



Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION

CHED MEMORANDUM ORDER (CMO)

NO. 08

Series of 1998

**SUBJECT: UPDATED POLICIES AND STANDARDS FOR
MEDICAL TECHNOLOGY EDUCATION**

In accordance with pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "Higher Education Act of 1994", and for the purpose of rationalizing Medical Technology Education in the country with the end in view of keeping pace with the demands of global competitiveness, the following policies and standards for Medical Technology Education are hereby adopted and promulgated by the Commission, thus:

**ARTICLE I
AUTHORIZATION**

Section 1. The Medical Technology Education program/course shall be operated only upon expressed provision of law or with proper authority issued pursuant to law by the Commission on Higher Education (CHED).

**ARTICLE II
MISSION STATEMENT**

Section 1. Medical Technology Education provides the training for the development of medical technologists who possess the knowledge, technical skills and attitude to perform scientific laboratory investigation in aid of diagnosis treatment and research required in health care delivery in the country and the whole world.

- 2.7. To exercise supervision over all activities, curricular and co-curricular of his department in coordination with other officials concerned.
- 2.8. To recommend the list of candidates for graduation.
- 2.9. To recommend acquisition of necessary equipment and supplies.
- 2.10. To perform other functions as maybe required by the institution.

Section 3. A dean shall render at least 25 hours of administrative services per week, distributed proportionately in the days of the week and a maximum of 12 units teaching load.

ARTICLE IV FACULTY

Section 1. Each faculty member shall have academic preparation appropriate to teaching assignment, He:

1.1. must be registered Medical Technologist

1.1.1. with a Master's degree,

1.1.2. with a minimum of 1 year experience in training of Medical Technology Interns in an accredited laboratory; or in lieu thereof, 1 year experience in a licensed Clinical Laboratory;

1.2. must be licensed Physician with at least 2 years in clinical practice.

Section 2. When a vacancy occurs in the teaching force of the college during the school year, a substitute or a replacement with similar or higher qualifications should be employed.

Section 3. The conditions of employment should be in accordance with the school's institutional policy of employment.

3.1. A probationary period must be in accordance with the provision of Labor Law Code.

3.2. Every college/university should have a faculty manual containing information and policies on all matters pertaining to faculty.

ARTICLE III ADMINISTRATION

Section 1. The medical technology school should be administered by a full time dean with the following qualifications:

- 1.1 must be a Filipino citizen;
- 1.2 must be a registered medical technologist in the Philippines with a master's degree in Medical Technology or other health related courses, Biological Science, Education and Administration.
- 1.3 must be of good moral character

Section 2. The general functions and responsibilities of the Dean of Medical Technology are:

- 2.1. To administer general policies of the college/university.
- 2.2. To exercise educational leadership among his faculty by:
 - 2.2.1. initiating and instituting a faculty development program;
 - 2.2.2. recommending appointment, promotion, separation of faculty members in his college;
 - 2.2.3. preparing and recommending the teaching load of faculty members in his college.
- 2.3. To assign and orient the faculty to act as advisers to students on their program of studies and to approve their subject loads.
- 2.4. To coordinate with heads of student services particularly regarding the admission of students in accordance with the prescribed criteria on selection, admission and retention of students in medical technology program .
- 2.5. To help formulate policies in his department and to recommend necessary rules and regulations for their effective implementation.
- 2.6. To institute a definite program of supervision to raise the efficiency of instruction.

- 2.7. To exercise supervision over all activities, curricular and co-curricular of his department in coordination with other officials concerned.
- 2.8. To recommend the list of candidates for graduation.
- 2.9. To recommend acquisition of necessary equipment and supplies.
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ARTICLE V CURRICULUM

Section 1. The minimum requirements for the Bachelor of Science in Medical Technology curriculum is flexible depending on the needs of the profession and resources of the school.

Section 2. The Prototype BS Medical Technology curriculum is attached. (Appendix A)

ARTICLE VI INSTRUCTIONAL STANDARDS

Section 1. The institution must maintain a high standard of quality of instruction.

Section 2. The institution must have a competent teaching staff of good moral character classified into various professional ranks on the basis of academic and intellectual qualifications.

Section 3. The institution shall provide for a systematic and continuing plan of evaluation of student progress through a grading system that is consistent and congruent to the objectives set by the college/university.

Section 4. The medical technology education program may adopt any textbook which is of recent edition and which reflects current trends in the medical technology profession and which does not violate Philippine laws.

Section 5. The Dean should see to it that the students are provided with the necessary textbooks and instructional materials. If the students cannot acquire said textbooks, the dean should make arrangements with the administration so that sufficient textbooks may be placed in the library for the students' use.

Section 6. Colleges may change their textbooks only once in every five (5) years.

Section 7. In the internship training where the student develops professional skills by a systematic application of scientific knowledge to actual life situations in the community, hospital, and industry, the following conditions should be considered.

7.1. There must be a close relation of theoretical knowledge to the internship training program.

- 7.2. The internship training program should be organized around the objectives of the medical technology curriculum.
- 7.3. In determining the adequacy and effectivity of the training program, the following factors must be considered:
- 7.3.1. Background knowledge of the students in the professional subjects.
 - 7.3.2. Hospital/Clinic laboratory affiliation should be accredited by the Bureau of Research and Laboratories of the Department of Health.
 - 7.3.3. Ratio of students to available and existing policies in accredited laboratories.
 - 7.3.4. The ration between staff and students must be one staff for every ten students interns.
 - 7.3.5. The interns must render the following number of hours in each discipline:

7.3.5.1. Clinical Chemistry	-250 hrs.
7.3.5.2. Clinical Microscopy & Parasitology	-250 hrs.
7.3.5.3. Microbiology	-250 hrs.
7.3.5.4. Hematology	-250 hrs.
7.3.5.5. Blood Banking	-170 hrs.
7.3.5.6. Histopathologic Technique & Cytology	-170 hrs.
7.3.5.7. Immunology & Serology	-170 hrs.
7.3.5.8. Special Lab. Diagnostic Procedures	- 54 hrs.
- 7.4. There must be a clinical instructor sent by the affiliating school to monitor the interns' individual attendance, behavior and performance, including guidance in readings and application of theoretical knowledge gained from school to actual practice, and to assist the pathologist and professional staff in implementing the approved training program for the duration of the training of the interns.
- 7.5. There must be a close relationship between the pathologist and/or chief medical technologist of hospital and the dean of the affiliating university/school/college.

ARTICLE VII LIBRARY

Section 1. Every college/university offering the medical technology education program should have library resources relevant to medical technology, adequate in quality and quantity, which should serve the needs of the students and should progressively develop and grow in accordance with the college's/university's development and expansion plans.

Section 2. A well developed Medical Technology library whether established separately or as a section in a general library should be clearly defined as a medical technology collection. It must be managed by a full time professional librarian.

Section 3. The library should be open at least eight (8) hours a day on school days.

Section 4. The institution offering the Medical Technology course must assure the availability of at least 2 titles each of current edition of Medical Technology books, pamphlets, monographs and serials specifically used as basic reference reading materials for the Medical Technology course/subjects.

Section 5. To update the students and faculty staff with the latest developments in the field, subscription to a minimum of two (2) international journals and two (2) local journals as well as Health Science periodicals must be maintained.

Section 6. The institution offering the Medical Technology course has the freedom to select the basic textbooks to be used by the students in all the subjects specified in the curriculum. However, the library facility of the institution shall have at least one (1) copy of each of these basic textbooks for every twenty-five (25) students enrolled in the class for those unable to procure these books.

Section 7. The quantity of books and reference materials in the library should be in proportion to the enrolment and should be responsive to the needs of the students.

Section 8. All income from the students library fee should be spent strictly for the acquisition of books, journals, publications and other expenses toward the improvement of the library.

Section 9. There should be a state of art materials and equipment.

Listings of suggested Titles (see Appendix B)

ARTICLE VIII RESEARCH

Section 1. The college/university must undertake research activities and operate with a competent and qualified research staff.

Section 2. The faculty members assigned to do research activities shall be credited with an equivalent teaching load for time engaged in research activities.

Section 3. The institution should encourage and support research among students and faculty members for the improvement of the medical technology profession.

ARTICLE IX LABORATORY FACILITIES

Section 1. Colleges/universities are required by law to provide a fully equipped laboratory for adequate instruction.

Section 2. A laboratory room should have 2 exits and a minimum floor space of one square meter/1-2 students, with 1-5 students per locker. Rooms should be well lighted, well ventilated and provided with easily accessible safety devices and first aid facilities.

Section 3. Each laboratory room should have:

- 3.1. Continuous and adequate supply of water, gas and/or electricity.
- 3.2. Fire extinguisher which should be accessible.
- 3.3. Emergency shower.
- 3.4. First aid kit/cabinet.
- 3.5. Safety Posters

Section 4. Requirements for Chemistry laboratories:

- 4.1. General Chemistry Laboratory
- 4.2. Analytical Chemistry Laboratories (Qualitative Chemistry, Quantitative Chemistry)
- 4.3. Organic Chemistry/Biochemistry Laboratory

4.4. Physics Laboratory

4.5.1. Equipment

- 1 analytical balance per 10 students
- 1 weighing scale per 5-10 students
- 1 thin layer chromatograph
- 1 centrifugal machine per 10 students

4.5.2. Provision of fume hoods and/or exhaust system.

4.5.3. Laboratory table tops should be acid resistant.

Section 5. Laboratories for:

5.1. Clinical Chemistry

5.2. Microbiology

5.3. Immunology and Serology

5.4. Blood Banking

5.5. Histopathologic Techniques & Cytology

5.6. Hematology

5.7. Biological Laboratories (Physiology and Anatomy)

5.8. Clinical Microscopy

5.9. Parasitology

Laboratory Facilities - (see Appendix C)

ARTICLE X ADMISSION REQUIREMENT

Section 1. The applicant for admission to a degree course in medical technology must:

- 1.1. have graduated from a general secondary course authorized by the government;

- 1.2. have satisfactorily complied with the admission requirements of the school;
- 1.3. have never been convicted or found guilty of any misconduct involving moral turpitude.


Section 2. As a general rule, no applicant shall be enrolled in the medical technology course unless he presents the required school credentials before the end of the enrolment period.

SO ORDERED.

Pasig City, Philippines, January 21, 1998


ANGEL C. ALCALA
Chairman


MONA D. VALISNO
Commissioner


KATE C. BOTENGAN
Commissioner


ESTER A. GARCIA
Commissioner


ROBERT N. PADUA
Commissioner

BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY
Proposed Prototype Curriculum
SY 1997 - 1998

FIRST YEAR

<u>First Semester</u>		<u>Second Semester</u>	
English 1 - Communication Skills	3	English 2 - Communication Skills	3
Filipino 1 - Sining ng Pakikipag- talastasan	3	Science Technology and Society for Health Sciences	3
Math 1 - College Algebra	3	Filipino 2 - Panitikang Pilipino	3
Biological Sciences - Zoology/ Botany	5	Qualitative and Quantitative Chem.	5
Chemistry 1 - General and Inorganic Chemistry	5	Basic Statistics	3
Social Sciences - Gen. Psychology	3	Health Ethics	3
P.E. 1	2	Social Science - Philo. of Man	3
ROTC or LES & CS	(1.5)	P.E. 2	2
	24		25

SECOND YEAR

<u>First Semester</u>		<u>Second Semester</u>	
Literature 1 - Philippine Literature	3	Physics	5
Social Science - Sociology/ Anthro- pology with Family Planning	3	Computer	3
Organic/Biochemistry	5	Philosophy - Logic	3
Health Care I	7	Health Economics with Land Reform and Taxation	3
Anatomy and Physiology	5	Philippine History	3
P.E. 3	2	Health Care 2	5
	25	P.E. 4	2
			24

THIRD YEAR

<u>First Semester</u>		<u>Second Semester</u>	
Bacteriology	5	Mycology - Virology	2
Blood Chemistry	3	Parasitology	3
Rizal's Life and Works	3	Endocrinology-Toxicology	3
Hematology	5	Blood Banking	3
Histology	2	Clinical Microscopy	3
Research & Thesis		Immunology & Serology	4
Writing	3	Histopathologic Technique	
Med Tech Laws & Ethics		& Cytology	3
with Laboratory		Phil. Gov't & Constitution	3
Management	3		
	<hr/>		<hr/>
	24		24

FOURTH YEAR

<u>First Semester</u>		<u>Second Semester</u>	
Internship		Internship	
Seminar I	2	Seminar II	2

LIBRARY HOLDINGS

Basic Textbook Collection - there must be one copy of the prescribed textbook for each General Education and Professional Medical Technology subjects in the library.

I. General Education Subjects

1. Laboratory Medicine - Test Selection and Interpretation by Joan H. Howanitz and Peter J. Howanitz.
2. Clinical Diagnosis and Management by Laboratory Method by John Bernard Henry.
3. Applied Laboratory Medicine by Norbert W. Tietz.
4. Laboratory and Diagnostic Tests with Nursing Implications by Joyee Le Fever Kee.
5. Clinical Guide to Laboratory Tests by Norbert W. Tietz.
6. Handbook of Emergency Laboratory Tests by L.I.G. Worthley.
7. Medical Diagnostics by D.C. Dugdale, Mickey S. Eisenberg.
8. Laboratory Tests and Diagnostic Procedures by Cynthia C. Chemecky, Ruth L. Krech, Barbara J. Berger.
9. Laboratory and Diagnostic Test Handbook by M.K. Gaedeke.
10. Widmann's Clinical Interpretation of Laboratory Tests by Ronald A. Sacher and Richard A. Mopherson.

II. Professional Medical Technology Subjects

A. Clinical Chemistry

1. Clinical Chemistry - Concepts and Applications by Shauna C. Anderson and Susan Cockayne.
2. Clinical Chemistry in Diagnosis and Treatment by Joan F. Zilve, Peter R. Pannal and Philip D. Mayne.
3. Clinical Chemistry - Interpretation and Techniques by Alex Kaplan, Rhona Jack, Kent E. Opheim, Bert Toivola and Andrew E. Lyon.
4. Fluids and Electrolytes with Clinical Applications - A Programmed Approach by Joyce Le Fever Kee and Betty J. Paulanka.
5. Treatment of Water, Electrolyte, and Acid-Base Disorder in the Surgical Patient by Boaty L. Pemberton.
6. Cases in Chemical Pathology - A Diagnostic Approach by R.N. Wasley, LR Watkinson and ESC Koay.
7. Serum Protein Abnormalities by Stephen E. Ritzmann and Jerry C. Daniels.
8. Albas Medical Technology - Board Examination Review by Edith Zak Helman.
9. Pocket Guide to Diagnostic Tests by William M. Detmer, Stephen Mc Phee, Diana Nicoll and Tony M. Chou.

10. Laboratory Test Handbook by David S. Jacobs, Bernard L. Kasten, Wayne R. De Mott and William L. Woffson.
11. Clinical Implications of Laboratory Tests by Sarko M. Tilkian, Mary Boudreau Conover and Ara G. Tilkian.
12. Interpretation of Diagnostic Tests - A Synopsis of Laboratory Medicine by Jacques Wallash.
13. Manual of Clinical Laboratory Methods by Opal E. Hepler.
14. Medical Laboratory Technology and Clinical Pathology by Matthew J. Lynch, Stanley S. Raphael, Leslie D. Mellor, Peter D. Spare, Martin J.H. Inwood.
15. Introduction to Clinical Chemistry by Derek A. Woodrow.
16. Tietz Textbook of Clinical Chemistry by Carl A. Burt and Edward R. Ashwood.
17. Basic Analytical Toxicology by R.J. Flanagan, R.A. Braithwaite, S. Brown, B. Widdop, F.A. de Wolff.
18. Quantitative Immunoelectrophoresis - Methods and Applications by N.H. Axelsen, J. Kroll and B. Weeke.
19. Applied Science Review - Biochemistry by Beverly A. Lyman.
20. Lippincott's Illustrated Reviews - Biochemistry by Pamela C. Champe, Richard A. Harvey.
21. Digging Up the Bones - Biochemistry by Christopher R. Wilson, and Nikos M. Linardakis.
22. Principles of Biochemistry - Mammalian Biochemistry by Emit Smith, Robert L. Hill, Robert Lehman, Robert Lefkowitz, Philip Handler, Abraham White.
23. Gradwohl's Clinical Laboratory Methods & Diagnosis Ed. By Alex C. Sonnenwirth & Leonard Janet 1980, C.V. Mosby, Germany.

B. Immunology - Serology

1. The Dictionary of Immunology by W. John Herbert, Peter C. Wilkinson and David I. Stolt.
2. Immunochemical Assays and Biosensor Technology for the 1990's by Robert M. Nakamura, Yasushi Kasahara and Garry A. Rechnitz.
3. Immunology by Ivan Roitt, Jonathan Brostoff, David Malk.
4. Laboratory Immunology and Serology by Neville J. Bryant.
5. Medical Immunology for Students J.H.L. Playfair and P.M. Lydyard
6. Immunology - An Introduction for the Health Sciences by Gregory J. Seymour, Neil W. Savage, Laurence J. Walsh.
7. Tumor Markers - Clinical and Laboratory Studies by Janis V. Klavins.
8. Immunobiology - the Immune System in Health and Disease by Charles A. Janeway, Jr. And, Paul Travers.
9. Fundamental Immunology by William E. Paul.
10. The Clinical Laboratory Manual Series: Immunology by Juanita A. Smith.

11. Manual of Laboratory Immunology by Julia E. Peacock and Russell H. Tomar.
12. Practical Immunology by Ivan M. Roitt.
13. Immunology by Richard M. Hyde and Robert Patnode.
14. Immunology - Understanding the Immune System by Klaus D. Elger.
15. Clinical Immunology and Serology - A Laboratory Perspective by Christine Dorresteyn Stevens
16. Manual of Laboratory Immunology by Linda E. Miller, Harry R. Ludke, Julia E. Peacock and Russell H. Tomar.
17. Immunology - A Short Course by Eli Benjamini and Sidney Leekowitz.
18. Immunology, Immunopathology and Immunity by Stewart Sell.
19. Immunology by Leroy E. Hood, Irving L. Weismann, William B. Wood, John H. Wilson.
20. Immunochemistry - LABFAX by M.A. Kerr and r. Thorpe.
21. Immunology - An Illustrated Outline by David Male.
22. Immunology and Inflammation - Basic Mechanisms and Clinical Consequences by Leonard H. Sigal and Yacov Ron.
23. Basic and Clinical Immunology by Daniel P. Stites, John D. Stobo and J. Vivian Wells.
24. AIDS - The Whole Truth by Am James G. Manipis.
25. Principles of Clinical Immunohematology by Paul Weiz - Carrington, M.D., Yearbook Medical Publishers, Inc. Chicago.
26. Immunology - An Introduction by Ian R. Tizard.

C. Hematology

1. Microscopic Hematology - A Practical Guide for the Laboratory by Gillian Rozenberg.
2. Clinical Hematology - Principles, Procedures, Correlations by Cheryl A. Steininger, E. Ann Martin, John Koepe.
3. Textbook of Hematology by Shirlyn B. Mc Kenzie.
4. Hematology - The National Medical Sciences for Independent Study by Emmanuel C. Besa, Patricia M. Catalano and Jeffrey A. Kant.
5. A Closer Look at Hemostasis by Ortho Diagnostics.
6. Hematology in Clinical Practice by Robert S. Hillman and Kennett A. Ault.
7. Hematology : Principles and Procedures by Barbara A. Brown.
8. Diagnostic Hematology by Bernadette F. Rodak.
9. Hematology - House Officer Series by Larry Waterbury.
10. Colour Guide Hematology by D.C. Linch, A.P. Yates, and M.J. Watts.
11. Procedures in Phlebotomy by John C. Flynn.

D. Histopathology

1. Diagnostic Cytopathology - A Test and Colour Atlas by Chandra Grubb.
2. Guidelines for Cancer Cytogenetics by Felix Mitelman.
3. Compendium on Diagnostic Cytology by George L. Wied, Catherine M. Keebler, Leopold G. Ross and James W. Reagan.
4. Cytogenetics: A Practical Approach by D.E. Rooney and B.H. Czepulkowski.
5. Histopathologic Techniques by Jocelyn H. Bruce-Gregories
6. Primer of Histopathologic Technique by Geoffrey G. Brown.
7. Histopathologic Techniques by Anne Pryce.

E. Clinical Microscopy

1. Clinical Urinalysis by R.G. Newall and R. Howell.
2. Urinalysis and Body Fluids by Susan King Strasinger.
3. Fundamentals of Urine and Body Fluids Analysis by Nancy A. Brunzel.
4. Clinical Advances in Urinalysis by M. Sussman.
5. Basic Clinical Parasitology - 6th Ed., 1994 Franklin A. Neva & Harold W. Brown, M.D., Appleton & Lange, Norwalk, Connecticut (Reprinted by Educational Publishing House).

F. Blood Banking

1. Modern Blood Banking & Transfusion Practices, 2nd Ed. 1993 by Denise Harmening, Ph.D., FA Davies Company, Philadelphia (Reprinted by: Educational Publishing House).
2. American Association of Blood Banks Technical Manual, 11th Edition.
3. Manual of Standards for Blood Banks & Blood Centers - The Philippines, Bureau of Research & Laboratories - Department of Health, Manila.

PROPOSED LIST OF MINIMUM EQUIPMENT/INSTRUMENTS/CHEMICAL SUPPLIES REQUIREMENTS FOR MEDICAL TECHNOLOGY EDUCATION

Medical Technology Laboratory

A. Human Anatomy

1. Human Skeleton - 1 pc. for a class of 50
2. Flip Charts/Model
Different Systems of the Human Body - 1 set

B. Clinical Microscopy/Parasitology

1. Microscope

- | | | |
|--|---|-----------------------------|
| Electric Microscope | - | 1-5 students per microscope |
| Binocular Microscope | - | 1-2 students per microscope |
| 2. Centrifuge | - | 1 per 10 students |
| 3. Urinometer | - | 1 per 5 students |
| 4. Test Tube Holder | - | 1 per 5 students |
| 5. Burner | - | 1 per 5 students |
| 6. Glass Funnel | - | 1 per 5 students |
| 7. Beaker | - | 1 per 5 students |
| 8. Erlenmeyer Flask | - | 1 per 5 students |
| 9. Graduated Cylinder | - | 1 per 5 students |
| 10. Test Tubes | - | 10 per 5 students |
| 11. Test Tubes Rack | - | 1 per 5 students |
| 12. Glass Slides | - | 1 box/class |
| 13. Cover Slips | - | 1 box/class |
| 14. Reagent/Supplies for Routine
Urinalysis/Fecalysis | - | 1 set/class |

C. Clinical Chemistry

- | | | |
|-----------------------|---|-------------------------|
| 1. Spectrophotometer | - | 1 pc. per 25 students |
| 2. Centrifuge | - | 1 pc. per 10 students |
| 3. Water Bath | - | 1 pc. for a class of 50 |
| 4. Analytical Balance | - | 1 pc. per 10 students |
| 5. Refrigerator | - | 1 for a class of 50 |
| 6. Burner/Stove | - | 1 set |
| 7. Timer | - | 1 set |
| 8. Test Tubes | - | 10 pcs. per 5 students |

9. Test Tube Rack	-	1 per 5 students
10. Serological Pipettes	-	2 per 5 students
.1 ml.		
.2 ml.		
2 ml.		
1 ml.		
5 ml.		
10 ml.		
11. Erlenmeyer Flask	-	1 per 5 students
12. Graduated Cylinder	-	1 per 5 students
13. Glass Funnel	-	1 per 5 students
14. Beaker	-	1 per 5 students
15. Aspirator Bulb	-	1 per 5 students
16. Test Tube Holder	-	1 per 5 students
17. Reagents for Routine Clinical Chemistry	-	1 set per class

D. Immunology/Serology/Blood Banking

1. Microscope		
Electric Microscope	-	1 per 5 students
Binocular Microscope	-	1-2 per student
2. Serofuge	-	1 per 25 students
3. Rotator	-	1 for a class of 50
4. Incubator	-	1 for a class of 50
5. Waterbath	-	1 for a class of 50
6. Centrifuge	-	1 for a class of 50
7. Spectrophotometer	-	1 for a class of 50
8. Reagents for Routine Immunology, Serology and Blood Banking		

E. Hematology

1. RBC Pipettes	-	requirement for students
2. WBC Pipettes	-	requirement for students
3. Hemoglobin Pipettes	-	requirement for students
4. Hemoglobinometer	-	1 per 5 students
5. Differential Counter	-	1 per 5 students
6. Test Tubes	-	10 per 5 students
7. Test Tube Rack	-	1 per 5 students
8. Timer	-	1 per 5 students
9. Serological Pipettes	-	2 per 5 students same capacity as in Clinical Chemistry
10. Haemocytometer	-	1 per 2 students

11. Tally Counter	-	1 per 2 students
12. Microhematocrit Centrifuge & Reader	-	1 set per class
13. Capillary Tube & Sealer	-	1 box per class
14. Westergren Tube and Rack	-	1 set per 25 students
15. Wintrobe Tube and Rack	-	1 set per 25 students
16. Reagents for CBC	-	1 set per class

F. Microbiology

1. Incubator	-	1 per class
2. Rough Balance	-	1 per 25 students
3. Autoclave	-	1 per class
4. Inoculating Hood	-	1 per class
5. Gas Pak Unit	-	1 per class
6. pH Meter	-	1 per class
7. Candle Jar	-	1 per class
8. Petri Dishes	-	5 per student
9. Inoculating Loop	-	1 per student
10. Inoculating Needle	-	1 per student
11. Burner	-	1 per 5 students
12. Prepared Slides	-	(for demo)
13. Refrigerator	-	1 per class
14. Erlenmeyer Flask	-	1 per 5 students
15. Microscope	-	
Electric Microscope	-	1 per 5 students
Binocular Microscope	-	1 per 2 students
16. Oven	-	1 per class
17. Test Tubes	-	10 per 5 students
18. Stove	-	1 per class
19. Test Tube Rack	-	1 per 5 students
20. Stop Watch	-	1 per 5 students
21. Culture Media and Other Reagents and Supplies for Routine Bacteriology	-	1 per class

G. Phlebotomy

- | | | |
|--|---|----------|
| | - | demo set |
|--|---|----------|
1. Tourniquet
 2. Needle and Syringe
 3. Evacuated Tubes

4. Other supplies for blood collection

H. Histopathology

1. Microtome	-	1 per 25 students
2. Microtome Knife	-	1 per 25 students
3. Paraffin Oven	-	1 per class
4. Flotation Bath	-	1 per class
5. Koplin Jars	-	1 per 5 students
6. Reagent Jars	-	1 set per 5 students
7. Slides and Cover Slips	-	1 box per class
8. Beakers	-	1 per group of 5
9. Funnel	-	1 per group of 5
10. Sharpening Stone	-	1 per class
11. Leather Strop	-	1 per class
12. Reagents for HE and PAP Smear	-	1 set per class