leave blank when submitting plan for approval).

(3) Section III - Methods and Procedures for Determining Unit Grades. For each unit, list and describe the evaluation activities and the weight given to each in determining final unit grade.

(4) Section IV - Methods and Procedures for Determining Clinical Grade. List and describe the evaluation activities and the weight given to each in determining clinical grade.

(5) Section V - Methods and Procedures for Determining Final Course Grade. List the elements and the weight given to each in determining final course grade.

(6) Section VI - Remediation and Retest Policy. State the criteria for permitting a retest, the number of retests permitted before referral to a student review board, and the total number of test failures permitted. State criteria for placing a student on academic probation or assigning mandatory study.

(7) Section VII - College or University Affiliation. Name the college or university, if any, with which the course is affiliated. List the semester hours or quarter hours of credit awarded by the college or university. Describe the method, if any, for determining letter grades submitted to the college or university.

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(8) Section VIII - American Council on Education (ACE) Recommendations for Credit. List the credits recommended by ACE in its most recent evaluation of this course, and state the level at which the credits are recommended. (i.e., vocational certificate, lower division baccalaureate, or upper division baccalaureate).

(9) Section IX - Accreditation. List the agencies that have accredited the program and the years of accreditation.

b. Appendix. Performance checklists and product evaluation forms. Append copies of all performance checklists, product evaluation forms, and rating scales used to evaluate student performance.

SAMPLE SEP

- I. Course Title: Something Technician B-308-9876
- II. Approval Date: March 1995
- III. Methods and Procedures for Determining Unit Grades. For units 1 through 4, the unit grade is the average of the written test scores for that unit. Performance checklists are scored on a pass or fail basis and all must be passed for the student to continue in the program. Units 5 and 6 are graded on a pass or fail basis determined by performance checklists. Unit 7 is the clinical rotation, explained in section IV below.

<u>Unit</u>	<u>Number of Tests</u>	<u>Number of Performance Checklists</u>
1	5	1
2	6	3
3	7	6
4	5	5
5	0	4
6	0	5
7	See Section III	

- IV. Methods and Procedures for Determining Clinical Grades
- The components of the clinical grade (Unit 7) are as follows:
- |                           |            |
|---------------------------|------------|
| Case worksheets           | 25 percent |
| Senior Project            | 20 percent |
| Clinical competency exams | 55 percent |
- V. Methods and Procedures for Determining Final Course Grade
- Components of the final course grade are as follows:
- |                                      |            |
|--------------------------------------|------------|
| Average of unit grades (units 1 - 4) | 40 percent |
| Clinical grade                       | 60 percent |
- VI. Remediation and Retest Policy. Any student who fails a test is counseled, given a remedial assignment and retested. Students who fail a retest are referred to a student review board. Students whose cumulative class average is below 75 are placed on academic probation and assigned to mandatory study until their average rises to 75 or above.
- VII. College or University Affiliation: None.

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VIII. American Council on Education Recommendations for Credit.  
8 semester hours at the lower division baccalaureate  
level:

Principles of Something Technology	4 sem. hrs.
Clinical Application of Something Technology	4 sem. hrs.

IX. Accreditation. The program was accredited by the  
Association of Something Technologists in 1995 for a  
5-year period.