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STANDARD CURRICULUM

FOR

SCHOOLS OF NURSING

PREPARED BY

THE COMMITTEE ON EDUCATION

OF THE

NATIONAL LEAGUE OF NURSING EDUCATION

1915 to 1918

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INTRODUCTION

At the request of the Council of the National League of Nursing Education, the Committee on Education undertook some little time ago the task of preparing a curriculum which might serve as a guide to training schools struggling to establish good standards of nursing education, and which might also represent to the public and to those who wish to study our work, a fair idea of what, under our present system, we conceive to be an acceptable training for the profession of nursing.

In sending out this curriculum, the Committee desires to emphasize afresh its hope that there will be no failure to understand its purpose. It is not offered as a "model" curriculum. There are many improvements which we would gladly introduce if we could see any possibility of putting them into effect at the present time. Moreover, the Committee is not urging the unqualified adoption of this curriculum in training schools generally. It realizes that under the widely varying conditions existing in hospitals at present, a relative uniformity only is attainable or advisable. Schools laboring under the handicap of long hours and insufficient teaching facilities would be unable to do justice to the curriculum here outlined until more favorable conditions could be established. A few schools with superior advantages and good leadership have already, in certain respects, gone beyond these standards and it is highly important that they should in no way relax their efforts, but should lead in working out something better than anything we have reached as yet.

The purpose which the Committee has had in view, is to arrive at some general agreement as to a desirable and workable standard whose main features could be accepted by training schools of good standing throughout the country. In this way it is hoped that we may be able to gradually overcome the wide diversity of standards at present existing in schools of nursing, and supply a basis for appraising the value of widely different systems of nursing training.

The work of the professional nurse is practically the same in all the states of the union, and it would seem to be perfectly evident that the training which is to guarantee a certain acceptable measure of competence, would need to follow somewhat similar lines, whether the nurse is trained in California or New York, and whether the training is given in a small or a large hospital.

The main difficulty is the lack of a clear understanding of what the function of a modern nurse is, or what the purpose and scope of her training should be The war is making us realize, what the public generally and the training schools have been slow to recognize, that nursing is in a very special sense a national service, and that the training of the nurse is a matter of vital concern not only to her hospital and to herself, but to the country at large. It is not enough that she should serve the needs of a single institution or of a limited group of people. She must be ready to serve the whole community and to meet conditions as she finds them in many different kinds of communities.

It is becoming clearly evident, that if she is to do this effectively, we must revise many of our old ideas about the nurses' training. The value of her service is being recognized in so many new fields of work, and the character of that service is changing so rapidly, that the preparation which was considered quite adequate a few years ago is no longer sufficient.

The steady expansion into new and exacting fields of effort, is continually revealing to us both the strength and the weakness of our methods of training. The strength lies in the character of the actual practical work, which in most training schools is sincere and thorough and performed in a spirit of devotion, zeal and self-forgetfulness which is remarkable. Teachers and students alike are imbued with this spirit. It has become a part of the history and tradition of nursing and forms an almost invaluable contribution to the world's service. The weakness lies in the over-emphasis placed upon the practical aspects of the training and the consequent neglect of the theoretical foundation on which really good practical work must always be built.

It is now recognized that if the sick patient is to have the most skilful and competent kind of nursing care, and if nurses are to keep pace with the advances of modern medicine, they must have something more than a mere deftness in precise manipulations and the scattered fragments of scientific knowledge which are all that can usually be given in the scant time allowed by most hospital training schools. The development of more highly complicated procedures in diagnosis and treatment, and the increased emphasis especially on dietetic, hygienic, occupational and mental factors in the treatment of disease, make it necessary that the nurse should assume an increasing measure of responsibility in the care and treatment of the patient. To safeguard her in those responsible duties, she must have a large measure of scientific knowledge and she must be more highly trained both in observation and in judgment.

A distinct limitation in the ordinary training is that it deals only or mainly with disease, neglecting almost entirely the preventive and educational factors which are such an essential element in the many new branches of public health work, such as school and visiting nursing, infant welfare, industrial welfare and hospital social service. Similarly the physical causes and evidences of disease have been recognized as important, but the social and economic conditions which lie at the root of so many of our disease problems, have usually been over-looked in the course of training. This knowledge is fundamental, particularly in the newer branches of nursing, and the lack of it is a distinct handicap to the nurse in her work.

In positions of leadership especially, we are suffering for the lack of well-trained women. Hospitals and training schools are looking everywhere for competent women to undertake the important duties of superintendents, supervisors, teachers and technical experts in many different departments. Unless the hospital itself selects good women and gives them a broad substantial foundation to begin with, there is little hope that we will develop many of the kind of leaders who are needed for our very responsible educational and administrative work.

Nurses themselves have been the first to realize the necessity for a better organized and more thorough course of instruction than is commonly given in the averge training school, and they are beginning to insist that they be given a kind of training more commensurate with the tasks which are laid upon them. It is certain that we cannot command the continued interest of intelligent and competent women in hospital and nursing work, unless we can provide a course of study which compares more favorably with the courses given in other technical and professional schools.

The members of the Committee realize fully the difficulties of the hospital and the training school staff in meeting all these new conditions, with the many other perplexing and insistent problems which have to be faced. They do not for one moment forget the invaluable services to nursing education which have been given at great personal sacrifice or in spite of peculiar obstacles, by our large body of devoted and untiring superintendents and teachers, and by many physicians as well. Nor do they underestimate the unique value of many splendid features in our system of training. They are convinced, however, that the situation at present demands an unusual effort and they are confident that training schools generally will do their utmost to at least approximate these standards of nursing education which have been agreed upon as reasonable and desirable. They believe that the public and the pupil nurse are justified in expecting this effort from all hospital training schools, but particularly from those claiming to rank as nursing schools of the better class.

The Committee wishes to make it quite clear that while it believes all the subjects suggested in the course of study are important, they are not all equally important. It will be noted that several of the subjects outlined are recommended only, and it is understood that they should not be introduced at the sacrifice of the more fundamental subjects. In suggesting some elective subjects, the Committee does not wish to advocate specialization within the general training, but only an opportunity for students to get a fair introduction to one of the fields of nursing in which they are specially interested.

The general feeling of most of those who have gone over the outlines is that while the material is all necessary, and they would be unwilling to have any of it eliminated, the time usually allotted is too short to cover the ground in a really thorough way. The Committee has decided to leave the material as it is, with the suggestion that the hours should be increased wherever possible, and that instructors should use their own discretion in choosing what points should be particularly stressed and which should be omitted or treated less thoroughly.

The work has proven much more difficult than at first anticipated, especially since the members of the Committee are all women already fully occupied with exacting professional duties which the pressing problems of the last year or two have greatly increased. After the general scheme was decided upon by the Committee and approved by the League of Nursing Education, the various subjects were assigned to members specially qualified in those branches, who proceeded with such help and advice as they were able to secure, to work out the outlines according to a general form. Each outline was then multigraphed and copies were submitted to a number of representative training school superintendents, teachers, supervisers and public health nurses throughout the country for detailed criticisms and suggestions. Over one hundred members have assisted in this work. The outlines were then collected, the suggestions compiled and new outlines made out which were again, in several cases, referred back to various members before being finally approved. Opinions differed frequently and in such cases the majority opinion was accepted. A great many helpful suggestions were received, and

the Committee takes this opportunity of again thanking all those friends who so generously assisted in the work.

There is little doubt that the next few years will see many new developments along nursing lines. It is the intention of the Committee to keep the curriculum up-to-date by frequent revision, and to supplement the material in this first edition from time to time. The Committee begs the assistance of all those who are interested in the better training of nurses, in this work. We should be particularly grateful to have any suggestions for additions or corrections which should be made in the next edition.

THE RELATION OF HOSPITAL AND TRAINING SCHOOL ORGANIZATION AND ADMINISTRATION TO THE CURRICULUM

In working out a curriculum which aims to cover the ground required in the training of nurses in so satisfactory a way that it can be accepted as a standard and adopted generally in training schools, certain important facts must be kept steadily in mind. These are, first, that the education of nurses is not carried on in the ordinary type of school, but in hospitals and under a well-established system which requires that the practical training shall be obtained through student service in the various departments. This practical training indeed, is considered of such importance in the general scheme as to occupy almost the entire time and energy of the student; in all schools of which we have knowledge more than nine-tenths of the student's time throughout the three years being devoted to practical work. This means that the theory, essential and indispensable as it is, in reality occupies everywhere a relatively small place in respect to time in the curriculum. It means also that the conditions in the hospital under which the teaching and training are conducted and under which the students live and work, are decisive factors in the situation.

A curriculum does not operate itself. It is dependent upon persons and conditions to give it life. No matter how admirably planned, it can only be made truly effective in the education of the nurse if the hospital in which it is to be carried out is of proper character and standing, and provides in its clinical resources, teaching facilities and administrative policy, a suitable field for the training of nurses. It has seemed necessary, therefore, at the outset, to try to show what the general conditions and main requirements in hospitals should be in order to ensure the satisfactory working out of a good curriculum.

This is a peculiarly difficult thing to do, because of the vastness and complexity of the hospital field. There are about as many types of hospitals as there are specialties in medicine. They exhibit extreme variation in purpose, scope of work, size, and also in form of administration, ranging from that exercised by municipal authorities or responsible bodies of trustees to that of commercial stock companies or of individual enterprise. How shall we judge of the ability of any one of these hospitals to provide a suitable field for the training of nurses, or of its fitness to undertake that important task? What standards and tests can we apply? For it is evident that many hospitals are unable to provide for the most fundamental requirements in any form of worthy educational work.

The standards which the Committee has accepted as desirable and here presents in outline are those which have been gradually developed through the experience and experiment of nurses who have been long engaged in hospital and training school work, and in serious and continuous study of the administrative and educational problems involved. In the course of years certain conditions and requirements have been found to be essential to the conduct of a good and sound system of training school work. These conditions which have so important a bearing upon the situation, are found through-

out the entire structure of hospital life, from foundation and purpose to intimate daily conduct of affairs. They may in the main be summed up in a general way under the following headings:

A. The General Purpose, Character and Standing of the Hospital.
B. Form and Functions of Training School Control.
C. Type and Capacity of Hospital.
D. Financial Resources.
E. The Teaching Field (Range, Variety and Character of Services).
F. Conditions of Life and Work for Students. (Ratio of Nurses to Patients, Hours of Duty. Housing and Living Conditions.)
G. The Administrative and Teaching Staff.
H. Standards of Entrance to Schools of Nursing.
I. The Admission of Classes,
J. Standards and Methods of Good Teaching.
K. Teaching Equipment.
L. Records.
M. University Affiliations.

A. THE GENERAL PURPOSE, CHARACTER AND STANDING OF THE HOSPITAL

The first and one of the most fundamental requirements is that the hospital shall be of good standing in the community, that it shall be under the general direction of a responsible body of persons, trustees, directors, or managers of such weight and influence as to establish beyond question, the purpose, dignity and stability of the institution, and to afford guarantees to the public, and to prospective students and their families in particular, that it is a suitable place to which to invite young women to enter for serious professional training. In other words it must show that it is both able and ready to meet its obligations.

The character and standing of a hospital in any community must have a direct bearing upon the kind of teaching which it will offer. A hospital of established reputation will select with great care its officers and staff, physicians, nurses, and all others concerned in the care of the sick, and will exact from them a high quality of work, and single-minded devotion to the interests and welfare of the patients. If it does not its reputation cannot be maintained. The standards of its own work will be projected into its teaching throughout, and its teaching will be of two kinds,—the conscious, deliberate and formal, and the unconscious and incidental. Not more surely by what the student is told ought to be done, than by what she sees done daily, will her ideals in work be shaped. That hospital, then, in which the teaching and training of nurses can best be carried on, is of a character which commands public confidence and respect not only through the sound scientific nature of its work, but through its ethical and altruistic purpose. Its whole life will be permeated by the best spirit and traditions of medicine and nursing.

B. FORM AND FUNCTIONS OF TRAINING SCHOOL CONTROL

If the training school for nurses were simply the nursing staff of the hospital and nothing more, then it could be placed upon the same basis as other hospital

departments and dealt with accordingly. But in just such degree as the school is something more than the nursing staff, outside and beyond it, do new and different considerations enter into its management. Many elements which the training school brings into hospital affairs do not naturally fall into any part of the administrative scheme of an institution for the care of the sick. Quite alien to the general purpose and usual activities of the hospital, are the special and somewhat intricate problems of education to which the training school must give constant time and attention, or fail in its work. And because these problems are different, dealing with matters outside of hospitals which must be viewed from other angles besides those looking to efficient hospital administration, it is essential that there should be some body of persons who are very specially concerned with them. A good many hospitals are now providing for this need by the appointment of training school committees, and it is the opinion of almost all training school superintendents who have carried on their work with and without such committees, that they are an almost indispensable factor in a good organization.

The composition of such a body varies in different institutions, but it is suggested that a good working committee appointed from the trustees of the hospital might be composed of five persons, which should include two Trustees, a member of the Medical Board, the Superintendent of the Hospital, and the Superintendent of the Training School. Such a committee would usually be greatly strengthened by the addition of some one engaged in educational work, such as the Superintendent of Public Schools, or the Dean, or Director of a good College, Normal, or Technical School. In connection with large city hospitals, into the government of which city politics sometimes enter, a separate board of women managers has been found to be a great support and protection to the training school.

The functions of these committees would naturally vary under different conditions, but in the main they would consist in studying the needs of the school as an educational institution not purely concerned with the temporary service of the hospital, but with the permanent service of the public, and in establishing such equitable relationships between the hospital and training school, and such conditions of student life and work as will bring this result. They should see that suitable requirements for admission are established and maintained; that sound educational standards, for both practical and theoretical work prevail; that there is a properly qualified administrative and teaching staff; that it is supplied with adequate school equipment and teaching material; and that proper regulations are made about such matters as tuition fees, loan funds, and scholarships.

Since these are all fundamentals which are well recognized in every school, it is certain that ways and means must be found of providing them. It will therefore be the function of the Committee to prepare a budget, and to secure adequate appropriations from the hospital and from other sources, to place the school upon this dignified, secure and stable basis, and to ensure it that independence in its work and freedom for proper growth and development which are characteristics of any good educational system and which a satisfactory financial status alone can give. The securing and distribution of funds for the maintenance of the school may be one of the most important functions of a

training school committee in fostering good standards and ideals in the work of the school.

C. TYPE AND CAPACITY OF HOSPITAL

The type of hospital in which a training school can best be established is that which provides the requisite number of patients and variety of services of a suitable character. It has long been accepted that the general hospital, in which all the more common forms of medical and surgical diseases are treated and which admits men and women patients, best answers to this description. General hospitals under municipal government or private endowment or maintained by contributions are found in all large cities, in most moderate s zed and in many small cities.

The actual number of beds and daily average of patients, within certain specified limits, is of less importance than the variety and character of the services. The very large municipal hospitals of from 600 beds up to 1000 or 1500, usually offer the richest possible field for training, in so far as numbers and variety and character of services are concerned, and in the exceptional opportunities afforded by their clinics and dispensaries. The great difficulty here lies in securing enough expert supervisors, and qualified instructors, and enough in the way of resources and conveniences to maintain a good quality of work over such a vast area. The problem of training is difficult because of the almost unwieldy dimensions of the training field, and of the enormous bulk of work to be done. In such large city hospitals this problem may also sometimes be complicated by the fact that there may be a division, sometimes a large one, of patients with chronic diseases providing little in the way of suitable opportunity for training, yet requiring, under the system, a definite place in the general scheme of instruction. Granted, however, means to maintain a sufficiently large staff of graduate nurses in addition to the student nursing service, and a liberal and properly qualified staff of executive officers, supervisors and teachers, a great municipal hospital affords a wonderful teaching field.

On the other hand, very small hospitals, even when general in character, have definite limitations not only in numbers of patients, and in range and variety of disease, but also in equipment and facilities. The opportunities they offer for observation and training and their resources are usually, in the very nature of the case, too meagre and restricted to provide more than a fraction of the required course of instruction in nursing. While these very small hospitals are obviously unable, in most instances, to provide a satisfactory field for the entire training of nurses, they are the class of institutions frequently most needing the assistance, which a training school provides. Their problem is a difficult one. Probably most of them could supply good practical training in the care of patients suffering from a few of the more common forms of disease for a period, let us say, covering not more at the extreme than 12 months. How to secure the necessary instruction in theory is, however, another question. There does not appear to be any other way to get the elementary scientific groundwork required in nursing than to turn to the visiting teacher, who might spend two days weekly in three not too widely

separated hospitals, or to fall back upon the nearest high school for special classes, or upon a combination of both, with assistance from local physicians. The success of such plans would depend greatly upon the energy and initiative of the head of the training school, and upon her ability to make the utmost possible use of every available opportunity. It takes women of exceptionally good professional training, experience and resourcefulness to bring forth satisfactory results from a poor field.

Given well-trained assistance in the hospital, and the certainty of a good quality of practical training, there appears to be no reason why at leas tone year of prescribed ground could not be covered and the students passed on to the larger schools to complete their training. Small schools should be as proud of sending up their students to certain large hospitals for the final two years, as preparatory schools are of sending theirs to colleges. The principle is the same. The necessity of a uniform arrangement of subjects is clear, for the larger school must know just what ground in theory and practice has already been covered, and must require that certain well-defined work has been done.

Between these two extremes lie a large number of hospitals capable of providing excellent teaching fields. In the order of their capacity in this direction they would stand about as follows: first, hospitals, general in character, and under municipal or private government, with from 400 to 500 beds, and having not only the four main services—medical, surgical, children's and obstetric—but certain of the special branches, such as nervous and mental disorders, contagious diseases, eye, ear, throat and nose, etc. These afford a practically complete field for the training of nurses. There can be no question of their ability under proper administration to conduct training schools of the very highest character. Next would come hospitals of the same general type and character, with from 150 to 200 beds, and a daily average of from 125 to 150 patients. These also provide excellent teaching fields.

While the smaller general hospitals can only meet the requirements and obligations which the establishment of schools of nursing imposes on them by acquiring suitable affiliations with other hospitals able to provide satisfactory instruction and training in the branches of nursing in which they are deficient, it is pretty generally agreed that unless such hospitals have a daily average of about 50 patients and a fairly acute service, it is hardly possible for them to maintain schools of nursing of the usually accepted standards. This appears to be about the minimum, in so far as the number of patients is concerned, and has been long accepted as such in England and various other countries, and by the American Red Cross in this country. In the training of medical students, the Council of Education of the American Medical Association urges that hospitals, to be satisfactory for teaching purposes, should have a daily average of not less than 200 patients who can be utilized for clinical teaching. (See *Journal American Medical Association,* August 19, 1916, pages 601-607.)

There must be variations from these suggested standards in exceptional institutions, and particularly in certain states and sections where hospitals have developed slowly and are almost all quite small. They are all that is available for training purposes in such localities, and obviously the standards that are desirable in older communities where work is further advanced, cannot and should not be applied to them at present.

Special hospitals present a peculiar problem. Many of them can contribute to the general scheme of training, and efforts should be made to utilize the special opportunities they provide. Few, if any of them, are competent to conduct schools in which the main portion of the work lies entirely outside their interests or activities. That they can coöperate largely, however, in educational work is clear, as more and more the special branches which they represent become incorporated into the regular accepted plan or scheme of training. Such subjects as obstetrics, and children's diseases are now commonly required, and it seems probable that for public health work, training in contagious diseases, and possible in mental and nervous disorders may be called for.

Special hospitals form numerically a very large group. They are often large, well equipped and carefully administered, and they are not infrequently well endowed and able to secure the best specialists in the branches they represent to direct their work. The nursing in such hospitals is carried on in several ways—by the employment of a trained graduate staff of nurses, by post-graduate courses, by affiliations with regular training schools, by maintaining regular schools of nursing or, in the cases of hospitals for the insane, of schools for the training both of nurses and attendants. The organization of this very large and valuable field of training still remains to be adequately worked out but in the main it seems fairly obvious that such hospitals can perform a better service by making their own specal contribution to the training of nurses, than by conducting regular schools of nursing. Just because they are engaged in a special branch of work, it is practically certain that their whole energy will be thrown into efforts to make this branch still more highly and perfectly specialized.

For this reason there is some genuine ground for question as to the ability of such institutions to conduct schools of nursing professing to offer complete general training. The main portion of the student's full period of training is spent working among patients rightly grouped in a special class. This may occupy two full years or even more, out of the three, while in all accepted schemes for a satisfactory arrangement of work, this same specialty would seldom be given more than six months of time at the most. In addition to this, the full emphasis must of necessity be laid upon that particular branch. The impressions made upon the student's mind are in relation to a particular type and condition—this is inescapable. The provision which is made for training in general nursing (or for all other branches) will be comparatively small, and relatively all out of proportion in a sound scheme of training, and, further, the order of things is reversed, and the special is made to precede the general and fundamental.

The more important special hospitals are those dealing with obstetrics, mental and nervous, contagious, and children's diseases. Children's departments are now increasingly found in general hospitals, and there appears to be also an increase in the number of obstetrical wards. It is noticeable that maternity hospitals in most instances affiliate and offer three or four months of special training, to be included in the regular work of the student nurse. A few offer post-graduate work also. Contagious hospitals occasionally affiliate, but they appear more frequently to employ salaried graduate nurses varied

with occasional post-graduate work. Hospitals for the insane and for children more commonly establish regular schools and require that the bulk of the student's training shall be received in the single special field represented.

The question of affiliations is a matter of extreme importance in making up a proper curriculum for pupil nurses. It is important to ascertain just what any possible affiliation has to offer, and how long should be given to it in a well-balanced curriculum. The parent school should feel itself strictly responsible for the standards both of practical and theoretical work in the affiliating school, and should see to it that proper conditions of life and work and proper guardianship are assured.

Efforts should be steadily made to bring about a better system of adjustment and to see that training in special branches follows upon a general groundwork. This could usually be easily done where the training school is under university direction, and a unifying and coördinating power can thus be provided. In every such special branch provision should be made for two types of students —those who need some training in it as a part of a general course and those who are choosing it as a field of special work. A longer period of training is necessary for the specialist.

Hospitals and sanitaria under private ownership cannot be recommended as suitable institutions to assume the direction of training schools for nurses. Their purposes are frankly commercial, and under such government the exploitation of pupil nurses is practically impossible to control. The maintenance of satisfactory standards of teaching, of work, or of student-life, may be assumed to be outside of their purposes and possibilities.

No attempt has been made in this study to consider the very important question of post-graduate education for nurses. It may be said in passing, however, that the same general principles which have been laid down for the training of pupil nurses, apply to the courses for graduate nurses which are offered by hospitals. The graduate student should have a curriculum especially arranged to meet her needs, and every facility should be given her so that she may profit to the full by both her class work and her ward experience. Most graduate students would be willing to pay for the kind of instruction they need, on the condition that they should be released from the long hours of exacting ward work, and should have the advantage of expert teaching and supervision.

D. FINANCIAL RESOURCES

Schools of nursing at present everywhere rest upon an unsound and precarious financial basis. None of them are endowed, none are maintained by public funds—none, in fact, have any real resources whatever for the conduct of their work beyond the provision which the hospital (whose nursing services the school is supplying) is able and willing to make. Most hospitals find it hard to get enough funds to keep their work going on a satisfactory basis. They cannot contribute to the support of schools—on the contrary, they must use the school to help support the hospital. A few hospitals may have some means available, but as a rule their conception of the function of their training schools is so imperfect as to prevent serious consideration of their needs from a financial standpoint. There is a slight awakening of interest in this

aspect of affairs, but until it has taken a real hold on the minds of those responsible for the conduct of hospitals, and consequently of training schools for nurses, until there is a wider understanding of the vital importance to society of the work which nurses are doing, there can be little hope that schools of nursing can be maintained upon a truly satisfactory economic basis, or can render their full measure of usefulness to the public.

The hospital, under certain conditions, can provide largely of the main essentials. Its wards form the indispensable laboratories for training in nursing; its life and disciplines are of incomparable value in such training, but equally necessary in any adequate system are bodies of trained teachers and suitable places in which to teach; lecture, and class rooms, laboratories, libraries, and other teaching equipment and material, scientific and technical. Equally important are suitable conditions of student life and work. These costs of education can never be neglected.

The ordinary needs for the proper conduct of the training school should be considered carefully in the making up of the hospital budget. The head of the school should be required to present an estimate of the probable expenses of her department, which should include provision for necessary developments in any desirable direction.

Where it is impossible for the hospital to supply the necessary funds, there should be no hesitation in making direct appeals to private individuals or associations, or, in certain cases, in asking for appropriations from public funds for the proper financial support of the school. No school of nursing can hope to carry on and develop its work satisfactorily without such support.

E. THE TEACHING FIELD (RANGE, VARIETY AND CHARACTER OF SERVICES)

It is commonly accepted that a good teaching field must provide satisfactory opportunities for training in the four main branches of nursing—medical, surgical, obstetrical and children—and that the services must be reasonably acute. Generally speaking, the value of any service from the standpoint of training, is directly proportionate to the number of acute cases being cared for. Chronic and convalescent cases are of limited value as teaching material, though they call for certain special kinds of care, certain personal qualities, and adaptations which should have a definite place in the scheme of instruction. The degree of acuteness may be measured by the number of admissions per bed per year. A service in which the number of admissions per bed per year averages from 16 to 20 or over, is an acute service. Below 8 per bed per year, it would rank as an inactive service, and the diseases would probably be sub-acute or chronic in character.

It must be recognized that the experience in medical wards particularly varies greatly at different seasons of the year, offering excellent material for study and nursing care during the pneumonia and typhoid seasons especially but at certain other times giving little opportunity for observation and special treatment. Efforts should be made by supervisors and instructors to see that if possible, students whose experience in a given department has been relatively uninstructive, should have an opportunity of supplementary train-

ing later. In any case class teaching and ward clinics should help in making up any possible weakness in practical experience. In each service the commoner varieties of cases should be found and when unusual forms of disease are admitted, the opportunity for observation and instruction which they present, should always be utilized as far as practicable for the benefit of all student nurses.

From the standpoint of teaching, a large and active private service in a hospital presents difficulties. It makes excessive demands upon the time of administrative and supervisory staff, and occupies a relatively large place in the general scheme of training. Furthermore it is a distinct loss to the student, in that it substitutes the restricted experience of service with one or two individuals, for the varied and instructive opportunities provided by the many patients of the large open ward. It cannot be assumed that a student who is assigned to the care of from one to three patients during a given period can learn as much as during a similar period where from thirty to forty patients may be under her observation and care.

The advantages to be derived from service in private wards are small in comparison and quite special in nature. Undue emphasis has been placed upon the value of this service, which, in the interests of good teaching, should be kept at a reasonable minimum. There is a difference in equipment and in some details of service for such patients, but there can be no difference in the nursing, and it is of the utmost importance that this point shall never be lost sight of. Standards and methods of nursing are the same, and special cases require special nursing, quite irrespective of their place in the hospital or their ability to pay. The large, open public ward is the ideal training ground for student nurses. It has been suggested that the ratio of private to free patients should not exceed one to four in teaching hospitals.

A complete medical service should provide training in the care of all the usual medical diseases, and also in the nursing of communicable diseases. So important, indeed, is this in the preparation of nurses for modern public health work, that it is difficult to see how they can get along without it. Affiliations should be sought which would provide this training in the acute infectious diseases for those particularly needing it, even where it is not required or obtainable for the entire student body. Facilities for training in the care of nervous and mental patients should also be made available.

The surgical service should provide training in the care of all the ordinary surgical diseases, and should include gynecology, orthopedics, operating-room work, and training in that department in which accidents, emergencies, and minor surgical matters are handled—whether this be in a special ward or dispensary.

It is desirable that the obstetrical service be sufficiently large and active to ensure a proper training within a reasonable period. Probably the measure of training here should be determined by the number of cases, rather than by the number of weeks.

The children's service should provide opportunity for the observation and handling of sick children not only in infancy, but up through the years of childhood. It is one of the most important of all the services, and with the development of public health work, and the widespread introduction of nurses

into public schools, it has become fundamental and indispensable in the scheme of training.

The dispensary or outdoor service provides invaluable opportunities for instruction. Patients visiting dispensaries for advice or diagnosis present many conditions and states of disease rarely seen in the wards. The greater the number of cases in each division under close and continued observation and treatment, the more profitable the instruction to the student nurse. It may precede or follow her training in the wards. Probably a period of service in the early stage of training and again at a later stage, would prove of most genuine educational value though it might be difficult to work out. Frequenty a hospital will have a pretty well-developed dispensary or clinic for which it has no corresponding hospital service. This would perhaps be particularly true of such special services as eye and ear, throat and nose, and skin diseases which are of special importance to those intending to enter public health work. The dispensary should play a much larger part in the training of the nurse than it has hitherto usually done, and its special resources should be as completely utilized as possible. As a partial preparation for almost any form of public health work, it is of unquestionable value, and if it has a social service bureau, with follow-up work in the homes, its powers in this direction are greatly enlarged.

Where the hospital is used as a teaching ground for medical students or as a field for medical research, the value of the service to the student nurses is usually increased in certain ways. They work in an atmosphere of scientific inquiry and must frequently assist in experimental work; and they share in a measure in the instruction which goes on continually. In some departments of work, however, there may be a distinct loss to student nurses, as for instance when much of the required assistance in operating-rooms, dressing-rooms, etc., is taken over by the medical students.

F. CONDITIONS OF LIFE AND WORK FOR STUDENTS

Ratio of Nurses to Patients

The ratio of student nurses to patients cannot be worked out on any basis which is capable of general application, because of the many and various factors entering into the situation. It is affected by the number and variety of services; by the character of these services—that is, whether they are acute, sub-acute or largely chronic in nature; by the proportion of private patients; by the plan and arrangement of the hospital (small wards always requiring a relatively larger service than large wards); and also in some degree by the number of orderlies and other helpers of various kinds provided. A teaching hospital where many clinics are held, and where medical students need to be looked after and helped, requires a larger staff of student nurses. There is a difference in the number of student nurses required in a medical and in a surgical ward of the same size, and a wide difference, usually, between these and the number called for in children's, maternity, infectious, or in mental wards. The operating-room offers a special problem contingent upon the number of operations daily. The dispensary and clinics must be governed by similar conditions.

The general opinion appears to place the ratio, at present, of student nurses to patients in an active service about as follows:

Free ward service

Day duty.....1 nurse to 5 patients
Night duty.....1 nurse to 10 patients

Private ward service

Day duty.....1 nurse to 3 patients
Night duty.....1 nurse to 5 patients

This is the minimum ratio, it is believed, which can be accepted as likely, under the usual conditions, to enable the school to maintain satisfactory standards of work and teaching.

Hours of Duty

In the last analysis, the pivot upon which the whole curriculum swings, is the system of hours of duty which the hospital requires of the nursing staff. The very purpose of the instruction for which the student pays by her service, is frustrated by long hours. Good teaching—any teaching, in fact—is wasted on students who have been engaged in prolonged, heavy, physical effort, or in exacting forms of nursing which involve considerable mental and nervous strain. The senses are dulled, the mind works more slowly, concentration is practically impossible, wrong impressions are frequently carried away, but worse than all of these is the fact that the student acquires a distaste for the work which is made too difficult for her to accomplish creditably. The fact is that long hours of work for student nurses have been for a quarter of a century the greatest stumbling block to progress in nursing. The whole experience of that period goes to show unmistakably that an adequate body of instruction cannot be established by training schools, unless at the same time a system of hours is arranged which permits the students to accomplish the required study satisfactorily and without detriment to health and spirit.

But even if we do not consider the educational work which as a rule has been carried on outside of the required number of hours of duty on the wards, the nine- to ten-hour working day, the twelve-hour night and the seven-day week, still required in most hospitals, would generally be considered excessive from the standpoint of health and efficiency alone, even for laboring men. It is strange that hospitals have been so slow in grasping and applying the findings of science on the subject of fatigue. The eight-hour day has been so generally accepted as the maximum for a normal, healthy life, especially under conditions demanding physical effort and mental strain, and it has been enforced by law in so many departments of the world's work, even under the unusual demands of war, that the hospital lays itself open to peculiarly unfavorable comparisons by its continued insistence on a policy which has been discredited not only by scientific and educational authorities, but by frankly commercial enterprises as well.

The long hours of night duty are particularly grave in their effects upon the student's capacity to reap proper advantage from her instruction. Night duty in itself, under any conditions, is disturbing to the maintenance of a good system of instruction, in that each time the student is placed on night work there is a temporary new adjustment of habits of daily life. But any person

who has performed twelve hours of work such as is required almost universally on night duty, should be looked upon as incapable of further effort—mental or physical. Any kind of satisfactory educational work is made practically impossible for such hours.

Training schools for nurses should be scrupulously sensitive in seeing that the instruction they offer is given under conditions which will in no way lessen or impair its value. It is necessary to be constantly watchful on this point, because the needs of the hospital are imperative and difficult to satisfy, and power and control are centered there. The head of the training school is frequently all that stands between the students and the urgent demands of the hospital for a larger service than can safely be required of them. Her vigilance, courage, and sense of justice may be their sole protection against conditions of life and work which would render of little value the best quality of actual instruction which could be offered.

Although under the present system of education in nursing, tuition fees are not required from students, a very exacting form of student service *is* required. While, up to a certain point, we may look upon this service as indispensable in our method of training, we should not forget that it is always of distinct and substantial financial value to the hospital and that through it the student pays the equivalent of the most ample tuition fees, and also pays for everything else which the hospital provides her.

In so far as hours of work for pupil nurses are concerned, there is general agreement that eight hours of practical work per day is the maximum which can be required in a satisfactory scheme of training. The findings of the Committee, the opinion of heads of training schools, and the experience of those familiar with the system coincide in approving the eight-hour schedule, and in urging its adoption. They recommend that one afternoon of 6 hours per week be allowed, making a total of 54 hours a week for practical work. Those who have tried this system would not be willing to go back to the old, realizing that not only is the actual nursing care of the patients of better quality, but that good teaching becomes possible in the shorter day. Furthermore, it has been shown that shorter hours and better teaching inevitably attract more and better qualified candidates to the school.

The change from a nine- or ten-hour day to an eight-hour day will necessarily call for an increase in the number of student nurses, and here one is met at once by the lack of adequate housing accommodations, which is an almost chronic condition in our rapidly growing hospital field. One solution of the problem may perhaps lie in the adoption of the plan now being tried out in a few hospitals of arranging for those students who have good homes in the community to live at home. A somewhat different adjustment of hours makes this a practicable scheme, and it would provide a substantial increase in staff without additional expenditure for quarters and maintenance. The principle has for years been applied in arrangements for the service of special nurses in private wards of hospitals and here it works out satisfactorily.

Housing and Living Conditions

It is hardly possible to overestimate the importance of the conditions under which student nurses live. Next to hours of work these form the factors

affecting most deeply their health, spirit, and general power to handle their work efficiently or to derive benefit from the instruction and training which is virtually offered in part payment for their services.

Among the essentials which should be provided in students' residences are single rooms for all students. Double rooms should only be used when absolutely unavoidable and should be looked upon as a temporary and undesirable expedient. Student nurses receive their training under peculiarly difficult and exacting conditions, and are subject to certain strains and to responsibilities quite unlike those which students in any other profession whatever have to meet. They need, when off duty, the quiet and privacy of individual rooms —they need it for rest and most particularly for study. These rooms should be comfortable, with good beds. They should be supplied with writing tables and shelves for books and papers. Pupils should always have good lights to study by, since most of their study must be carried on in the evening. There should be such provision made for personal clothing and other necessities as will enable the student to keep her belongings in good order. The standards of living for the student must be such as she will be expected to apply in the homes and institutions in which she works and teaches. These standards include the maintenance of orderly and hygienic surroundings, and immaculate personal cleanliness. The lavatories should provide ample facilities for this and not less than one bath room for six students is looked upon as meeting modern requirements.

The dietary should be especially adapted to students engaged in arduous work involving physical as well as mental strain, and such disruption of normal life as night duty or special duty usually brings. No body of persons in the hospital needs more careful consideration on this point than the staff of student nurses. There should be a carefully worked out menu, the food should be well selected, well cooked and attractively served.

Suitable quarters should be provided for students on night duty, to ensure protection from noise and other disturbances. The whole atmosphere of the nurses' home or dormitory should be one of quiet comfort and refinement. There should be suitable reception and sitting rooms and such service as is necessary in maintaining a dignified, orderly, attractive and homelike household.

A number of schools are now employing social directors, or house mothers, to look after those aspects of the students' home life which the superintendent and staff cannot possibly give much attention to, owing to their other engrossing duties. Definite provision is thus made for a wholesome and stimulating social life in the home, and for the introduction of outside interests which the pupil nurse particularly needs.

Fees and Allowances. Scholarships

It has long been the practice of hospitals to make a money allowance to pupils of from four up to fifteen dollars per month, to cover expenses of uniform, text-books and other incidentals connected with their work. An increasing number of representative hospitals are giving up this practice, and are devoting the funds so released, to building up their educational system

through better teaching and supervision, shorter hours of hospital work and better living conditions.

Several schools have gone farther than this and are requiring a tuition fee of from $25 to $50 or more for the preparatory period of training, and at least one regular school of nursing requires tuition fees for the entire course of training. A tuition fee for the preparatory term is a just charge in those instances where practically the entire time of students is spent in class and practice work which requires the employment of several special teachers and supervisors. This fee is sometimes returned on the completion of the training. It should not be charged where any considerable proportion of the students' time in this preliminary period is spent in the hospital. It should be understood that the fee will not be returned to those students who do not remain after the preparatory term.

There is no doubt that the tendency at present is toward the payment of tuition fees. Where this policy has been introduced and has been accompanied by a radical improvement in the course of study and the introduction of other features making for high standards of training, such as reasonable hours and good living conditions, the result has always been to increase rather than decrease the number of eligible applicants, and to definitely improve the class of women entering the school. It is useless to introduce tuition fees unless these conditions are assured.

There is little use made of scholarships in schools of nursing. A few leading schools award them, but usually at the close of the full term of training, to a student desiring further study in some special branch. There might well be a wider use of scholarships, and they might be offered to exceptionally well-qualified candidates who desire to secure training in nursing but are unable to incur even the modest personal expenses which are usually all that student nurses are required to meet. Provision for such candidates is made in virtually all other educational institutions, and schools of nursing might through the adoption of this policy find a way of admitting some unusually desirable candidates.

G. THE ADMINISTRATIVE AND TEACHING STAFF (FACULTY OF THE SCHOOL)

The requirements here may be briefly indicated by calling attention to the double functions of practically all training school officers. They are responsible for the whole scheme of instruction and training, which is essentially an educational function; and they are also responsible for the efficient administration and supervision of the nursing service of the hospital and frequently of the housekeeping service as well, which are administrative functions.

The administrative and teaching staff of the school (sometimes called the faculty) must generally include the following persons:

a. A superintendent or director of nurses, who is also the principal of the school.
b. Assistant (one or more, in accordance with the size of the hospital and school, and the character and dimensions of the work).

c. Instructor (one or more, as needed).
d. Graduate nurses as heads of all departments (medical, surgical, children's, maternity, dispensary, operating-room, etc.).
e. Night superintendent (with such graduate assistants as may be needed).
f. Dietitian (and assistants as needed).
g. In addition there should be a carefully selected and paid staff of lecturers in all the general medical and special subjects.

It is hardly necessary to say that the woman who is to direct the education and training of nurses, and to direct also the nursing service of a hospital, even of moderate size and under the least exacting conditions, must be herself an educated woman. It is not enough that she should be a well-trained nurse with varied experience and also a reliable and trustworthy woman. These two considerations are indispensable. Nor is she to be considered qualified because she is a good business manager. Details of office management and ward supervision can be delegated to assistants, but the superintendent of nurses must herself be able to plan and direct the work of the school and must be able to coordinate it with the work of the hospital. She must understand people and be able to secure their coöperation, and she must have that kind of personality and judgment which will command the confidence and respect of her associates. It is imperative that the director of a school of nursing which undertakes to prepare young women for one of the most important of modern professions, should have a sound educational background and a broad point of view, so that she will be able not only to maintain satisfactorily already established standards, but to work out new methods and new educational policies in accordance with the needs of the times.

As far as is practicable, a similar kind of education, of training, and of personal qualities should be required of assistants and graduate heads of departments. In addition to purely executive duties, they will all have to supervise and criticize the work of students and in many instances to assist actively in the regular teaching. It is desirable that as far as practicable, the heads of special departments should be prepared to teach the branches they represent.

In most schools it will be necessary to employ at least one regular instructor who will be more directly responsible for the teaching of the younger nurses. She will usually be expected to teach the elementary sciences as well as the fundamental principles and technic of nursing.

To hold the interest of pupils and to stimulate them to their best efforts, both in their theoretical and practical work, the instructor needs to have a strong and vigorous personality and a fund of real enthusiasm for her work. She should be approachable and helpful in dealing with pupils, but at the same time should show a reasonable degree of firmness and decision in keeping them up to a good standard of work. No one should attempt to teach who has not a fairly keen, well-balanced and well-ordered mind, a real love for study and a strong desire to help young nurses to enjoy their work and get the most out of their training.

The instructor should know thoroughly the subjects she is to teach. It is not possible to make this knowledge exhaustive, but it should be authoritative and up-to-date, and always well in advance of her class. She must be con-

stantly refreshing and supplementing her knowledge by study and observation, or her work will inevitably suffer. The teacher must also have a wide practical experience in the branches she teaches, and should be expert in demonstrating practical procedures.

In addition to sound technical and professional training, some experience and training in teaching is almost essential. Fortunately many nurses have had Normal School preparation and have taught in elementary or high schools, but most of those who plan to teach in training schools will need to take special courses, both to increase their knowledge of their subjects and to help them to teach more effectively.

As far as possible, all those who are concerned with the teaching work of the school should have these personal and professional qualifications. For all the special branches, such as dietetics, massage, pathology, etc., specialists will be needed, and though it is perhaps of first importance that they should be experts in those branches, this in itself would be of small value without the ability to "get the subject over" to the pupils. Physicians should be employed for all subjects dealing with the actual study and treatment of disease, such as surgery, obstetrics, etc., and they should be specialists in those branches, so far as possible. In each of these subjects, however, there are demonstrations and discussions of nursing treatment and technic which are better handled by nurses. As far as possible, the supervisors who have charge of the practical training in these special departments should be responsible for the nursing classes and quizzes which supplement the doctor's lectures on the various special branches.

All good teaching requires time for preparation, and this should always be allowed for, as well as the correcting of note-books and the other routine work entailed in all branches of teaching. The instructor whose whole time is given to teaching should not be expected to give more than from four to five hours daily in actual class-room work, and she should be completely set free from all routine executive duties of the hospital which have little or no relation to teaching work.

While it is important that the number of persons on the administrative staff should be sufficient for the demands of the work, its real strength must be determined not by numbers, but by the preparation and the personal qualities which each member contributes. It is practically impossible to conduct a good school without a well-qualified body of officers and teachers, all working together in the interests of students, and of the people whom these students are ultimately destined to serve.

H. STANDARDS OF ENTRANCE TO SCHOOLS OF NURSING

Education

Schools of nursing in good standing should require all applicants to present evidence of graduation from a four-year high school, private school or other secondary institution of approved standards, or to provide satisfactory credentials from responsible school authorities showing that they have received the equivalent of high school training. In every case the fundamental

subjects, such as high school English, history, mathematics, and science must have been thoroughly covered. In most good high schools the study of Latin or one modern language is also required for graduation. Training school officers should be provided with the lists of accredited high schools, and in any case of doubt should investigate the standing of the school.

Where it is impossible at once to require full high school standing, two years is suggested as a temporary minimum, with approved and certified courses in English, mathematics, history, and elementary science. Any school wishing to attract the better class of applicants, will give preference to those with higher educational credentials, and will proceed as rapidly as possible to the full high school requirement, which is insisted upon for every other type of professional training.

Nursing schools should secure the coöperation of high school principals and teachers, in urging girls who are interested in nursing to complete the full high school course, and in advising them regarding the best selection of pre-nursing subjects. Such students should all complete the regular college preparatory work if possible, because they may wish to enter a college for part of their professional work either before or after training, and because the regular cultural courses are all desirable as a basis for nursing work. Wherever there is freedom for election, science courses, especially chemistry, physics and physiology, should be chosen, and household science should be included if at all possible. Mathematics is of relatively minor importance (apart from good sound arithmetic). It is a disputed question whether a modern language is not of more value than Latin, but one year at least of Latin is decidedly helpful in getting hold of technical terms. Music, drawing, physical training and voice culture are all helpful and should be included if possible.

Deficiencies

Applicants who are deficient in general education, but who qualify in other ways, should be advised to make good the deficiency by returning to high school, attending night school, taking extension or summer courses in connection with a university or normal school, or by securing a special tutor to prepare them for the state examinations. Slight deficiencies might be made up after entering the nursing school, but this is not generally advisable, owing to the pressure of other studies and the demands of practical work. It should be distinctly understood that credits for admission to nursing schools should be made up in approved high school subjects and not in stenography, bookkeeping, and other technical courses which would be of much less value as a basis for nursing work. As a rule, such subjects as English, history or civics, chemistry, physics, biology and arithmetic (if not covered elsewhere) should receive first place, but languages, physical geography, and household science would also be of definite value to the prospective nursing student.

Advanced Standing

It is recommended that applicants who bring educational credentials in advance of high school graduation, should be allowed advanced standing in nursing schools under the following conditions:

1. Graduates of approved colleges giving the regular four-years' course leading to the A.B. or B.S. degree, should be allowed credit in time amounting to one academic year (eight or nine months), and should not be required to repeat class work which had been satisfactorily covered elsewhere.*

It is suggested that this reduction in time should be allowed only to those who have graduated comparatively recently, and who have completed satisfactorily in college about one year's study in each of the fundamental sciences on which nursing is based—biology, chemistry, sociology and psychology. The year of biology might include such subjects as physiology, bacteriology, botany, nutrition, hygiene, and sanitation; physics might be accepted for part of the year of chemistry; economics or social economy for the sociology requirement, and courses in ethics or education for part of the year in psychology. One year's work in a given subject usually means from two to six hours weekly throughout the year in that subject, depending on whether it is a lecture or laboratory course.

2. Students from schools of household arts, normal schools, and others representing work in advance of high school, who have completed satisfactorily such subjects in the training school curriculum as anatomy and physiology, bacteriology, chemistry, nutrition and cookery, etc., should be exempt from compulsory attendance on those courses, but should be required to take examinations with other students.

3. Credit for previous work in approved training schools should be granted, providing the student's character and records are satisfactory, the reasons for changing are good, and the experience in the first school is comparatively recent. A minimum of about two years should be spent in the hospital giving the diploma. Such a student should not be required to repeat work already satisfactorily covered in theory or practice.

Age

The minimum age at which students should be accepted in schools of nursing is twenty years, with occasional exceptions in favor of young women of nineteen years of tested capability and unusual maturity, both physical and mental. The maximum age should be about thirty-five years, with rare exceptions in favor of persons of unusual physical vigor and proven adaptability.

Health

The applicant should be of average height and weight and free from organic defects. She should present a recent certificate of good health from a physician, showing not only that her constitution is sound and her general resistance good, but that her mental and nervous make-up is normal and stable, and her whole personality of a good wholesome type. This is a protection both to the school and the student. A certificate from a dentist should also be required.

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*A number of representative training schools have recently (1917) agreed to admit college graduates on this basis, and already there is a very gratifying increase in the numbers of college women coming into the profession. Suggestions for working out a scheme of training under these conditions will be found in Appendix V.

Before acceptance into the school, the student should have a thorough physical examination by the training school physician, and it is very desirable that a similar examination should be made at the end of the training, to determine just what the general physical effects of the training have been.

Character and Experience

Certificates of character are usually of uncertain value, but should be required in view of the nature and responsibilities of the nurse's work. A personal interview with the applicant is always desirable. Direct correspondence between the school and the persons given as reference is advised. Wherever there seems to be any doubt as to character, a careful investigation should be made. Experience in home management, in business and in social, educational or club work, are distinct assets. The applicant who belongs to a cultured family with traditions of public service, who has travelled and seen something of life and people, is (other things being equal) generally found to be better fitted for success in nursing work.

I. THE ADMISSION OF CLASSES

Among the many points in the organization of training school work which need careful consideration, is the question of the number of classes admitted yearly. In some schools new classes are formed twice yearly; in others three or even four times yearly; in still others students are admitted irregularly, whenever vacancies must be filled. It is hardly necessary to point out that this method makes the conduct of a good curriculum exceedingly difficult. Certain subjects must be repeated three or four times during the year, and students must of necessity enter some of the classes in which repetition is impossible at late dates, and endeavor to pick up what they can. The burden laid upon the teaching staff of constant repetition is a heavy one, which the always insufficient force of instructors complicates. So long as the system of student nursing service exists, it will undoubtedly be necessary to admit students twice yearly, in order that the hospital service may not suffer from the removal at any one time of a considerable number of skilled workers, but in the interests of both students and teachers, the time of admitting classes should be kept as nearly as possible to twice yearly. The commonly accepted time in most training schools now conforms to those in other kinds of schools —in September or October for the autumn and in January or February for the spring. In establishing relationships with colleges or other similar institutions, these periods will be found convenient as fitting in closely with their schemes of teaching.

J. STANDARDS AND METHODS OF GOOD TEACHING

In teaching nurses we have always to keep clearly in view the objects of the training. If the pupil is to be able to undertake the duties and responsibilities which meet her in the hospital and in the various fields of nursing outside, she must have not only a certain amount of sound knowledge, a high degree of

technical skill and the spirit of service, but she must have a well-trained mind, good powers of observation, the ability to handle people and to manage affairs, and high ethical standards.

The test of the teaching done in any school will be found not only in the examination records, but in the actual accomplishment of these results by the pupil. It should be judged not only by the present standing, but by the future growth and progress of the members of that school. The quality of teaching can be measured by a few fundamental tests:

First. Where good teaching is being done the pupils are interested in their work—they do not need to be driven to it by threats or bribes. The work is vital to them because it meets their needs, it helps them to solve their problems and it arouses in them worthy and serious hopes and ambitions which persist in their future life.

Second. The pupils are doing real live thinking for themselves, and not simply memorizing facts. They are observing, comparing, judging, and learning to seek out reasons and weigh conclusions. They show good sense and rational judgment in their handling of every-day situations, as well as in their class work. They relate their theory to their practice.

Third. The pupils show the clearness and thoroughness of their knowledge by their ability to systematize and classify their ideas and to find them when needed. They do not simply accumulate masses of scrappy, unrelated facts. Their answers to questions, their class notes, and their method of setting about a practical task, will all show their ability to grasp the essential points, to subordinate the unessential and to focus all their resources on the problem in hand.

Fourth. Good teaching is shown by the degree of self-reliance, initiative and resourcefulness developed in the pupils, and their ability to adapt and apply their knowledge in new situations. The pupil who is absolutely dependent on the teacher, who cannot take any step without guidance and help, will not be of much use in the hospital or in the future work of her profession. The kind of teaching which substitutes tradition and authority for inquiry and investigation, which discourages mental activity and free self-expression and which destroys originality and initiative, is no longer accepted as good in any branch of education.

The first thing for a teacher to decide is just what she wants to accomplish through any given subject, and she must then plan all her work with this in mind. She must also study her pupils to see what kind of material she has to work with, and what foundations she has to build on, so that the work may be neither above nor below their capacity. She must select her subject-matter with these two things in mind, and must then arrange an outline of work in each subject, divided into well-defined topics, which will receive attention in proportion to their relative importance. Different subjects in the curriculum should be correlated in every possible way.

Every detail of teaching should be planned out ahead, and not left to the spur of the moment. Slavish dependence on a text-book usually means slipshod, ineffective teaching, and rambling remarks, no matter how interesting, can never take the place of clear-cut, well-directed questioning and thoughtful discussion.

A lesson-plan should be made out for each class, taking up in the form of a well-organized outline, all the main points to be discussed. The teacher should also have thought out beforehand her procedure in the teaching of the lesson—the important questions she is to ask, the blackboard illustrations she is to use, the devices and material for demonstration and the plan for the pupils' practical work, reference readings, study, etc.

The work of the class-room should be organized so as to secure the maximum of coöperation and efficiency, and the least loss of time and energy. This is especially important in the arrangement of classes in practical work, where, owing to lack of equipment and limited space, there is often serious waste of time for both pupils and teacher. It is scarcely necessary to state that classes should begin on time and finish on time, and that regular and prompt attendance on classes should be insisted upon.

The type of class exercise or recitation should be adapted to the subject taught, to the time available, and to the resources of the school. Those which are best adapted to the work in training schools and which are suggested in this curriculum, are as follows:

The Lecture Method

This takes the form of a talk or address by the teacher, with no questions or responses by the pupil. It can be used profitably for introducing new material or arousing interest in a subject. It is economical of time, but it is limited in its teaching value unless supplemented by other methods.

The Recitation Method

This covers a variety of class exercises—the drill, the quiz, the oral or written review, as well as the testing of assigned recitations. The problem method is a newer form of class exercise which is devoted to the discussion and solving of certain typical problems or situations which the pupil is likely to meet in actual life. Such methods help to maintain higher interest, help to clear up difficulties and test the actual knowledge of the pupil, as well as develop the power of oral and written expression and judgment.

One or more of these methods would be used alone or in combination with other methods in practically every lesson. Their success depends on the skill of the teacher in putting live questions and directing discussion along profitable lines.

The Demonstration or Clinic

This is a lesson conducted at the bed-side or in the demonstration room, for the purpose of showing certain conditions or performing certain experiments or practical procedures for the class. It is especially useful in the presentation of medical subjects and, in combination with the two previous methods, is used in nearly all the scientific and practical subjects. The excursion method is a modification of the demonstration, where pupils visit places illustrating certain conditions which they wish to study.

The Laboratory Method

Pupils here actually carry out experiments and practical procedures, in order to get a more complete understanding of the principles involved and to

gain skill. This method is used in combination with those previously mentioned in all the scientific subjects (anatomy and physiology, chemistry, bacteriology, etc.) and in all the practical subjects (nursing, cookery, massage, etc.). It takes time, but is an extremely valuable and effective method of teaching, if properly handled. No up-to-date school or college attempts to teach any science or art, without providing laboratory facilities for each pupil.

The Conference or Case-Study Method

This is used with more advanced pupils, who are capable of gathering together their own material and presenting reports on their observations or practical work, which are then discussed and criticized by the class and teacher. Such a method can be most profitably used in such subjects as Professional Problems, Introduction to Public Health Nursing, etc.

The Study Period

With more immature pupils it is often found helpful to arrange definite periods of supervised study, with instruction in the method of study and demonstrations in the use of reference materials, taking of notes, etc. This is particularly necessary in the preparatory period, where pupils have difficulty in acquiring the habit of study and where it is important to economize every available minute of study time.

The teacher who has had no special training in teaching will find it very helpful to study some of the books on teaching which are included in the bibliography at the end of this article. It is suggested that groups of head nurses and supervisors might be organized for the study of some of these commoner teaching problems, and if regular lecturers cannot be secured from a university or normal school, they might form into a club for the discussion of teaching and administrative problems.

K. TEACHING EQUIPMENT

To accomplish satisfactory results, a school should provide for its teaching work comfortable, well-lighted, well-ventilated class-rooms and laboratories, such as are found in all modern educational institutions. The number and size of the class-rooms will depend on the size of the school, but most schools will need at least a general class and lecture room, a demonstration room, and a diet kitchen equipped for teaching. A science laboratory for the teaching of chemistry, anatomy and physiology, bacteriology, solutions, etc., is also desirable, but in a small school the regular class-room, or demonstration room, or the pathological laboratory may be equipped to serve for this purpose. Where the hospital does not afford a well-equipped dietetic laboratory, it is often possible to secure the use of a high school or technical school laboratory. Medical schools may also furnish excellent facilities especially for the teaching of the sciences. All class-rooms should be supplied with ample blackbard spaces and either chairs and tables, or chairs with the desk arm.

Under each course will be found a suggestive list of equipment and illustrative material to be used in teaching the various subjects. While ample equipment is not enough in itself to guarantee good teaching, it is practically

impossible to teach nursing subjects without a fairly complete and up-to-date equipment and abundance of illustrative material. Much of this is easily secured in a hospital (beds, linen, utensils, chemicals, laboratory supplies, etc.), and a great deal can be readily improvised by an ingenious teacher. The bulk of the material for class-room use should be kept for this purpose only and should be properly arranged and cared for, so that it will not be scattered and destroyed.

A good reference library is absolutely essential to satisfactory teaching work. The size of the library is not the main thing, though it is important that it should represent a fairly wide range of subjects. The books must be up-to-date and reliable, and in good condition. If possible, a special room should be set apart for the reference library where students can read and study without interruption, and a responsible person should be put in charge. It is very important that students should have easy access to the reference books and that they should be encouraged to make the fullest possible use of them. The text and reference books and magazines recommended under the different subjects of the curriculum would make a fairly complete working library for the average training school. If it is impossible to secure all of these books, the public library is usually willing to put upon its shelves books of a more general nature which will be used by pupil nurses, and in many cases will install a "travelling" unit, or a branch library in the school.

L. RECORDS

It is essential that a good system of records should be established which will provide full and exact statements of the work which every student has done, and which will also give certain details regarding the health, general education, personality and character of each student who has been in the school. The importance of this matter can hardly be overestimated. Records are needed constantly for reference by the superintendent and staff of the training school, and serve as a useful check of the actual training which each pupil is getting. A new superintendent entering a training school has no other means of determining the standing of the pupils and the experience they have had. The graduate nurse who wishes to enter the Red Cross, or take any of the post-graduate courses which are now offered in colleges, will have to furnish complete records of her work in the training school. The only way in which these records can be supplied is through her school, and if they are not available, the standing of both the nurse and the hospital is likely to be seriously questioned.

The records of theoretical instruction should cover the subjects, the number of periods of class, lecture or laboratory in each, the years in which each subject was studied and the grades which the student has made. Class books, with a record of attendance for each class, should be kept by each teacher, and the results filed on the student's card when the class has been completed.

The record of practical training in each department should include the dates of such periods and the number of days or weeks in each. As before stated, the time spent in a given department may not accurately indicate the actual training and experience of the student, but at present this seems about the only method of measurement available, except in maternity work, where the number of cases often determines the period of training. It is suggested that

every effort be made to keep track of the number and variety of cases which the student has observed and cared for, in all services, and that a blank be supplied to each student for this purpose. A number of suggestive blanks will be found in the Modern Hospital of July, 1917, covering not only the records of pupils in the school, but also admission blanks, health certificates, etc.

It cannot be too strongly emphasized that a few simple blanks, kept with absolute accuracy, are of greater value than a very elaborate system which is poorly kept. It is obvious that properly trained secretarial help is required for the handling of such records, and correspondence relating to the school, and that the valuable services of expert nurses should not be employed in this way under ordinary circumstances.

M. UNIVERSITY AFFILIATIONS

The advantages of university or college relationship for schools of nursing are likely to be very great. Precisely those essentials in all educational work which the hospital finds it most difficult to supply, are freely available in every college or university of good standing—properly equipped class-rooms and laboratories, libraries and other teaching material; adequately trained teachers; associations with teachers and students interested in other lines of thought and activity; the atmosphere of study—all of these, and other things less tangible are to be expected from any good university connection. The results in improving the standards of theoretical work in schools of nursing in helping to maintain the right balance between theory and practice and particularly in attracting better qualified candidates, can hardly be overestimated.

The value of this relationship appears to be in proportion to the degree in which the university participates in the direction of the entire scheme of training school work. Several such schools now established as regular departments of universities, give evidence not only of excellent standards and ideals of work, but of ability to grow and develop, to try out new ideas and methods.

Where, however, the university opens up its class-rooms and laboratories to classes of students from schools of nursing and fails to look into the nature of the practical training in the hospital and the conditions under which it is carried on, the result may be far from satisfactory.

The university must exact thorough work from its students, and it must require a good many hours of study. If this is combined with the usual hours of duty, there is imposed upon the student a program of study and work which it is entirely impossible for her to carry out. All university relationships presuppose a rational system of hours of duty, and there can be no escape from the ruling that every increase in the amount of theory means a corresponding decrease in the amount of practical work.

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THE COURSE OF STUDY

A. LENGTH OF COURSE AND GENERAL DIVISION OF TIME

The length of the course is three calendar years, divided into the preparatory or first year, the junior or second year, and the senior or third year.

One month should be allowed each year for vacations. These should all be arranged for the summer term, when no lectures and classes are being given.

The academic or class year would be the same as in most other educational institutions, extending from the first week of October till the end of May, (about thirty-two weeks).

This period is generally divided into two terms of about sixteen weeks each —the first, or winter term, extending from October to January (allowing at least one week for Christmas vacation); the second, or spring term, extending from February till May. New classes would be admitted in the beginning of the winter and spring terms only.

It would usually be assumed that the last week of each term would be devoted to examinations, leaving about fifteen weeks each term for class and lecture work.

The general schedule of hours suggested for the first four months or preliminary term is as follows:

4 hours daily in practical work.
3 hours daily in lecture and class.
3 hours daily in study and practice.
2 hours daily in recreation.

For the subsequent terms the schedule would be as follows:

8 hours daily in practical work.
⅔ to 1 hour (average) daily in lecture and class work.
1 hour daily for study.
2 hours daily for recreation.

This means 10 hours of actual required work daily throughout the academic year—with the exception of Sundays, when class work and study would be omitted, and the one day a week when an afternoon off is allowed. So far as possible evening hours should be left free from all class and lecture work.

The hours for night duty should be the same as for day duty—in any case never to exceed ten hours a night. The total length of night duty should not exceed four months and not more than two months' night duty should be given at any one time. The first term of night duty should be as an assistant, not in charge of a floor.

B. GENERAL SCHEME OF PRACTICAL INSTRUCTION

Division of Time for Practical Work

Preliminary or Probationary Period..... 4 months.
If possible, the pupil is not to be counted upon for any regular ward duties during this time, and her practical work should not exceed 4 hours daily. Her practice in the various departments is for the pur-

pose of giving her a background for her class work, and helping her to apply the methods which she has learned in the class-room. It is also an opportunity for testing out her ability for nursing work. The practice should be closely tied up with her studies, and should be under the careful supervision of the instructor. Each pupil should, if possible, have a short period of time in each of the following departments:—diet kitchen, hospital supply-room, linen-room, dispensary, and wards. Time should also be provided for a few visits to homes with social service workers or visiting nurses, in order that the pupil may see for herself the conditions under which many of her patients live.

Medical Nursing.....8 months.

This time is to be divided among medical wards (men's and women's). The medical service should provide experience in the care of all the commoner medical diseases, the greater proportion of which should be acute. In addition to typhoid fever, pneumonia and such communicable diseases as may be cared for in general medical wards, it is important that experience should be given in the care of tuberculosis and also, if at all possible, the acute infectious diseases, such as scarlet fever, diphtheria, measles, etc. If the hospital does not care for mental and nervous cases, it is urged that affiliations with mental hospitals should be secured to give this training.

Surgical Nursing.....8 months.

This should be divided among surgical wards (men's and women's) and should include gynecological, orthopedic and operating-room services. The surgical experience should represent a fairly wide range of operative cases, including emergency work. Opportunity for assisting at operations and doing surgical dressings should also be provided.

Nursing in Diseases of Infants and Children.....4 months.

This time should be given in special wards or in an affiliated hospital devoted to the care of infants and children. It should include both boys and girls and should cover both medical and surgical conditions of childhood. If possible, some experience should also be given in the handling of fairly normal run-about children, such as may be be found in the children's clinic. Visiting or follow-up work in connection with the children's services is also important. Work in the milk-room, in preparation of infant's feedings should be included in this period.

Obstetrical Nursing.....3 months.

This should be given in special maternity wards or in an affiliated hospital devoted to obstetrical work. It should include the care of both normal and operative cases, and of normal and premature babies. Out-patients' service, if provided, should be supplementary to the above, and given only under expert supervision.

Nursing in Special Diseases.....2 months.

It is desirable, though not always possible, to give practical experience in eye, ear, nose and throat work, occupational, venereal and

skin diseases, etc. This may be secured either in the dispensary or wards—preferably in both. It is particularly important for those who are planning for public health work.

Electives.....4 months.

This period should be arranged, so far as possible, with reference to the special aptitudes and future plans of the pupil. Those intending to do private nursing might spend part of the time in the private wards or in special duty. Those intending to enter some form of public health nursing should be detailed to the hospital social service department, or to an affiliated visiting nurse association (only, however, when the practical work there can be as thoroughly supervised as the work in the hospital). Those who expect to go into some form of institutional work may assist a head-nurse or supervisor in charge of some hospital department. For the remainder of this period, the pupil may be assigned to one of the regular services in which she wishes to secure further experience and training, or to some special branch of work, such as contagious, mental hospital, or laboratory work, which may not be included in the regular training.

Vacations (one month each year).....3 months.

Total.....36 months.

Arrangement of Practical Training

No fixed order of services can be recommended, as this must depend on a great many factors which vary widely in different hospitals. In general, however, it is believed to be important that experience in medical and surgical nursing, should precede training in special branches and that services demanding the more fundamental and uncomplicated measures, should precede those which demand considerable differentiation and a higher degree of skill and adaptability, such as mental nursing or children's nursing. Operating-room work should precede obstetrics and all the regular branches of hospital service (such as children, obstetrics, contagious, etc.) should be covered before the pupil takes up public health nursing or social service. The following arrangement is suggested:

Preparatory or First Year:

Elementary nursing, diet kitchen (elementary) and hospital housekeeping (in preliminary course). General medical and general surgical services.

Junior or Second Year:

Infectious, tuberculosis and admitting services (if given); children's service and milk-room; gynecological, orthopedic, operating-room and obstetrical services (the latter will frequently be extended into the third year).

Senior or Third Year:

Psychopathic service (including practical work in hydrotherapy and occupation therapy, where possible), dispensary, special diseases. Advanced or special work in any one of the regular depart-

ments. One of the following electives—(1) special duty or private ward service, (2) hospital social service or visiting nursing service, (3) executive work as assistant to head-nurse or supervisor.

C. GENERAL SCHEME OF THEORETICAL INSTRUCTION

*** Preparatory or First Year**

First or Winter Term	*hours*
Anatomy and Physiology	60
Bacteriology	20
Personal Hygiene	10
Applied Chemistry	20
Nutrition and Cookery	40
Hospital Housekeeping	10
Drugs and Solutions	20
Elementary Nursing Principles and Methods	60
Bandaging	10
History of Nursing (including Social and Ethical Principles)	15
Total	265

Second or Spring Term	
Elements of Pathology	10
Nursing in Medical Diseases	20
Nursing in Surgical Diseases	20
Materia Medica and Therapeutics	20
Diet in Disease	10
Elements of Psychology (recommended)	10
Total	80 to 90

Junior or Second Year

First or Winter Term	
Nursing in Communicable Diseases	20
Nursing in Diseases of Infants and Children (including Infant Feeding)	20
Massage	10
Principles of Ethics	10
Total	60

* When two or more groups are brought in during the first year, it will be necessary to repeat most of the subjects in the first year with each group, so that all may be ready to enter for the second year's work together.

Second or Spring Term

Gynecological Nursing	10
Orthopedic Nursing	10
Operating-Room Technic	10
Obstetrical Nursing	20
Nursing in Diseases of the Eye, Ear, Nose and Throat	10
Total	60

Senior or Third Year

First or Winter Term

Nursing in Mental and Nervous Diseases	20
Nursing in Occupational, Venereal and Skin Diseases	10
Special Therapeutics (including Occupation Therapy)	10
Public Sanitation	10
Survey of the Nursing Field	10
Total	60

Second or Spring Term

Modern Social Conditions		10
Professional Problems		10
Emergency Nursing and First Aid		10
*Introduction to Public Health Nursing and Social Service	10 hours	30
*Introduction to Private Nursing	10 hours	
*Introduction to Institutional Work	10 hours	
*Introduction to Laboratory Work	10 hours	
*Housekeeping Problems of Industrial Families	10 hours	
*Special Disease Problems (Advanced work in any of special forms of disease studied above)	10 hours	
Total		60

Total number of hours for the three years—585 to 595.

The outline of each of these subjects is given in the following pages. The subjects are classified according to their relationship to one another rather than in the order in which they would follow one another in the curriculum. They are divided into the main fields of Biological and Physical Science, Household Science, Prevention of Disease, Treatment of Disease, Nursing in Different Forms of Disease, Social and Professional Subjects and Special Branches of Nursing.

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* The subjects starred are all elective, to be selected according to the student's future line of work. Each student would be expected to cover at least three of these subjects, to make up a total of 60 hours of work for the last term.

OUTLINES OF SUBJECTS

A. BIOLOGICAL AND PHYSICAL SCIENCES

Anatomy and Physiology

TIME: 60 hours, divided as follows:

Lectures and demonstrations by qualified teacher of anatomy, preferably a physician or trained nurse instructor, 30 hours.

Classes, quizzes and individual laboratory work conducted by nurse instructor, 30 hours.

Course to be given (and completed) in the early part of the first year.

OBJECTS OF THE COURSE

1. To give the pupil a practical working knowledge of the structure and function of the normal human body as the essential basis for the study of hygiene, dietetics, materia medica, and all pathological conditions, as well as for the safe and intelligent practice of nursing measures in the wards.

2. To discourage popular, haphazard and pseudo-scientific ways of thinking about the body and its functions, to give practice in the correct use of ordinary scientific terms, to train in habits of exact observation and reasoning and to arouse an intelligent interest in scientific work generally.

OUTLINE OF CLASSES AND LABORATORY PERIODS

I and III. (Lectures and Demonstrations) *Introduction.*

Biological functions common to all forms of life—Eight biological systems—skeletal, muscular, alimentary, vascular, respiratory, excretory, nervous, reproductive. Body as a whole—cavities, surface anatomy, location of organs. The cell theory—cell structure and activities. Evolutionary theory (very briefly).

II and IV. (Laboratory and Quiz)

Dissect frog of larger animal to show body as a whole. Study simpler animal types—amoeba and paramecium under microscope. Show slides illustrating cell-division in different stages.

V and VII. (Lectures and Demonstrations) *Study of Tissues*

Embryonic origin of tissues. Four elementary tissues—epithelial, connective, nervous, muscular. Glandular tissue—flat and columnar cells, tubular glands, branched tubular glands. Special membranes—serous, synovial, mucous, cutaneous.

VI and VIII. (Laboratory and Quiz)

Charts or pictures showing folding off of tissues in embryo. Students make slides of epithelial tissue from the lips. Stain and examine under the microscope. Draw. Illustrate dif-

ferent tissues by meat obtained from the butcher or by dissecting small animal; also show slides under microscope.

IX and XI. (Lectures and Demonstrations) *Skeletal System*

Osseous tissue—gross and microscopic. Structure of bone. Regeneration of bone. Study of skeleton—head, trunk, extremities, articulations.

X and XII. (Laboratory and Quiz)

Examine and sketch slides showing longitudinal and transverse sections of bone. Fresh bone, showing articulations. Bone treated with acid. Quiz on skeleton and separate bones to be studied and identified. (X-rays plates very helpful.)

XIII and XV. (Lectures and Demonstrations) *Muscular System*

Muscular tissue. Mechanics of locomotion. Muscular fatigue. Study of more important muscles, particularly those involved in common surgical procedures.

XIV and XVI. (Laboratory and Quiz)

Slides showing different types of muscular tissue. Charts showing different types of levers. Examination of fresh meat. Rabbit or cat dissection for muscles and tendons.

XVII, XIX, XXI, XXIII, and XXV. (Lectures and Demonstrations) *Alimentary System*

Anatomy of alimentary canal. Anatomy of accessory organs of the digestive system—teeth, tongue, salivary glands, pancreas, liver and gall-bladder. Foods, food constituents, body constituents, food values. Digestion—mechanical, chemical and psychical factors. Absorption.

XVIII, XX, XXII, XXIV and XXVI. (Laboratory and Quiz)

Charts, models, slides and fresh specimens of animal organs used freely. Government charts showing food values. Demonstrate chemical tests in digestion and absorption of foods, salivary digestion, gastric digestion and saponification of fats and oils. X-ray plates showing bismuth meals. (For full directions as to tests see Bigelow—Applied Biology and Laboratory Manual.)

XXVII, XXIX, XXXI, and XXXIII. (Lectures and Demonstrations) *Vascular System*

Blood-vascular system—blood, heart, arteries, veins and capillaries. General circulation—pulmonary, systemic and portal. Control of local circulation, blood pressure, pulse. Lymph-vascular system—lymph, lymph-vessels.

XXVIII, XXX, XXXII and XXXIV. (Laboratory and Quiz)

Show charts, models, slides and diagrams. Dissect beef heart with vessels. Students make slides of drop of their own blood; examine, make drawings. Show method of counting r. b. c. and leucocytes. Effect of different solutions, temperatures, etc. on clotting. Demonstrate taking blood-pressure. Pulse-tracings in normal and abnormal cases. Examine foot of live frog under microscope for study of circulation and heart action in dead frog. Color index for haemoglobin.

XXXV and XXVII. (Lectures and Demonstrations) *Respiratory System*

Anatomy of respiratory organs. Function of respiration. Mechanical factors. Effect on blood.

XXXVI and XXXVIII. (Laboratory and Quiz)

Examination, inflation and dissection of beef lungs, including trachea and larynx. Microscopic study of lung tissue. Demonstrate mechanics of respiration. Demonstrate lung-motor. Test students' lung capacity.

XXXIX, XLI and XLIII. (Lectures and Demonstrations) *Excretory System*

Anatomy of kidneys, ureters, bladder, etc. Physiology of urinary system. Anatomy and physiology of the skin. (Primary function heat regulation, secondary function excretion.) Appendages of the skin—hair and nails. Body temperature—normal, abnormal. Mechanism of heat regulation.

XL, XLII and XLIV. (Laboratory and Quiz)

Dissect sheep's kidney. Show charts, models, slides, etc., of kidney and skin. Constituents of normal urine and simple tests.

XLV. (Lecture and Demonstration) *Ductless Glands and Metabolism*

Structure and functions of suprarenal, thyroid and pituitary glands. Influence of internal secretions on functions of the body. Metabolism. Anabolic and katabolic changes.

XLVI. (Laboratory and Quiz)

Examination of specimens and slides. Review of digestion, excretion and metabolism.

XLVII, XLIX, LI, LIII, LV. (Lectures and Demonstrations) *Nervous System and Special Senses*

Nervous tissue. Degeneration and regeneration of nervous tissue. The neurone, the spinal cord, spinal nerves. Reflex and automatic action. The brain—structure and function. Sensation. Anatomy and physiology of special sense organs—ear, eye, organs of taste and smell.

XLVIII, XL, LII, LIV and LVI. (Laboratory and Quiz)

Charts, models, and slides of brain, cord and special sense organs. Dissection of fresh pig's head. Dissection of pig's eye. Drawings.

LVIII, LIX. (Lectures and Demonstrations) *Reproductive System*

Anatomy of female generative organs. Review of pelvic bones. Birth canal. Anatomy of male generative organs and male pelvis. Physiology of the reproductive system.

LVIII and LX. (Laboratory and Quiz)

Show lantern slides or charts of different stages in development of embryo. Dissect cat or rabbit to show embryo and reproductive system as a whole.

METHODS OF TEACHING

1. In the lecture periods, groups of 30 pupils or more can be handled, but for laboratory work, smaller groups not exceeding 15 to 20 are advisable.

2. It is important to have pupils themselves handle material and carry out observations and experiments as far as at all possible. Laboratory work arouses interest, stamps facts in the memory, trains in careful observation and clears up difficulties. Clear written directions should be given for all laboratory exercises. Pupils can often work in groups of two or three, where the material and equipment is limited. Note books of laboratory work should be kept with diagrams and drawings, descriptions of experiments, etc. These should be handed in for inspection at regular intervals.

3. Where the time is limited, demonstrations by the teacher may take the place of some of the laboratory exercises. Some teachers advocate the observation of one or two post-mortems for pupils in anatomy classes, but this would probably come more profitably in the later part of the training.

4. Short papers on special topics can be assigned to pupils in turn, and read in class. Oral and written quizzes and reviews should be frequent.

5. Special emphasis should be laid on the phases of the subject which apply to nurses' work. The close connection between the theoretical and the practical work should be emphasized, and illustrations should be used constantly by the instructor to form a close association between the two. The work here should also be correlated with parallel courses in chemistry, bacteriology, hygiene, dietetics, etc.

6. Good blackboard work is essential here. A good-sized blackboard and colored chalks should be provided. Students should be encouraged to use diagrams extensively in note-books and should also learn to draw on the blackboard.

7. A good text book should be used, and assignments required regularly. Other readings can be assigned where the text-book needs to be supplemented.

8. Take students to a good Natural History Museum if possible, to show comparison between human anatomy and that of other animals; also to show cellular structure and embryonic development.

9. It is not expected that this arrangement of topics will suit all teachers. Many prefer to take the skeletal and muscular systems before tissues, some introduce the nervous system much earlier in the course, and some take the circulatory system before the digestive. Such readjustments in the order of topics would not alter the general character of the course.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Skeleton with separate skull, separate bones; compound and dissecting microscopes (one for every two students if possible), colored chalks, charts, slides and X-rays plates; papier-mache manikin and models of kidney, sweat glands, eye, ear, etc.

Specimens in formalin—brain, kidney, spinal cord, larynx, etc. Modelling clay. Excellent home-made charts can be made with manilla paper and wax crayons, or with Bristol board and paints or water colors.

MATERIALS TO BE KEPT IN CLASS-ROOM (for a group of 12):

Two trays, 6 dissecting pans with paraffin (squares of soft wood may be used instead of paraffin pans); flat glass dishes; 6 finger bowls; 6 small glass jars; 12 dissecting needles; paper pins (small); bank pins; 8-in. square gauze; 6 glass stoppered bottles; 6 Bunsen burners; 6 tripods; 6 wire-screens; 3 small alcohol lamps; slides; cover slips; glass covered jars for specimens; labels; 3 red wax pencils; 3 doz. text-tubes, 6 glass funnels (2 sizes); filter paper (2 sizes); 6 sets of beakers (4 in set) 6 funnel racks; 6 test-tube racks; 6 test-tube holders; stickers; cotton thread; No. 36; dishes for specimens; 3 casseroles; 2 mortars and pestles; litmus paper; HCl 0.2 per cent, HCl 10 per cent; Fehling-Benedict solution; Filter paper; Iodine; NaOH; Alcohol; 6 glass stirring rods; 6 pipettes; 6 scalpels; 6 pr. scissors (those discarded from operating room may be used, or scissors may be bought at the ten cent store); 10 per cent formalin.

TEXT AND REFERENCE BOOKS

Kimber: Anatomy and Physiology for Nurses.
Pope: Anatomy and Physiology for Nurses.
Dawson: Anatomy and Physiology for Nurses
Bundy: Anatomy and Physiology.
Howell: Text-book of Physiology.
Starling: Principles of Human Physiology.
Tigerstedt: Text-book of Physiology.
Hough and Sedgwick: Human Mechanism.
Martin: Human Body.
Bigelow: Applied Biology.
Halliburton: Hand-book of Physiology.
Brubaker: Anatomy and Physiology.
Hertar: Biological Aspects of Human Problems.
Cannon: Mechanical Factors in Digestion.
Cannon: Bodily Changes in Pain, Hunger, Fear and Rage.
Parker and Parker: Practical Zoology.
Parker and Haswell: Text-book of Zoology.
Gray: Anatomy.
Gerrish: Anatomy.
Sabotta-McMurrich: Atlas and Text-book of Human Anatomy.
Marshall: Vertebrate Embryology.
Wiedersheim: Comparative Anatomy.
Piersol: Normal Histology.

Hill: Histology.
Stiles: Nutritional Physiology.
Sherman: Chemistry of Food and Nutrition.

Elementary Bacteriology

TIME: 20 hours—arranged as follows:
Lecture, demonstration, and recitation 10 hours.
Laboratory work—10 hours. (Laboratory period to follow class period.)
Taught by a physician with nurse assistant, or by trained nurse instructor. The course to be given early in the preparatory year.

OBJECTS OF COURSE

1. To help pupils to understand the characteristics and habits of microörganisms, so that they may be better able to protect themselves, their patients, and the public from infection.
2. To teach them something of laboratory technic so that they will appreciate better the necessity for surgical asepsis, and learn to apply the same careful methods in their nursing procedures, cleaning, cookery, etc.
3. To arouse interest in this new and very important branch of science, so that the pupils will continue to read and study along these lines, and keep up-to-date in the latest discoveries and methods.

OUTLINE OF CLASSES AND LABORATORY WORK

I. (Class) *Introduction*
Uses of bacteriology to the nurse. Historical theories of disease. Leaders in science of bacteriology—Pasteur, Koch, Erlich, etc. (very briefly). Consideration of plants—green and colorless. Eight biological systems of higher animals and parallel functions of one-celled organisms. Structure of typical plant and animal cells. Independent plants. Economic and biological functions of green plants. Photo-synthesis, respiration and transpiration. Reproduction by mitosis. Conditions favoring growth.

II. (Laboratory) The microscope—how to use it and care for it. Demonstration showing osmosis. Study of onion epidermis to show cell structure and plasmolysis. Microscopic study showing cell structure of leaves. Experiments showing photo-synthesis, respiration and transpiration.

III. (Class) *Molds*
Dependent plants—molds, parasitic and saprophytic organisms. Economic relationships. Mold diseases. Distribution of molds. Structure. Reproduction—sexual and asexual,

spore formation. Conditions favoring growth and methods of destruction.

IV. (Laboratory) Study of two or three common molds under microscope with drawings. Making of pure cultures of mold by inoculating sterile bread or crackers with a selected mold.

V. (Class) *Yeasts*

Economic relationships. Structure. Reproduction by budding, fission and spores. Enzyme action. Fermentation. Work of Pasteur. Conditions favoring growth. Methods of destruction.

VI. (Laboratory) Observation and drawing of yeast cells and starch grains. Technic of the hanging drop. Experiment to show effect of different temperatures on growth and viability of yeast or experiment to show ability of yeast to ferment various carbohydrates.

VII. (Class) *Bacteria*

Distribution of bacteria. Structure of bacterial cell. Classification according to morphology and grouping. Methods of reproduction by fission and by spore formation. Conditions affecting growth—temperature, moisture, food supply, light, oxygen. Effect of electricity, chemicals, agitation, etc. Vital phenomena—odor, motility, light, heat, pigment, etc. Special media for laboratory study of bacteria.

VIII. (Laboratory) Exhibit of various laboratory media. Description of culture growth. Making of agar pour plate and exposing to various conditions as air, hair, fly, washed and unwashed fingers, etc. Use of oil immersion lens. Preparation and examination of stained smear of bacteria from teeth. Examination of prepared slides of staphylococci, streptococci, and bacilli for morphology.

IX. (Class) *Effects of Physical and Chemical Agents on Microorganisms*

Methods of destroying bacteria. Physical—by dry and moist heat, sunlight, etc. Chemical—by germicides and antiseptics. Length of exposure for bacteria and spores. Effects of strength and temperature of chemical agents on bacteria.

X. (Laboratory) Examination of cultures from Lesson VIII. Making pure culture by fishing and transferring to broth culture. Testing results of common physical and chemical agents on bacteria.

XI. (Class) *Bacteria and Disease*

Disease production by toxins, endotoxins, and ptomaines. Avenues of entrance into body of bacteria. Growth in tissues. Avenues of discharge. Special study of the colon and typhoid groups of bacteria.

XII. (Laboratory) Examine broth culture from laboratory X for characteristic growth of organisms in broth. Make streak cul-

ture on agar slant. Demonstration of plating method in examination of water.

XIII. (Class) *Dissemination of Disease-Producing Organisms*
Transmission of disease by direct and indirect contact. The rôle of insect carriers, human carriers, fomites, water, shellfish, milk and other foods, air and "filth." Special study of staphylococcus, streptococcus, pneumococcus and filterable viruses.

XIV. (Laboratory) Examination of streak cultures from laboratory XII to identify organisms, purity of colonies, etc. Preparation and examination of slides of streptococcus, staphylococcus and pneumococcus. Making cultures of water and milk.

XV. (Class) *Bacteriology of Milk and Water*
Relation of bacteria to milk supply. Sources of bacterial infection in milk. Methods of safe-guarding milk supply. Water as a medium of infection. Sources of contamination. Tests for water and milk supplies.

XVI. (Laboratory) Examination of cultures of water and milk and estimation of number to cubic centimeters of water or milk tested. (Visit to Board of Health Laboratory if possible.)

XVII. (Class) *Defences of the Body Against Pathogenic Bacteria*
External defences of the body. Vital resistance and factors modifying it. Theories of immunity, antibodies, phagocytes, etc. Vaccination. Use of antitoxines and sera. Special study of tubercle, Klebs-Loffler, tetanus and anthrax bacilli. Preparation of sera and vaccines. (Seen in laboratory if possible.)

XVIII. (Laboratory) Hanging drop showing motility and agglutination. Examination of prepared slides of bacilli given special study in class, also slides showing phagocytosis.

IX. (Class) *Applications of Bacteriology*
Applications of above principles to methods of disinfection, to sterilization of water, instruments, dressings, to care of discharges and excretions. Applications of bacteriology and serum-therapy in prevention, diagnosis and treatment of smallpox, typhoid, fever, diphtheria, syphilis, rabies, etc. Special study of organisms causing malaria, syphilis and gonorrhoea.

XX. (Laboratory) Demonstration of the taking of throat cultures. Preparation and examination of smears from throat. Examination of prepared slides showing organisms discussed in class.

METHOD OF TEACHING

1. Follow class method for presentation of subject matter as far as possible. Have outside readings and reports from assigned books or current journals.

2. Laboratory work to be given in sections, not exceeding 15 to 20 students with facilities for each pupil or pair of pupils carrying out all the experiments. Note-books for drawings and laboratory notes.

3. Correlate as closely as possible with other subjects, especially with hygiene and practical nursing work. A short paper on "The Practical Applications of Bacteriology to Nursing" will help to focus attention on the uses of the subject.

4. No one text book for nurses covers the ground adequately. Choose the best and supplement liberally from larger reference books. Recent editions of text and reference books should be used, as changes are constantly taking place in this subject.

5. Have at least one visit to a well-equipped laboratory such as might be found in the Board of Health—or the hospital itself.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Microscopes—(one for every two students if at all possible), petri dishes, test tubes, fermentation tubes, slides (plain and prepared), racks for drying slides, cover slips, stains, oil, balsam, lens paper, platinum needles, bunsen burners, tripods, pipettes, etc. Small utensil sterilizer, culture media and cultures from pathological laboratory. Charts, photographs and slides.

Room should be fitted up with tables or shelves where microscopes can be placed in good light. Should also have gas and running water attachments.

TEXT AND REFERENCE BOOKS

Conn: Bacteria, Yeasts and Molds in the Home.
Bolduan and Grund: Applied Bacteriology for Nurses.
Roberts: Bacteriology and Pathology for Nurses.
Fox: Bacteriology and Protozoology.
Buchanan: Household Bacteriology.
Curtis: Nature and Development of Plants.
Bigelow: Applied Biology.
Conn: Agricultural Bacteriology.
Hiss and Zinnser: A Text Book on Bacteriology.
Park and Williams: Pathogenic Micro-Organisms.
Jordan: General Bacteriology.
Zinnser: Infection and Resistance.
Chapin: The Sources and Modes of Infection.
Marshall: Microbiology.
Rosenau: Preventive Medicine and Hygiene.
Gibson: Clinical Laboratory Technic.
Carey: A Text-book for Nurses in Bacteriologe.

Applied Chemistry.

TIME: 20 hours divided as follows:

Lecture and class-work—10 hours.

Laboratory work and demonstrations—10 hours.

Taught by the instructor of nurses or a teacher of chemistry (secured from a high school or college)—Course to be given early in the preparatory year.

Objects of Course

1. To serve as a basis for the more intelligent study of physiology, dietetics, household economy, materia medica, and other nursing subjects.
2. To make the pupil nurse more observant of the chemical phenomena of every-day life, especially those chemical reactions which are of practical and economic importance in nursing and hospital work.
3. To train her to be skillful and accurate in handling laboratory material and to be exact in her reasoning.
4. Where pupils have already had a good course in chemistry, the special applications of chemistry to nursing can be enlarged upon and the general principles of organic and inorganic chemistry reviewed.

Note: It is highly desirable that all pupils should be required to have covered a good elementary course in chemistry before admission to nursing schools. It is quite impossible to teach a subject of this kind in 20 hours. All one can hope to do is to give a few foundation principles, and a few practical applications in this time.

Outline of Classes and Laboratory Work

I. (Lecture and Class) *Introduction*
Relation of chemistry to animal life. Changes involved in life processes. Relation to plant life. Classes of changes—physical and chemical. Definitions of physics, chemistry, etc. Factors in all energy changes—matter changes—mechanical mixtures—chemical compounds—elements.

II. (Laboratory)
Construction of simple laboratory apparatus and experiments showing physical and chemical changes.

III. (Lecture and Class) *Elements and Chemical Formulae and Equations*
Definition of elements—occurrence, physical states, names and symbols of those in most general use. Dalton's Atomic Theory. Valence. Molecules. Uses of formulae and equations. Study of formulae of compounds in most general use.

IV. (Laboratory) Mechanical and chemical compounds. Physical processes. Dissolving—true solution and saturated solution. Distillation (to be given as a demonstration).

V. (Lecture and Class) *Oxygen*
Occurrence, properties, importance to life. Oxidation. Measuring of food value in terms of calories. Oxidizing and reducing agents. Compounds of oxygen. Carbon dioxode. Carbon monoxide. Water. Impurities of water—hard and soft. Fire extinguishers.

VI. (Laboratory) Experiments in preparation of oxygen, showing combustion. Determination of carbon dioxide. Temperature. Scales for measuring. Freezing and boiling points.

VII. (Lecture and Class) *Acids*

Composition. Brief talk on properties of hydrogen. Non-metals—their classification. The acid radical. Formulae of acids in most common use. Characteristics of acids. Classification of acids into binary acids, oxy-acids and halogen acids. Action of acids on tissues.

VIII. (Laboratory) Test for characteristics of acids—taste, litmus reaction, reaction with zinc, reaction with carbonates. Tests for the presence of hydrogen.

IX. (Lecture and Class) *Bases*

Composition. Mention of some of the most important metals. Hydroxyl group. Definition of alkali. Characteristics of bases. Classification of bases. Neutralization.

X. (Laboratory) Composition and preparation of lime water. Test for characteristics of bases, litmus reaction, taste, feeling, neutralization.

XI. (Lecture and Class) *Salts*

Classification of salts. Normal or neutral salts. Salts of binary acids, oxy-acids, hypo-ous acids. Importance of salts to the body. Uses of normal saline. Brief discussion of salts used medicinally. Classification. Chlorides. Sulphates. Phosphates. Halogen salts. Functions of special salts—calcium, etc.

XII. (Laboratory) Experiments to show effect of distilled water on blood. Test for reaction of salts—sodium chlorides, sodium bicarbonates, acid sodium phosphates, etc. Tests for presence of chlorides, sulphates, phosphates, etc.

XIII. (Lecture and Class) *Introduction to Organic Chemistry*

Definition. Constituents of organic compounds. Distribution of carbon. A few of the compounds of carbon. Organic acids—their classification. Properties similar to inorganic acids. Organic bases. Alcohols and alkaloids. Organic salts.

XIV. (Laboratory) Experiments to show constituents of organic matter. Tests for presence of carbon, hydrogen, nitrogen, sulphur, phosphorus, etc. Tests for presence of alkaloids.

XV. (Lecture and Class) *Carbohydrates*

Molecular construction. Classification into monosaccharids, di-saccharids and poly-saccharids. Their solubility, digestibility, properties and occurrence. Digestion of carbohydrates.

XVI. (Laboratory) Test for presence of glucose. Determination of the composition of di-saccharids and poly-saccharids. Determination of elemental composition of carbohydrates. Salivary digestion. Hydrolysis. Fermentation. Osmosis.

XVII (Lecture and Class) *Proteins*

Nitrogen and some of its compounds (very briefly discussed). Molecular construction of proteins. Classes of proteins—where found. Digestion of proteins. End waste products of protein metabolism.

XVIII. (Laboratory) Tests for presence of protein. Nitric acid test. Biuret, precipitation test. Coagulation test for albumen. Determination of nitrogen as ammonia. Preparation of proteose and peptone. Test for urea.

XIX. (Lecture and Class) *Fats*

Use of fats to the body. Caloric value of fats. Molecular construction. Fatty acids. Emulsions. Soaps. Alcohols.

XX. (Laboratory) Experiments showing solubility of fats in water, alcohol, ether. Determination of glycerine. Extraction of pure fat from beef suet. Saponification with an alkali. Emulsification (Cod liver oil and $NaCO_3$). Separation of fatty acids.

METHODS OF TEACHING

1. It is impossible to teach chemistry by the lecture method alone. Discussions and frequent quizzes are necessary to clear up the difficult points and the demonstration of experiments is essential to any clear understanding of the simplest principles of chemistry. As far as at all possible each individual should be able to work out her own experiments in the laboratory. Where this is not possible a good deal can be accomplished through demonstrations by the teacher.

2. In the laboratory stress is placed on the care with which experiments are set up, and on the keenness of observation, the accuracy of records and conclusions to be drawn. Before passing on to another experiment, each student is quizzed by the instructor to be sure that she understands thoroughly what she has done, and connects it with her notes.

3. Not more than 16 to 20 can be taken together in a laboratory section, unless one has unusual facilities. Students may often work in groups of two.

EQUIPMENT

1. The room for the laboratory work should be well ventilated and fitted with a hood for carrying away odors of disagreeable gases. This last is not indispensable. A large stationary table with drawers and cupboards for each student, fitted with running water and gas burners, is desirable, though one can manage with one sink and alcohol lamps.

2. Apparatus, provided for laboratory groups of 12 pupils working in pairs (cost is approximate only): 6 500 cc. flasks, $3.15 per dozen, 6 two-hole rubber stoppers No. 5 at 15 cents each, 6 thistle tubes at 25 cents each, 1 pound glass tubing,

3/16 (25 2-foot length) at $1.10 pound, 6 ignition tubes at 10 cents each, 6 rubber stoppers, No. 1, at 92 cents dozen, 12 wide mouth bottles at 11 cents each, 6 cake tins at 10 cents each, 6 deflagrating spoons at 45 cents each, 12 watch glasses at $2.00 per 100, scales and weights $10.50, 6 porcelain crucibles with cover, at 40 cents each, 6 evaporating dishes (2 oz.) at $3.00 per dozen, 6 asbestos mats at 25 cents each, 6 retort stands (three rings) at $1.35 each, 3 dozen test tubes at $3.15 per gross, 6 test tube holders at 32 cents each, 6 test tube racks at 90 cents each, 6 glass stirring rods at 40 cents dozen, 1 file (triangular) at 50 cents, 6 horn spoons (4½ in.) at $1.50 dozen, 6 pipettes at 5 cents each, 1 nest beakers at $2.25 nest, 3 graduates (10 cc.) at 46 cents each, 3 graduates (50 cc.) at 96 cents each, filter paper (4 in.) at 11 cents package, 3 mortars and pestles at 60 cents each, 6 funnels (3 in.) at 35 cents each, 12 test tube brushes at 65 cents dozen, 1 Centigrade thermometer at $1.67.

TEXT AND REFERENCE BOOKS

McPherson and Henderson: Elementary Study of Chemistry.
Vulte: Household Chemistry.
Asher: Chemistry and Toxicology for Nurses.
Bliss and Olive: Chemistry for Nurses.
Amoss: Chemistry for Nurses.
Pope: Physics and Chemistry for Nurses.
Lynde: Household Physics.

B. HOUSEHOLD SCIENCE

Nutrition and Cookery

TIME: 40 hours, given in 20 two-hour periods, each period to include class, demonstration and laboratory work. Class to be conducted by a trained dietitian. Course to be given in the first term of the Preparatory Year.

OBJECTS OF COURSE

1. To give pupils a good fundamental understanding of the principles and methods of simple cookery for well and sick people.
2. To make them familiar with the nutritive values of foods, and help them to arrange a balanced dietary for well people or convalescents according to the demands of age, physical activity, climate, etc.
3. To help them to understand and administer the ordinary hospital diets. (Dietary treatment of particular diseases to come later.)

OUTLINE OF CLASSES

I. (Class) *Introduction*

Definition of food. Chemical composition of the body and of food. Classification of foods, according to sources (animal, vegetable, and mineral) and according to chemical composition (proteins, carbohydrates, fats, mineral salts and water). Function of each of these in the body.

(Laboratory) The diet kitchen and its equipment. Care of utensils and apparatus, sinks, refrigerators, etc. Study of stoves and fuels. Uses of each kind.

II. (Class) *Digestion*

Review of the digestive system, and processes of digestion, absorption, assimilation, excretion and metabolism. Effect of methods of cooking and preservation of food on digestion.

(Laboratory) Temperatures and methods of cooking and their effect on food stuffs (baking, boiling, broiling, frying, etc.). Handling of utensils—measuring and weighing.

III. (Class) *Fuel Values in Foods*

Basis of measurement of fuel values. The body requirement in health according to variations of sex, age, weight, activity, climate, etc. General variation in illness. How to compute the caloric value of different kinds of foods.

(Laboratory) Practice in measuring out 100-calorie portions of common carbohydrates, sugars, fats and proteins. (Metric system.)

IV. (Class) *Building Materials in Foods*

Basis of measurement of protein in foods. The body requirement of protein according to sex, age, weight, activity, etc. Variations in illness. How to compute the protein content of common foods. Comparison of digestibility and costs. Body requirement in mineral salts and water.

(Laboratory) Practice in weighing and computing protein content of foods, also mineral salts and water.

V. (Class) *Preparation and Serving of Foods*

General principles in the feeding of sick people. Selection of food, preservation and handling, considerations of taste, variety, digestibility, appearance, nutritive value and economy. Table and tray equipment for serving food—dishes, linen, silver, decorations, etc. Principles of tray service. The convalescent table.

(Laboratory) Practice in setting table and tray for breakfast, dinner, luncheon, and light diet.

VI. (Class) *Beverages*

Place of water and beverages in the dietary. Sources, varieties, composition and preparation of stimulating and acid beverages. Mineral waters—uses, kinds and methods of serving.

(Laboratory) P ac ice in preparing and serving tea, coffee, cocoa, fruit drinks, wines and mineral waters.

VII. (Class) *Cereals, Gruels and Starchy Drinks*

Composition and food value of common cereal foods. Cookery of starches, especially breakfast cereals and gruels, with special reference to digestibility.

(Laboratory) Various preparations of oatmeal, wheat, hominy, rice, barley, etc. Starchy beverages.

VIII. (Class) *Vegetables*

Composition and fold value of common legumes, roots and green vegetables. Selection, preparation and cooking.

(Laboratory) Practice in preparation of potatoes, spinach, beans, cauliflower, celery, etc.

IX. (Class) *Fruits and Sugars*

Composition, sources, kinds and food value of common fruits and sugars. Selection, preparation and cooking.

(Laboratory) Preparation of common fresh, dried and canned fruits.

X. (Class) *Fats and Oils—Salads*

Place of fats in the dietary. Comparison of animal and vegetable fats. Use of fats in cooking. Food value of nuts. Varieties of salads and salad dressings.

(Laboratory) Practice in making fruit and vegetable salads and salad dressings.

XI. (Class) *Protein Foods—Milk*

Milk as a food. Its production and handling. Principles observed in the cooking of milk. Combinations of milk with

cereals and vegetables. Forms of serving raw milk. Principles of pasteurization.

(Laboratory) Preparation of milk soups, milk gruels, milk shakes, milk punches. Pasteurized milk.

XII. (Class) *Special Milk Products*

Source and food value of cream, butter, cheese, curds and whey. Composition and preparation of milk powder, condensed milk, malted and peptonized milk. Lactic acid preparations.

(Laboratory) Preparation of junket, cottage cheese, whey, peptonized milk, koumiss and buttermilk.

XIII. (Class) *Eggs*

Composition, food value and digestibility of eggs. Tests for freshness. Effects of temperature. Combinations of eggs with milk, cereals, fruit juices, etc.

(Laboratory) Preparation of baked, boiled, scrambled and poached eggs, omelet, custards, egg-nogs, and albumen water.

XIV and XV. (Class) *Meats and Poultry.*

Composition, structure, food value and digestibility of meats. Different cuts and organs used as food. Tests for freshness. Effects of temperature. Methods for extraction and retention of juices. General principles of carving meat joints and fowl.

(Laboratory) Preparation of roast, broiled and stewed meats, poultry broth, beef juice and scraped beef. Carving.

XVI. (Class) *Fish, Mollusks and Crustaceans*

Classes of fish goods, composition, food value and digestibility. Tests for freshness. Special dangers of shell fish.

(Laboratory) Preparation of baked, boiled and fried fish, oysters and clam stews and broths, lobster.

XVII. (Class) *Gelatines and Frozen Desserts*

Composition, sources and food value of gelatine. Effect of freezing on foods. Principles of freezing mixtures.

(Laboratory) Preparation of gelatine alone and in combination with other foods. Preparation of ice creams and sherbets.

XVIII. (Class) *Breads* (Leavening Agents)

Composition, food value and digestibility of various kinds of breads. Leavening agents—such as yeasts, baking powders, etc. and their action.

(Laboratory) Making bread and rolls, biscuits, sponge cake, gluten bread, etc. Toast and sandwiches.

XIX and XX. (Class) *Hospital Diets*

Classes of patients in hospital requiring specialized diet. Modification of regular diet for children, adolescents and the aged, also for chronics, convalescents, etc. Types of hospital diets—fluid, light, nitrogenous, farinaceous, milk, etc.

(Laboratory) Making of menus for typical patients—not acutely ill. Preparation and serving of complete meals, representing balanced normal diet and various types of special hospital diets.

Method of Teaching

1. The most satisfactory method is the combination of class, demonstration and laboratory in lessons of from two to three hours each. The pupils then have a chance to tie up their principles directly with their practice, and to carry out their cooking procedures when the demonstration and discussion are fresh in mind and when they are under direct supervision. The number in the class should not exceed 20 pupils. Regular diet kitchen experience would follow such a course of class and laboratory work, and the pupil would then be able to proceed with little additional instruction.

2. If such a method is impossible, classes and demonstrations could be held by the dietitian, and the applications made later when the pupil has her diet kitchen experience. This method requires a great deal of individual instruction and supervision in the diet kitchen, and there is danger of the practical and theoretical side of the work not being so closely connected up.

Illustrative Material and Equipment

1. There is a great variety of illustrative material available in the form of food charts, sample food products, models of meat cuts, etc. (See list of firms, Appendix III).

2. A full equipped cooking laboratory is essential for the satisfactory teaching of dietetics. For discussion of the plan and equipment of such a laboratory, see Teachers College Record, May, 1909.

Text and Reference Books

Friedenwald and Rurāh: Dietetics for Nurses.
Pope and Carpenter: Essentials of Dietetics.
Pattee: Practical Dietetics.
Hall: Nutrition and Dietetics.
McCollum: The Newer Knowledge of Nutrition.
Farmer: Foods and Cookery for the Sick and Convalescent.
Farmer: Boston Cook Book.
Rose: Handbook of Laboratory Dietetics.
Rose: Feeding the Family.
Barrows and Lincoln: Home Science Cook Book.
Pamphlets and Bulletins: Department of Agriculture.
Cornell and Teachers College Bulletins.

Diet in Disease

TIME 10 hours divided as follows:—Lectures or classes given by a physician, nurse or dietitian—5 hours. Demonstrations and laboratory work conducted by trained dietitian—5 hours.

Course to be given in second term of the Preparatory Year.

OBJECTS OF COURSE

To apply the fundamental principles of cookery and nutrition to the dietary treatment of the commoner diseases. In each of the conditions mentioned below, general principles of feeding are discussed, diet lists examined, menus made out, food values computed, and typical diets prepared and served. The charting of diets is also emphasized and the importance of proper records, especially in metabolism studies. Infant feeding is included under Diseases of Infants and Children P. 100.

OUTLINE OF CLASSES

I. Diet in diseases of the digestive system—gastritis, constipation, diarrhoea, dyspepsia, gastric ulcer, dysentery, acute colitis, appendicitis, gall-stones, gastric disorders. Test diets and nutrient enemata.

II. Diet in fevers—slight infections, tonsilitis, pneumonia and tuberculosis. Special typhoid diets, including the high caloric feeding. Diet in convalescence.

III. Diet in anaemia, cardiac disorders, nervous and mental conditions, obesity.

IV. Diet in nephritis, cystitis, calculus, rheumatism, gout, scurvy, rickets and diabetes.

V. Diet in surgical cases—for control of nausea in peritonitis, in laparotomies, head and mouth cases. Formulae used for feeding through gastric and intestinal fistulas and by rectum.

(Each of these classes should be followed by a laboratory period in the diet kitchen where all special diets would be prepared.)

METHODS OF TEACHING AND ILLUSTRATIVE MATERIAL

As in preceding course.

TEXT AND REFERENCE BOOKS

Carter and Howe: Nutrition and Clinical Diet.
Thompson: Practical Dietetics.
Sherman: Chemistry of Food and Nutrition.
Friedenwald and Rurāh: Diet in Health and Disease.
(See also under Nutrition and Cookery)

Hospital Housekeeping

TIME: 10 hours. Classes, discussions, demonstrations and written reports. Conducted by the instructor of nurses. Given in the preparatory course. (Correlated practice work outside of this time to be given in nurses' home and hospital departments.)

OBJECTS OF COURSE

1. To give the student a better understanding of the principles and methods of good housekeeping and to make her appreciate their fundamental importance in nursing work.
2. To enable her to exercise intelligence and economy in the proper selection, use and care of the materials and equipment relating to her work, and to develop a high degree of efficiency in the technic and organization of housekeeping measures.

OUTLINE OF CLASSES

I. *Introduction*

Meaning of "Household Economy." The nurses' home as a type of larger household. General plan. Relation of one department to another. Principles of efficiency and economy in the household. Visit to various departments of the nurses' home and talk on general regulations of the household. Care of nurses' bed-room.

II. *Cleaning and Polishing.*

Materials to be cleaned—woods, paints, fabrics, metals, glass, rubber, china, etc. Appliances and their care—brooms, brushes, mops, etc. Materials—soaps, polishes, bleaches, etc. Methods of sweeping, dusting, cleaning, scrubbing.

Practice. Daily cleaning of bed-room by each pupil. Cleaning of silver, brass, marble, etc.

III. *Interior Furnishings and Finishings.*

Materials of construction of floors—wood, tile, terrazzo, cement, etc. Dressings and coverings—paints, oils, polishes, linoleum, rugs, carpets, etc. Walls and ceilings—finish, paints, paper, tile, etc.—materials and colors.

Practice. Thorough house-cleaning of bed-room.

IV. *Equipment and Arrangement*

The kitchen, pantry, living room, dining room, etc. Equipment of each—use, cost, durability, artistic design, sanitary aspect, etc. Arrangement from practical and artistic standpoint.

Practice. Cleaning and arrangement of living room or library.

V. *Heating and Ventilating Systems*

Types of heating—radiation, convection (steam, hot water, hot air). Equipment—furnaces, boilers, ranges, stoves, grates,

electrical heaters. Fuels—wood, coal, oil, etc. Use of meters. Ventilating systems—natural and artificial ventilation. Telephone and electric bell systems. Fire escapes and use of fire extinguishers. Fire drills.

Practice. Taking room temperature, ventilating rooms, practicing fire drill, etc.

VI. *Lighting and Plumbing Systems*

Types of lighting—natural, artificial, direct, indirect. Equipment—fixtures, lamps, etc. Cleaning and care. Systems of plumbing. Water supply and sewage disposal—pipes, traps, sink, lavatory equipment. Their cleaning and care.

Practice. Caring for lighting and plumbing fixtures. Cleaning sinks, bathrooms and lavatories in nurses' home.

VII. *Disposal of Garbage and Household Pests*

Methods of garbage disposal and hospital wastes. Special precautions in the hospital. Insects found in food and clothing. Insects injurious or disagreeable to people. Means of extermination. Protection of food supplies in the household.

Practice. Looking over garbage cans to discover sources of waste. Cleaning of kitchen refrigerator, care of food supplies, etc.

VIII. *The Laundry*

Purpose and plan of the laundry. Care of soiled linen. Gathering linen—sorting, washing, bleaching, rinsing, mangling. Soap making. Equipment—washers, manglers, extractors, starch kettle, dryers, etc. Disinfection of linen. Removal of stains. Washing things out by hand.

Practice. Pupil should spend a short period in the laundry, should help in sorting linen and see all the processes at first hand.

IX. *The Central Linen Room, Sewing Room and Clothes Room*

Purpose and plan of linen room—arrangement, inventory, mending, marking, folding. Systems of replacement and exchange. Care of linen closet in the wards. Care of patients' clothing—cleansing and repair—disinfection, etc.

Practice. Looking over linen for mending, folding and stacking linen, caring for linen closet, etc.

X. *Hospital Supplies*

Economy in the hospital. Necessity of conserving hospital finances for necessary care of patients. Cost of hospital supplies. Sources of waste. Methods of economy in standardizing hospital supplies and study of types and costs. Visit to store room.

Practice. Making out lists of stores with costs—Making up dressings and hospital supplies in supply room.

METHODS OF TEACHING

1. To make the course comprehensive the objects should as far as possible, be placed before the students and attention

directed to points under discussion. Where this is not possible cuts from catalogs may be used. Catalogs may be also used to get prices of hospital supplies. Pupils should themselves look these up and bring to class.

2. When possible the instructor should illustrate by demonstrating or by taking pupils to the various departments and showing them processes in operation. All students should have an opportunity to carry out the practical procedures as soon as possible after the lesson.

3. This instruction should be closely correlated with that of chemistry, physics, bacteriology, hygiene, and sanitation. It should, if possible, precede the course in practical nursing, and might be given in daily classes during the first ten days as a preparation for later work in the hospital.

4. Pupils may be assigned full care of their own rooms during the preparatory course. Practice should also be provided in the nurses' home, laundry, diet kitchen, supply room and other departments of the hospital where the above principles can be applied. The time spent in such work should be limited as it is important only that pupils should get a good command of fundamental processes and not that they should be employed in routine household work.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Individual utensils and tools for work as far as possible. Samples of flooring materials, cleaning agents, etc. Catalogs. Illustrations from current magazines.

TEXT AND REFERENCE BOOKS

Parloa: Home Economics.
Richards: Home Sanitation.
Broadhurst: Home and Community Hygiene.
Campbell: Household Economics.
Terrill: Household Management.
Balderston: Laundry Manual.
Balderston: Housewifery.
Kinne and Cooley: Shelter and Clothing.
Putnam: Plumbing and Household Sanitation.
Butler: Household Physics.
Lynde: Physics of the Household.
Priestman: Art and Economy in Home Decoration.
Kittredge: Practical Home Making.
U. S. Government Bulletins 1914—No. 37, 38, and 39.

Housekeeping Problems of Industrial Families ((Elective)

TIME: 10 hours. Classes, demonstrations, and excursions. Given by a visiting nurse or a visiting housekeeper, with the possible

assistance of the hospital dietitian. To be given in the latter part of the third year.

OBJECTS OF THE COURSE

This course is intended for pupils who expect to go into families either as private or public health nurses. It is designed to help them to understand the economic problems of the family of limited income, and to enable them to give assistance and advice in matters pertaining to the proper feeding and care of the household.

OUTLINE OF CLASSES

I. *The Household Budget*

The varying costs of living as indicated by budget studies. The value of a budget in helping towards a wiser planning of expenditures, and a more thrifty use of the income. Methods and standards to be followed in estimating a budget for a family.

Assigned work. Planning a weekly budget for a family of a certain size and income.

II. *Housing Standards and Costs*

The importance of good housing. Characteristics of a satisfactory house from the health standpoint. Proportion of income ideally to be used for rent. Rents which are charged in the vicinity in relation to wages being paid.

III. *Food Costs*

Variations in the cost of food per person, as indicated by "cost of living" studies. Minimum standards for food expenditures. Characteristics and limitations of a low cost dietary. Assigned work: Planning very inexpensive meals for a family for a day, reckoning food value and cost.

IV. *Food Selection and Care.*

Importance of buying clean food in a clean store, and caring properly for it in the home. Points to be considered in selecting inexpensive meat, fish, fruits, vegetables, cereal products, etc. (Trip to market or food store if at all possible.)

V. *Reducing Food Costs*

Value of planning meals ahead; buying in person for cash, in as large quantities as practicable; cooking food when possible rather than using prepared products; choosing food which will give largest nutritive return for the money; keeping household accounts. Using fireless cooker, iceless refrigerator, and other appliances which make possible low cost cooking and low cost caring for food.

VI. *Racial habits and customs, climate, and other factors which influence dietary selection* (with special reference to the feeding of children.)

Characteristics of Italian, Russian, Jewish, Polish, Irish, German and Negro dietaries. Changes to be advised if found inadequate under local conditions. The dietary in the rural and urban community; winter and summer dietaries as illustrative of the dietary of cooler and warmer climates. Food requirements at different ages.

VII. *Special Diets in the Home*

Planning the home diet of tubercular and diabetic patients, expectant mothers and others requiring marked variation of the ordinary family dietary.

VIII. *Clothing Standards and Costs*

Hygienic essentials in clothing for men, women and children. Minimum costs for clothing. Economics in the purchasing of clothing which might be practised.

IX. *Laundering and Housekeeping Methods*

The importance of cleanliness in the home. Relative values in laundering and cleaning supplies. Labor saving devices and methods.

X. *Household Management and Thrift.*

The importance of system in household management, especially as it affects the care of children or a sick person. Methods of planning and organizing household tasks. The importance of thrift which will make possible the saving towards sickness or other household emergency.

METHOD OF TEACHING

1. The most satisfactory way is to have the pupil study individual families with the object of assisting them in working out a satisfactory budget on an economic basis. Such work might be done through the social service department, a visiting nurse association, or a charity organization society.

2. Individual or class visits to tenements stores and markets in various parts of the city are also exceedingly helpful in getting a clear picture of sanitary conditions and the housing and shopping problems of the family.

3. Plenty of outside practice in making out menus and dietaries for typical cases should be provided.

ILLUSTRATIVE MATERIAL AND EQUIPMENT (see Cooking and Dietetics)

Local dealers' catalogs and market guides can also be used to good advantage.

TEXT AND REFERENCE BOOKS

Streightoff: Standard of Living.
Chapin: Standard of Living in New York City.
Nearing: Financing the Wage Earner's Family.
Gibbs: Lessons in Feeding the Family.

Nesbitt: Low Cost Cooking.
Jaffa: A Standard Dietary for an Orphanage.
Rose: Food for School Boys and Girls.
Rose: Feeding the Family.
Langworthy: Food Customs and Diet in American Homes. U. S. Dept. Ag., Bulletin 110.
Hills and others: Dietary Studies in Rural Regions. U. S. Dept. of Agriculture, Bulletin 221.
Rose: Cost of Food. Cornell Bulletin, Food Series No. 7.
American Home Economics Association: Thrift by Household Accounting.

C. PREVENTION OF DISEASE

Personal Hygiene

TIME: 10 hours. Classes conducted by the instructor of nurses. Given in the early part of the preparatory course. (Supplemented by a course of physical exercises in a gymnasium if at all possible—otherwise the simple exercises given in Appendix IV might be taught by the instructor in connection with the hygiene classes.

OBJECTS OF COURSE

1. To impress upon the pupil nurse the paramount importance of good health, and to help her to protect herself and keep herself well through understanding and practising the fundamental laws of health.
2. To show the close relationship of hygiene to all nursing work, to emphasize the teaching function of the nurse, especially in matters relating to hygiene, and to develop a rational and scientific attitude toward the whole question of health preservation and disease prevention.
3. To teach a few general exercises which will help to strengthen special muscles and keep the whole body in good condition. To establish habits of regular outdoor exercise.

OUTLINE OF CLASSES

I. *Introduction*

Health and disease defined. Ancient and modern theories about disease. Causes classified. Definitions of hygiene, sanitation, public health, etc. Various ideals and conceptions of health. Conditions governing individual health. Ethical and economic aspects of hygiene. Importance of hygiene to the nurse. Her educational function as an example and teacher of hygiene.

II. *Hygiene of Exercise*

Muscular activity in relation to health. Kinds of exercise and adaptation to age, sex, occupation, climate, etc. Meaning of recreation. Value of sports and games. Fatigue, its symptoms and effects. Methods of rest and relaxation, mental and physical. Importance of posture and right methods of standing, bending and walking.

III. *Hygiene of the Skin*

Structure and functions of the skin. Bathing. Kinds of baths and effects of different temperatures. Care of the teeth, hair, nails and hands. Soaps and toilet accessories—their use and abuse. Prevention and treatment of common skin infections and minor injuries.

IV. *Hygiene of Clothing*

Function of clothing. Materials—cotton, silk, wool, linen, etc., and their various uses. Adaptation of clothing to climate, age, occupation, etc. Hygienic clothing for the nurse on and off duty. How to choose a good shoe. Special care of the feet. Prevention and treatment of corns, bunions, ingrowing toe-nails, and other foot troubles. Care of arch of foot. Preventive exercises.

V. *Hygiene of Respiration*

Composition of normal air. Sources of impurities in the air. Effect of temperature and moisture, still and moving air. Principles of ventilation. Types of breathing. The use of the voice—tone, pitch, quality, etc. Some principles of correct speech and breathing.

VI. *Hygiene of Nutrition.*

Relation of food and food habits to efficiency. Energy requirement of average nurse on active duty. Food fads, overeating, and under-eating. Conditions which interfere with digestion and nutrition. Use of condiments, stimulants and drugs. Water-drinking. Hygiene of elimination. Constipation—common causes and measures for relief.

VII. *Hygiene of Special Senses*

The causes and effects of common eye troubles. Conditions for normal vision. Care and protection of the eyes especially in hospital work. Need of expert examination and treatment in eye defects. Common disorders of hearing—their causes and effects. Protection and care of the ear. Causes and symptoms of common nose and throat troubles. Prevention and care of colds and sore throats.

VIII. *Hygiene of the Nervous System*

Importance of nervous system to health of the whole body. Ways in which mental influences affect the body. Conditions in modern life which produce high nervous tension and fatigue. Increase of nervous diseases and insanity. Importance of relaxation and sleep for conservation of nervous energy. Some principles of mental hygiene for both nurse and patient.

IX. *Hygiene of the Reproductive System*

Function of menstruation and common disorders. Precautions and ordinary measures to be observed. Problems of social hygiene which confront the nurse. Necessity for a sane and wholesome attitude of mind.. Effects of ignorance and wrong teaching in the community at large. Ways in which the nurse can help to promote racial and personal health and happiness. Essentials of sex-hygiene.

X. *Relation of Personal Hygiene to Community Health*

Outstanding causes of ill-health in the community due largely to individual ignorance and neglect. Standards of community health as shown in death-rates. What constitutes a high and

low mortality rate for the general population—for infants. Main causes of premature death and illness. Some movements for the conservation of individual and public health by voluntary organization for prevention and care of tuberculosis, cancer, social diseases, diseases of infancy, diseases of middle age, insanity, etc. How the nurse in the hospital and home may help to educate the public.

Methods of Teaching

1. Base hygienic rules on scientific principles, using courses in anatomy and physiology and bacteriology as ground-work.
2. Stress the phases of the subject most needed by nurses, and emphasize applications to nursing work.
3. Knowledge of hygiene is not of much use unless it is consistently applied. Effort must be made to arouse stong incentives as a means of forming good hygienic habits. Some teachers have pupils keep daily records for a time of baths, exercise, sleep, etc., and report progress in habit-formation. Often illness and slight indispositions, such as colds, etc., can be traced back to personal lapses, and sentiment formed in the school will aid greatly in maintaining good standards of health.
4. Text books if used at all should be liberally supplemented by outside readings from a variety of reference books, pamphlets, etc. Pupils in this way get a wider range of information and a better knowledge of sources. They should be encouraged to collect interesting cuttings from magazines, pamphlets, etc., and report on these in class.

Equipment and Illustrative Material

Anatomical charts, skeleton, models, etc. Popular literature, posters, exhibit material. Lantern and slides. Gymnasium or room fitted up with simple apparatus, a distinct asset. Also swimming pool.

Text and Reference Books

Price: Hygiene and Sanitation for Nurses.
Hough and Sedgwick: Human Mechanism (Part II).
Pyle: Personal Hygiene.
Galbraith: Hygiene and Physical Culture for Women.
Latimer: Girl and Woman.
Clouston: Hygiene of the Mind.
Rosenau: Preventive Medicine.
Chapin: Sources and Modes of Infection.
Fisher and Fiske: How to Live.
Lee: Health and Disease.
Bancroft: Posture of School Children.

Lovett: Lateral Curvature of the Spine and Round Shoulders.
McKenzie: Exercise in Education and Medicine.
Pamphlets published by organizations dealing with prevention of disease (see Appendix II.)
For Household Hygiene see under Hospital Housekeeping.

Public Sanitation

TIME: 10 hours. Lectures and quizzes conducted by physician with Board of Health experience, or sanitarian, if possible.—Given in senior year.

OBJECTS OF COURSE

1. To give the nurse a general, practical knowledge of the methods which are being used to protect the health of individuals and communities so she may coöperate actively with Boards of Health and other preventive agencies, and be able to take a definite share in educating the public in matters relating to public health.

OUTLINE OF LECTURES

I. *Introduction*
History of sanitation, and older theories regarding the causes of disease. Modern ideas as to sources and modes of infection. Parasites and hosts. Rôle of carriers, air, dust, discharges, fomites, contact, food and drink, insects. Portals of entry and exit in all commoner infections. Communicable diseases classified according to source of infection.

II. *Sewage and Garbage Disposal*
Danger from excreta. Composition of sewage. Methods of disposal in large, small and rural communities. Dangers from garbage. Composition and methods of disposal.

III. *Water Supply and Ice*
Sources of water supply. Dangers of polluted water—protection of water supply. Purification processes. Special problems of rural communities. Use of household filters. Sources of ice supply. Dangers and methods of protection.

IV. *Food Supply*
Dangers of unclean or infected food supplies, especially meat, shellfish, uncooked fruits and vegetables. Protection of food supplies from dust and flies, from adulteration and misbranding. Pure food legislation. Special dangers from milk—animal diseases and human infection. Production of clean milk. Dairy inspection. Bacteriological tests. Inspection of restaurants and lunch-counters. Medical examination of cooks, waiters and others who handle food.

V. *Air Supply and Ventilation*
Normal air and its pollutions. Main dangers—excessive heat with excessive humidity. Methods of air analysis. Effects

of dry air. Ventilation standards. Natural and artificial methods of ventilation. Dangers in dust, largely mechanical. Relation to tuberculosis. Methods of reducing dust in industrial establishments.

VI. *Housing and Extermination of Vermin*

Effects of over-crowding. The tenement house problem. Relation to tuberculosis, social diseases, and infant mortality. Fundamental needs—fire protection, light, air, and cleanliness. Remedial and preventive measures. Essentials of sanitary inspection. Insects as carriers of disease. Household and community measures for controlling vermin pests, flies, mosquitoes, etc.

VII. *Industrial Hygiene*

Brief history. Dangers of industry. Preventable accidents on railroads, in mines and factories. Prevention of industrial poisoning. Dangerous trades. Over-work and fatigue. Remedial agencies. Education, legislation, and inspection. Work of Consumers League and other agencies. Welfare work in factories from sanitary point of view.

VIII. *Hygiene of Schools, Public Buildings and Conveyances*

Importance of school hygiene in relation to community health. Essentials of school hygiene as to construction, ventilation, light, seats, cleanliness, water-supply, toilet facilities, fire protection, etc. Medical inspection and school nursing in relation to control of contagious diseases and identification of physical defects. Hygiene of other public buildings such as churches and theatres, of street cars and railways coaches (especially sleeping cars). Public toilets in relation to health.

IX. *Vital Statistics.*

Place of vital statistics in public health work. Neglect of vital statistics in United States. Laws for registration of births and deaths. Important points in the compilation and analysis of statistics. Interpretation of statistical data. High and low death rates for adults and infants. Mortality from important classes of disease compared.

X. *Health Departments and Health Legislation*

National, state, and local Boards of Health—province, powers and organization of each. Function of bureaus of sanitation, contagious diseases, laboratory service, vital statistics; publicity, etc. General progress of health legislation. Rural health organization. Publications of health departments.

METHODS OF TEACHING

1. The classes will usually be conducted by the lecture method, supplemented by quizzes if possible.

2. Base the present course on previous knowledge of chemistry, bacteriology, and hygiene, and correlate closely with the course in communicable diseases.

3. If possible, visits should be made to a sewage disposal plant, a model dairy, an industrial plant, and other local places of interest, to get a clear and vivid conception of conditions and methods. Otherwise photographs, diagrams, and models could be shown. Several good moving-picture screens on sanitary subjects are in circulation and should be seen. Excellent exhibits are on view in the Natural History Museum in New York City and in similar institutions in other cities. The National Public Health Service and several state and local Health Boards have loan collections of lantern sides which can be borrowed for a time for educational work.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Lantern slides, models, charts, maps, etc. A collection of pamphlets and reports from Boards of Health and voluntary orgznizations are very helpful and can be secured free of cost. (See lists Appendix II and III.)

TEXT AND REFERENCE BOOKS

Price: Hygiene for Nurses.
Rosenau: Preventive Medicine and Hygiene.
Baskerville: Municipal Chemistry.
Chapin: Sources and Modes of Infection.
Kinnicutt and Winslow: Sewage Disposal.
Kober: Industrial and Personal Hygiene.
Oliver: Diseases of Occupation.
Sedgwick: Principles of Sanitary Science and Public Health.
Doane: Insects and Disease.
Hill: The New Public Health.
Broadhurst: Home and Community Hygiene.
Veiller: Housing Reforms.
American Journal of Public Health.
Local and State Board of Health Bulletins.
Public Health Service Bulletins.

See also under Bacteriology, Hygiene, and Communicable Diseases.

D. TREATMENT OF DISEASE

Drugs and Solutions

TIME: 20 hours or ten two-hour periods divided about equally between class and laboratory work. Teacher—the instructor of nurses (preferably) or the pharmacist.

To be given in the Preliminary Course.

OBJECTS OF THE COURSE

1. To make the nurse familiar with the appearance and use of the commoner drugs which she will be handling in the earlier part of her course.

2. To teach her to weigh and measure drugs accurately, to make up all the standard solutions, and the commoner pharmaceutical preparations used in the wards..

3. To teach her the terms and symbols used in materia medica and prepare her for the further study of the therapeutic action of drugs.

OUTLINE OF CLASSES AND LABORATORY WORK

I. (Class) *Introduction—Weights, Measures, Symbols, etc.*

Review of simple arithmetical problems. Roman and arabic numerals. English system of weights and measures. Symbols, abbreviations. Drops and minims.

(Laboratory) Practice in use of apothecaries' weights and measures. Drill in the tables. Problems, oral and written.

II. (Class) *Weights and Measures* (continued)

Metric system. Approximates in apothecaries and household measures.

(Laboratory) Practice in use of metric system. Drill and problems in approximates.

III. (Class) *Solutions.*

Definition of solute, solvent, and examples. Saturated and supersaturated solutions. Solutions of solids, liquids and gases (examples). Fahrenheit and Centigrade scales. Method of expressing strength, ratio and percentage. Method of calculating solutions from pure drug.

(Laboratory) Make physiological salt solution. Problems and drill in converting ratio to per cent and vice versa. Problems in calculating the amount of drug for solutions of different strength.

IV and V. (Class) *Disinfectants, Antiseptic, Deodorants*

Physical properties, therapeutic uses, method of bactericidal action, care in handling, and toxicology of common solutions, such as phenol, bichloride, boric, iodine, creolin, lysol, formalin.

(Laboratory) Practice in making these solutions. Problems and drill in calculations.

VI. (Class) *Symbols and Abbreviations*

Orders and abbreviations used in order book. Prescriptions, form, abbreviations. Method of making weak from strong solutions.

(Laboratory) Practice in making solutions from stock. Problems in calculations. Practice in reading prescriptions.

VII. (Class) *Dosage*

Method of calculating doses for children. Method of calculating fractional doses. Method of measuring minims and half drop.

(Laboratory) Review of solutions. Practice in measuring fractional doses and in calculating children's doses.

VIII. (Class) *Common Pharmaceutical Preparations*

Sources of drugs. Crude drugs, Methods of preparing tinctures, extracts, emulsions, etc. Method of application of local remedies such as ointments, salves, liniments, suppositories.

(Laboratory) Visit to pharmacy. Some of preparations made by students or demonstrated.

IX. (2-hour class and quiz) *Action of Drugs on the Body*

Meaning of terms such as local, systemic, cumulative, rational, empiric, physiological and therapeutic, with examples. Methods of administration, absorption and excretion of drugs. Forms suitable for each method of administration. Names and meanings of common classes of drugs such as analgesics, anodynes, diuretics, and common examples.

X. (2-hour class and quiz) *Introduction to a Few Specially Important Drugs*

Common potent drugs—strychnine, caffeine, atropine, and morphine. Use, forms commonly used, early symptoms of over-dosage, treatment of poisoning. Common cathartics, emetics and carminatives. Action and method of administration. Dangers in the use of habit-forming drugs. The patent medicine evil, and the menace of self-drugging. Use and abuse of drugs.

METHODS OF TEACHING

1. Class periods should be conducted by the question and answer method, with full discussion of all the new drugs which have come under the pupil's observation.

2. Laboratory periods should be held in a specially fitted up class-room or in the hospital pharmacy. Pupils should make up solutions and should have extra experience in the pharmacy, if possible, in the making up of stock preparations of various kinds.

3. A great deal of drill will be needed in the making-up of solutions and solving of solution problems. Many of these arithmetical problems may be worked out outside of class and

handed in. Many teachers find it necessary to give a preliminary drill of two or three lessons in fractions, decimals, proportion and percentage.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Drugs in different forms. Samples of crude drugs and growing plants when possible. Charts for metric and English system and all the different kinds of measures—pitchers, measures, funnels, etc. (a set for each pupil in the laboratory section) and stock bottles of all the common drugs for making up solutions.

TEXT AND REFERENCE BOOKS

Dock: Materia Medica for Nurses.
Parker: Materia Medica.
Stimson: Nurses' Handbook of Drugs and Solutions.
Bastedo: Materia Medica and Therapeutics.
Sollmann: Text Book of Pharmacology.
New and Non-Official Drugs—(published yearly by the American Medical Association).
Stevens: Modern Materia Medica and Therapeutics.
Blumgarten: Materia Medica for Nurses.
Foote: Essentials of Materia Medica and Therapeutics for Nurses

Materia Medica and Therapeutics

TIME: 20 one-hour periods. To be given in the second half of the first year, preferably by a physician.

OBJECTS OF COURSE

1. To continue the study of drugs from the standpoint of their therapeutic action, emphasizing the accurate and intelligent administration of medicines, and the observation and reporting of results.

2. To teach pupil nurses enough about the nature and therapeutic action of drugs, so that they may understand the general purposes for which different drugs are ordered, may coöperate intelligently with the physician in his effort to get the best results from the drug, and may appreciate the importance of observing the after-effects, particularly watching for any dangerous or untoward effects from drugs.

3. They should also be familiar with the toxic doses of all the more dangerous drugs, so that they may better safeguard the patients from possible errors. Every nurse should know the antidotes for all common forms of poisoning and should be ready to render first aid in such cases.

OUTLINE OF CLASSES

I. *Applications of Chemistry to Materia Medica.* Active principles of plants—alkaloids, glucosides, oils, etc. Chemical and

physical properties, therapeutic action and use, source and examples. Action and common uses of acids, alkalies and medicinal salts.

II. *Poisons and Antidotes*

Studied in groups—acids, metallic salts, alkaloids, etc., with general principles for the treatment of poisoning by each type. Demonstration or practice in preparation of general antidotes.

III, IV, V, VI. *Drugs which Act on the Nervous System*

Central stimulants. Central depressants. Hypnotics. General anesthetics. Local anesthetics. Analgesics. Anodynes. Mydriatics. Myotics.

VII, VIII, IX. *Drugs which Act on the Circulatory System*

Tonics. Stimulants. Depressants. Vasodilators. Vasoconstrictors. Hematinics.

X, XI. *Drugs which Act on the Respiratory System*

Stimulants. Sedatives. Antiseptics. Expectorants.

XII. *Drugs which Act on the Digestive System*

Emetics. Antiemetics. Digestants. Stomachics. Intestinal Antiseptics. Carminatives. Cathartics. Antidiarrheics. Anthelmintics.

XIV, XV. *Drugs which Act on the Excretory System.*

Diaphoretics. Anhidrotics. Urinary antiseptics. Diuretics.

XVI, XVII. *Drugs which Act on Skin and Mucous Membranes*

Counter-irritants. Disinfectants. Astringents. Styptics.

XVIII, XIX. XX. *Specifics and Miscellaneous Drugs*

Phosphorus. Iodides. Antipyretics. Specifics. Quinine. Mercury. Salvarsan. Salicylates.

Method of Teaching

1. Same general principles as outlined under *Drugs and Solutions.*

2, Every opportunity should be taken to tie up the class work with the ward work. Pupils should be asked to report on the action of drugs being used on their wards. The teacher should visit the wards and quiz the pupils on the medicines which are being given to different patients and the effects they have observed. Any unusual action of drugs, such as a drug rash, or any case where a rare or new drug is being used, should be brought to the attention of the whole class in the form of a clinic.

3. Frequent short tests, both oral and written, should be given. The analysis of prescriptions to determine the amount of any given drug being given in one dose or in 24 hours, is often helpful.

Equipment and Illustrative Material

Same as under Drugs and Solutions—also bedside charts.

TEXT AND REFERENCE BOOKS

See under Drugs and Solutions.—Also
Hare: Practical Therapeutics.
Brunton: Lectures on the Action of Medicines.
Stainsbury: Drugs and the Drug Habit.
Nostrums and Quackery (Published by the American Medical Association).
See also under subjects like Medical Nursing, Surgical Nursing, Obstetrical Nursing, etc.

Massage

TIME: 10 hours divided as follows:—

Classes and Demonstrations—5 hours.
Practice periods—each group 5 hours.
Teacher an expert masseuse preferably a trained nurse. Given as early as possible in the training—not later than the early part of the second year.

OBJECTS OF THE COURSE

1. To teach the nurse to do ably, intelligently and with ease (without awkwardness and wasted energy) such rubbing as is necessarily a part of her duties as a nurse; and to enlarge this field somewhat. (The nurse is not trained however, to be a specialist in massage.)
2. To develop a good touch, and a fair degree of manual dexterity in both hands.
3. To give the nurse an intelligent conception of the full scope of massage as a therapeutic measure, and to fit her to justly appraise the work of a masseuse employed for a patient in her charge.

OUTLINE OF CLASSES AND PRACTICE PERIODS

I. (Class) *Introduction*
Object of instruction in massage and growing importance of this form of treatment. History of massage. Definitions and nomenclature. Fundamental manipulations common to all systems of massage analyzed and demonstrated. Review of anatomical land-marks and essential points in anatomy of muscles, blood vessels and nerves.

II. (Practice) Class practice of simplest examples of the fundamental manipulations with special reference to the stroking movements.

III. (Class) *General Massage*
The physiological effects of massage—therapeutic uses and contra-indications to use. General massage defined and procedure outlined. Preparation of patient and care during and after treatment.

IV. (Practice) General Massage

V and VII. (Class) *Local Massage*

Conditions in which local massage is used. Effects to be produced. Procedure in various conditions. Precautions to be observed in abdominal massage, massage of spine, joints, breast, etc.

VI and VIII. (Practice) Application of local massage in above conditions.

IX. (Class) *Medical Gymnastics*

Various systems of medical gymnastics. Active and passive movements. Conditions in which used and resulting effects.

X. (Practice) Assistive and resistive movements—circumduction, rotation, flexion, etc.

METHODS OF TEACHING

1. Classes and demonstrations may be given to fairly large groups, but for practice work, class must be divided into sections of not more than 8 to 10 pupils. For small groups the class and practice may be combined in one period.

2. It is absolutely essential that pupils should have plenty of practice to gain facility in the use of the hand. Convalescent patients may serve as subjects or pupils may practice on each other. The latter method is preferred.

3. Questions and criticisms by the teacher serve to bring out important points, Written questions may be assigned for students to look up and answer. Both written and practical tests should be required at the end of the course.

4. Selected text and reference books should be used, and if necessary the teacher may supply abridged notes of the essential points and procedures covered, to economize the pupil's time and secure accuracy.

5. Every opportunity should be given for the practice of these procedures on the wards.

EQUIPMENT AND ILLUSTRATIVE MATERIAL.

Beds and ordinary bedding with extra light-weight treatment blankets, chest-blankets, towels, sheets, (small) pillows, (small) knee pillows, hot-water bag, lubricant and talcum powder. Four beds should be provided for a class of eight.

TEXT AND REFERENCE BOOKS

Mitchell and Gulick: Mechano Therapy and Physical Education.
Palmer: Lessons on Massage.
Despard: Text-Book of Massage.
Cyriax: Kellgren's Manual Treatment.
McKenzie: Exercise in Education and Medicine.
Graham: Massage.

Special Therapeutics (including Occupation Therapy)

TIME: 10 hours—in lectures, class and demonstration, by instructors who are specialists in the various branches discussed.
Given in the Senior Year.

OBJECTS OF COURSE

1. To give the nurse a good general idea of the principles underlying the newer methods of treatment which are to a considerable extent replacing the treatment by drugs.
2. No attempt is made here to specialize in any of these forms of treatment, but only to enable the nurse to coöperate intelligently with those who prescribe and administer them and to show the possibilites of specialization which are open to nurses.

OUTLINE OF CLASSES

I. *Hydrotherapy*
History and modern development of treatment by water. Effects of temperature and pressure on skin and nervous system. Indications and contra-indications for treatment. Combination of hydrotherapy with special climatic conditions. Influence of altitude, temperature and moisture in air. Comparative value of mountain, sea-side and mineral springs for various heart, kidney, lung and nervous conditions.

II. *Practical Procedures in Hydrotherapy*
(Demonstration) Salt-rubs—mineral baths—needle baths—sprays and douches—packs, tubs and ablutions—local and general.

III. *Mechanotherapy*
Newer forms of manual and mechanical treatments. Indications and contraindications for treatment. Physical exercises. Active games. Exercising apparatus. Equipment, varieties and value. Substitutes where a gymnasium is not available.

IV. *Treatment by Light-Rays and Electricity*
X-Ray—Radium—Finsen Light—Heliotherapy—Electrotherapy. The therapeutic action of these agents. Special indications and contraindications for treatment, precautions and after care of patients.

V. *Serum-Therapy*
Theories underlying the use of serums reviewed. Preparation of various sera. Methods of administration. Observation of patient. Prophylaxis and anaphylaxis. (Visit to a research laboratory, if possible.)

VI. *Occupation Therapy*
History of the development of work cures. Conditions in which occupation is particularly indicated as a therapeutic agent. Mental and physical effects of occupation. Psycho-

logical and physiological processes involved. Economic and moral aspects of occupation therapy.

VII and VIII. *Choice of Occupations*

Factors to be considered in choice of occupations for patients —physical condition, nature of the disease or handicap, duration of the disease, mental and manual equipment, age, previous life, personal tastes and capacities, disposition, etc. Main types of patients to be considered. Types of occupations suitable for sick and handicapped—therapeutic value of each —suitability and practicability for various types of cases— mental and nervous, tubercular, heart cases, etc. Sedentary work—embroidery, basketry, chair-caning, modeling, paper-work, string work, etc. Active indoor occupations—shop-work, cement, loom-weaving, etc. Outdoor work—gardening, farming, photography, etc. Recreations—entertainments, dramatic games, dancing, music, reading, etc.

IX. *Equipment and Materials*

Requirements in tools, materials, etc., needed for commoner types of occupations. Practical possiblities for the general hospital patient, for sanatoria, private cases and district work, etc. Prices and purchasing of reed, wood, paper, etc. The use of waste materials—rags, paper, string, etc. Disposal of products.

X. *Methods of Teaching Occupations*

The problems of bedside teaching and class-teaching. How to secure interest and coöperation. Need of careful planning and preparation. Importance of variety. Dangers of overdoing. Cultivation of originality and initiative. Development of the artistic sense. Value of appreciation and commendation as incentives. Encouragement of social motives as opposed to commercial or individualistic. Concrete problems provided. Helping real people. Perfection in workmanship comparatively unimportant. Educational and therapeutic results primary objectives.

(Note). If additional time can be given and a teacher of occupations can be secured, these classes should be supplemented by at least 10 to 20 hours in hand-work. A selection might be made from the following:

Sewing and fancy work—Knitting, crocheting, tatting, embroidery, rug-making, rake-knitting, etc.

Basketry and weaving, using raffia, reed, and other materials.

String-work—knotting and hammock-making.

Wood-work—carving and simple construction in wood.

Paper-work—simple book-binding, papier mache work.

Leather work.

METHODS OF TEACHING

1. Lecture and class work should be supplemented by demonstration as far as possible. If more time is available, students should also carry out the main procedures in class to be sure that they have a grasp of the principles of technic, otherwise practice should be provided in connection with the nurse's general work. Class visits to X-ray rooms, hydrotherapeutic departments, etc., should be made to show the equipment in operation.

2. In the occupational classes samples of the patient's work, poor as well as good, should be exhibited with brief histories of the cases, showing how handicaps are overcome and therapeutic results accomplished. Nurses should be encouraged to make themselves skillful in as many forms of occupational work as they can. Patients should be observed at work, and case records and charts studied to trace the relation between occupation prescribed and the patient's condition.

ILLUSTRATIVE MATERIAL AND EQUIPMENT

Samples of work, pictures of work-rooms, of handicapped individuals at work, and finished products. X-ray plates. charts, apparatus, etc., to illustrate subjects under discussion.

TEXT AND REFERENCE BOOKS

Dunton: Reconstruction Therapy.
Hare: Practical Therapeutics.
Kellogg: Rational Hydrotherapy.
Baruch: Principles and Practice of Hydrotherapy.
Hinsdale: Hydrotherapy.
Potts: Electricity in Medicine and Surgery.
Tracy: Invalid Occupations
Tracy: Rake-Knitting.
Dunton: Occupation Therapy.
Hall and Buck: The Work of Our Hands.

See also under Nursing in Mental and Nervous Diseases, Materia Medica and Therapeutics, etc.

For Dietary Treatment see under Diet in Disease p. 22.

E. NURSING IN DIFFERENT FORMS OF DISEASE

Elementary Nursing Principles and Methods

TIME: 60 hours, 30 lessons of 2 hours each divided about equally between theory and practice. To be given in the preparatory course. Teacher—the nurse instructor.

OBJECTS OF COURSE

1. To give a clear understanding of the fundamental principles which underlie all good nursing, to develop habits of observation, system, economy, and manual dexterity and to establish a uniform and finished technic.
2. To prepare pupils to meet the problems that will confront them in their daily work, limiting their duties as far as possible to those which they can understand and safely practice in the earlier stage of their training.
3. To test out the aptitude of pupils, with a view to selecting those who are fitted to continue the work.

OUTLINE OF CLASSES

I. *Introduction. How to Provide the Best Kind of Accommodation for Sick People.*

Purpose of the hospital and kinds. Importance of the nursing service. What such service includes. Survey of general plan of the hospital. Different departments and their relation to one another. Plan of work to secure efficient service. (Class to be taken on a trip round the hospital.)

II. *The Patients' Surroundings. How to Make Them Clean, Comfortable and Attractive.*

Effect of environment on sick people. The plan of the ward and private rooms, furnishings, arrangement, temperature, ventilation, light, cleaning and care. (If the course in hospital housekeeping can not be given, a longer time will have to be given to this lesson and the following.)

III. *Lavatories and Service Rooms. How to Keep Them in Good Condition.*

Relation of these to welfare of patient and work of the staff. Equipment and arrangement of lavatories, linen-rooms, utility rooms, etc. Care and cleaning of rooms, utensils and appliances.

IV and V. *Getting a Bed Ready for a Sick Patient*

Possible conditions to be met in person to occupy bed. Kind of bed and bedding needed in hospitals for comfort, safety, economy, sanitation, etc. Cleaning, disinfection and care of beds and bedding. How to make closed and open bed and children's cot.

VI. *How the Hospital Admits its Patients and Cares for Their Property*

Types of patients and how they come to the hospital. What can be done to make them feel at home and save them from fear and worry. Routine in admitting-room, office and ward. Clothing to be provided. Helping with tub bath and getting patient to bed. Listing and caring for clothing and valuables. Precautions regarding vermin. What the social service department does for special cases.

VII and VIII. *How to Care for the Patient's Immediate Physical Needs and Make Him Comfortable in Bed*

Sources of discomfort and how to alleviate them. Positions of patients in bed. Devices for comfort—pillows, pads, rings, etc. Giving bed-pan. Lifting and turning. Dressing and undressing. Changing bed with patient in it. Changing mattress with patient in bed.

IX. *Moving and Carrying Sick and Helpless Patients*

Condition of patients to be specially considered. Important points in handling and carrying patients. Assisting in walking. Carrying with and without a stretcher. Putting the patient up on a back-rest. Getting patient out of doors in a chair. Making bed for balcony patient. Restraint for irresponsible patients. How and when to restrain.

X and XI. *Bathing the Patient*

Purpose of the bath and method of giving bed-bath and night toilet. Care of mouth and teeth. Care of nails and hands. Brushing and combing hair. Precautions and treatment for pediculi. Washing the hair in bed. Care of nurse's basket or tray.

XII. *Prevention and Treatment of Bed Sores. Relief of Common Discomforts*

Causes of skin irritations. Prevention and care of bed-sores. Other causes of restlessness and sleeplessness. How to secure relaxation. Regulation and treatment of visitors. General handling of nervous patients. Hot-water-bags and cold compresses, etc. as aids to comfort. Alcohol rub and simple rubbing movements.

XIII. *How to Nourish the Patient*

Importance of food in restoring health. Physiological and psychological factors in relation to appetite. The serving of food to different types of sick and helpless persons. Care of food in kitchen and ward. Care of convalescent table.

XIV, XV and XVI. *What to Observe and Record About a Sick Patient's Condition*

Importance of accurate and careful observation. How to observe. Cardinal symptoms—temperature, pulse, respiration, and other important indications of patient's condition. Col-

lection and care of specimens. Purpose of charts. Methods of charting. (Extra practice in printing to be given.)

XVII. *Assistance in Examination of the Patient*

Purpose of examination and common procedure followed. What the doctor needs for various types of examinations. Positions and assistance. How to protect the patient. Preparation for blood counts, Widals, etc. How to take the doctor's orders.

XVIII. *Administration of Common Medications*

Special precautions in handling of medicines. Care of medicine tray and hypo tray. Care of medicine cupboard and apparatus. Administration of medicines by mouth. The ticket and other systems for ensuring accuracy.

XIX. *Nursing Measures in Common Digestive or Intestinal Disturbances*

Causes and treatments usually given for nausea, vomiting, flatulence, colic, etc. How to give a simple enema. How to irrigate the bowel in a child.

XX. *Nursing Measures in Simple Infectious Conditions*

Infectious nature of colds, coughs, sore throats, etc. Precautions in care of excreta, linen, dishes, etc. How to give sprays, irrigations, gargles and inhalations. How to prepare a croup-tent. How to give oxygen. Care of room and belongings after an infectious case.

XXI, XXII, XXIII. *Local Applications for Inflammation and Congestion*

Condition of circulation in inflammation. Action of heat and cold. Application of hot-water-bags. electric pad, poultices, fomentations, compresses, ice-bags, ice-coils, etc., to different parts. Action of counter-irritants and application of mustard paste. The foot bath, sitz bath, and mustard bath.

XXIV. *The General Care of Chronic and Convalescent Patients*

Position and care in chronic heart-troubles, asthma, ascites, paralysis, etc. Care of rheumatics. Baking for stiff joints. Wrapping joints. Application of liniments. Simpler movements of massage. Filling and care of air and water beds. Care of convalescents.

XXV. *The General Care of Sick Children in the Hospital*

Special problems to be met with children. Methods of lifting, carrying, bathing, dressing and feeding. Common conditions and treatments in children's ward. The daily routine. Entertaining and managing sick children.

XXVI and XXVII. *Elementary Nursing Measures in Surgical and Orthopedic Conditions*

General principles in surgical work. Cleaning and sterilization of instruments. Clearing trays, care of splints, sand-bags, extensions, etc. Making of surgical bed and ether bed. Care of patient in Bradford frame. Arm and foot baths for surgical conditions.

XXVIII. *Elementary Nursing Measures in Gynecological Conditions*

Nature of conditions to be dealt with. Positions and materials for examinations and treatments. Douches. Preparation and clearing away of catheterization trays. Venereal precautions.

XXIX. *Elementary Measures in Eye, Ear and Skin Cases*

Nature of conditions to be cared for. Eye-bathing, compresses and drops. Removal of foreign bodies in eye. Preparation of trays for eye and ear treatments. Application of ointments and lotions for common skin troubles. Eczema masks. Care of infectious skin conditions.

XXX. *Special Problems*

How the hospital discharges its patients. Getting the patient ready to go home. Routine of discharge. Assistance by social service department in special cases. What to do in case of approaching death. The care of the body. Disposal of clothing, valuables, etc. Care of delirious patients. Night care of sick patients.

NOTE. It is very desirable that some additional time should be given in connection with this course for a brief discussion of occupations and diversions for ward patients. Pupils can teach each other many of these processes, and if their interest is once aroused they will begin at once to devise and learn new ways of employing their patients' idle hands and minds. Some practical application of the simpler games and common forms of hand-work could be made in the daily work in the wards and dispensary. The special therapeutic effects of occupation would not be discussed here. The main points to be covered are as follows:

1. How to occupy the patient's mind. The mental and physical effects of idleness both on well and sick people—the special need for diversion and occupation in certain types of disease, as an antidote to worry and a source of interest and mental stimulation. Use of books and pictures in the hospital. Choice of stories and anecdotes for different ages and types of patients, bed games, cards, puzzle-pictures, floor and table games, checkers, chess, dominoes, block-building, etc. The storing and care of materials in the wards. The use of waste materials.

2. Suggested occupations for special types of patients in the hospital. Hand-work, entertainment and diversions, suited to children, women, men, and patients with special handicaps.

(For equipment, reference-books, etc., see under Special Therapeutics.)

METHOD OF TEACHING

1. In order to insure complete understanding of the principles involved, about half the time will usually be required to ques-

tion the students and explain the purpose of the various treatments, the conditions in which each is used, the effects to be looked for and the precautions required. The demonstration should follow or accompany this part of the lesson, and might be given to the whole class unless it is very large.

2. For practice work, the class should be divided into sections of from eight to twelve pupils, depending on the amount of equipment available. For all the commoner procedures each pupil should have an individual set of appliances as in the diet kitchen, but if this is not possible pupils can work in groups of two or three. The teacher supervises the practice work, quizzing the pupils and explaining where necessary. Pupils may be asked to criticize each other's work, and sometimes to demonstrate for the group. Frequent reviews are desirable, and a final demonstration before the superintendent and head nurses is often found to stimulate careful and finished work.

3. If the pupils are regularly assigned to ward duty, much of the practice or drill can be carried on in the wards under the general supervision of the instructor. If the student is not on ward duty, extra hours will have to be allowed for practice work in the demonstration room till skill and confidence are developed. Pupils should not be allowed to perform any duties in the wards till the method has been thoroughly taught in the demonstration room. This method should be the one in use throughout the hospital.

4. To secure uniformity in method, it is well to have a typewritten or printed book of standardized procedures for reference in each ward. These methods should be carefully worked out to secure the greatest safety, comfort, and best therapeutic results for the patient, and the greatest economy in time, effort and materials for the staff and the hospital. Neatness and simplicity of procedure are also of primary importance.

5. It is desirable that the nursing procedures taught in the probationary period should include only the simpler and less technical treatments, those which do not demand fine skill or much experience and understanding of disease, and those which would not likely be misused if the pupil is not retained in the hospital. If it is absolutely necessary for pupils to be given more responsible work such as night duty immediately following the preparatory course, certain other procedures may have to be taken up in this elementary course, such as catherization, hot and cold packs, intestinal irrigation, nutrient enema, etc. It is advisable however to defer these till the pupil has had more experience and knowledge and till she has properly mastered the fundamentals as outlined above. Courses in medical and surgical nursing should follow this elementary course.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

1. A special demonstration room or laboratory should be fitted up for the teaching of practical nursing. This should be large enough to allow eight to twelve students to work freely at one time. It should have ample cupboard and drawer space for supplies, and several good-sized tables, as well as blackboards, chairs, etc.

2. The demonstration room should contain a complete equipment of the materials needed for class work—beds, linen, enamel and glass-ware, drugs and supplies. For all the commoner procedures each pupil or pair of pupils should have an individual set if possible. Expensive or cumbersome articles can be borrowed from the wards, when needed. Sometimes it is possible to use an empty ward or a good-sized private room as a practice room and then ward supplies and equipment may be used.

3. Demonstration dolls or manikins can be used for many demonstrations, though the living subject is better if one can be secured. Pupils can be used as subjects in many procedures. A home-made life-size doll can be made quite inexpensively, covered with single-faced rubber so that it can be bathed and tubbed if desirable.

4. Anatomical charts and models, the skeleton, and other illustrative material will be needed.

(For plan and equipment of demonstration room see articles in 1914 and 1915 Reports of National League of Nursing Education, also The Modern Hospital, June, 1918.)

TEXT AND REFERENCE BOOKS

Nightingale: Notes on Nursing.
Maxwell and Pope: Practical Nursing.
Sanders: Modern Methods in Nursing.
Robb: Nursing—Principles and Practice.
McIsaac: Primary Nursing Technique.
Brown: The Junior Nurse.
Bridge: Nursing Manual.
Wheeler: Nursing Technic.

See also books on Anatomy and Physiology, Bacteriology, Chemistry, Physics, Hygiene, and Medical and Surgical Nursing.

Elementary Bandaging

TIME: 10 hours. Class, demonstration and practice in two-hour periods. Taught by the instructor of nurses or a competent head-nurse. Given in the preparatory course. (May be combined with course in practical nursing).

Objects of the Course

1. To teach the fundamental principles of good bandaging as a basis for all future practice in connection with surgical and orthopedic work, first aid, etc.

2. To develop a fair degree of manual dexterity and skill in the application of the commoner and simpler bandages.

Outline of Classes

I. *Introduction*

Purposes for which bandages are used. Variations in materials, width, length, etc., of roller bandages. How to make and roll bandages. Triangular, cravat, four-tailed, and scultetus bandages. Their uses and common applications. Slings of different types and their application. Knots.

II. *The Circular and Spiral Bandage, and the Spica (Hand and Arm)*

Methods of holding, starting and ending the roller bandage. Circular bandage of the wrist, spiral of the arm and finger, spica of the thumb, complete gauntlet of the hand and demi-gauntlet.

III. *The Spiral Reverse and Figure-of-Eight of the Arm*

Purpose and technic of the reverse. Spiral reverse of the arm, figure-of-eight of the arm and elbow (including the hand), spica of the shoulder.

IV. *Spiral Reverse and Figure-of-Eight of Leg and Foot*

Spiral reverse of leg. Spica of the foot (covering the heel). Figure-of-eight of the ankle. Figure-of-eight of the leg. Spica of the groin.

V. *Special Bandages of the Head and Chest*

Figure-of-eight of the shoulders and chest. Suspensory of the breast (single and double). Recurrent head-bandage. Oblique of the jaw. Barton's bandage and eye-bandage.

Methods of Teaching

1. The class period should be devoted largely to demonstration and practice, with criticism by the teacher. When the pupil has caught the right idea, the necessary extra practice to acquire speed and dexterity can be done outside the classroom.

2. Pupils may practice on each other where this does not necessitate a great waste of time for the model. It is better to have the human model to practice on, but fairly satisfactory work can be done on wooden or plaster-of-paris models (see below) or on the doll until the method is acquired.

3. Books or charts with good illustrations of bandaging technic should be used freely by the pupils to supplement demonstrations by the teacher.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

1. Bandages of all varieties should be available for demonstration and for use by pupils.

2. Models of head, arm, leg, hand, etc., may be secured and mounted in convenient positions for practice.

3. Improvised models may be made by pouring plaster-of-paris into a firm glove or stocking and moulding quickly to the shape desired. Plaster-of-paris models of heads may also be made at small cost.

TEXT AND REFERENCE BOOKS

Eliason: Practical Bandaging.
Davis: Principles and Practice of Bandaging.
Hopkins: The Roller Bandage.
Wharton: Minor Surgery and Bandaging.
Morrow: Immediate Care of the Injured.
See also under Surgical and Orthopedic Nursing.

Elements of Pathology

TIME: 10 hours. Lecture, class and laboratory work, conducted by pathologist with assistance of instructor if necessary. Second term of first year.

OBJECTS OF COURSE

It is not the intention here to make the nurse technically skillful in performing laboratory tests, but rather to help her to understand the principal causes that lead to disease, the nature of some of the commoner disease processes, the meaning of terms used in describing pathological conditions, and the importance of the various diagnostic measures especially as they touch her work. If she understands these things she will be a better observer of symptoms, more intelligent in applying treatments, and will be able to coöperate intelligently with the physician and the pathologist in such tests and experiments as they wish to carry out on the wards.

OUTLINE OF CLASSES AND DEMONSTRATIONS

I. *General Features of Diseases*

Brief review of history of pathology. Classification of diseases according to effect on the body (functional and organic), origin (constitutional and environmental) and nature of disease. Causes classified into *predisposing* (heredity, environment, climate, age, sex, occupation, etc.) and *direct or exciting* (mechanical, physical, chemical, and parasitic). Examples of each. Meaning of immunity, susceptibility, predisposition, and idiosyncrasy. Rôle of bacteria and animal parasites reviewed. Effects of bacteria on the tissues.

II and III. *Disease Processes or Conditions*

Congenital (malformations, weaknesses, defects, etc.). Disorders of digestion and metabolism (faulty digestion, elimination or secretion). Disturbances of circulation (heart lesions, congestion, haemorrhage, thrombosis, oedema, etc.). Retrograde processes (atrophy, degeneration, necrosis, gangrene, death). Progressive processes (hypertrophy). Inflammation —symptoms, causes, processes (hyperemia, exudation, diapedesis, resolution, suppuration, ulcer, abscess, sinus, etc.). Processes of tissue rapair. Results of reparative processes.

IV. *New Growths*

Tumors—cause, structure, nature (benign and malignant), dangers, varieties (lipoma, fibroma, dermoid cyst, sarcoma, carcinoma). Tumor-like growths (gummata in syphilis, tubercles in tuberculosis, and nodules in leprosy), cavities (tuberculosis and dental caries). False membranes, strictures and adhesions.

V and VI. *Observation of Symptoms* (Aids to Clinical Diagnosis)

Importance of correct observation and accurate description of symptoms—objective and subjective. Important symptoms relating to central nervous system, special senses, respiratory tract, alimentary tract, vascular system, organs of elimination, muscular system, bony system, reproductive system, and ductless glands. Purpose and care of the stethoscope, sphygmomanometer, and other apparatus used in clinical diagnosis.

VII. *Methods of Laboratory Diagnosis*

Methods of obtaining and preserving specimens for examination. General purpose and significance of tests made in pathological laboratory (blood, dropsical fluid, spinal fluid, pus, sputum, vomitus, feces, urine, vaginal smears, throat cultures, and specimens from operating room). Interpretation of results. Charting.

VIII. *Examination of Feces and Gastric Contents*

Normal stools—number, form, consistency, color. Gross appearance of pathological stools, with mucus, pus, blood, parasites, calculi, foreign bodies. Clinical significance. Purpose of commoner tests. Appearance of normal stomach contents. Nature of tests. Charting.

IX. *Examination of Urine.*

Appearance of normal urine—quantity, color, turbidity, odor, reaction, specific gravity, and constituents. Abnormal urine —conditions producing changes in composition, quantity, specific gravity, etc. Nature of chemical tests—for sugar, albumin, indican, and bile. Nature of microscopic tests—for crystals, pus, casts, bacteria, etc. Charting.

X. *Laboratory Period*

Students divided into groups make simple tests of normal and abnormal urine.

METHOD OF TEACHING

1. Classes should be held in the pathological laboratory or museum where students can be shown specimens illustrating the conditions and processes described. Lantern slides can also be used to great advantage.

2. This course is a continuation of the courses in Anatomy, Bacteriology, and Chemistry which were given in the preparatory term, and is intended to serve as a basis for the courses in Medical and Surgical Nursing. It should therefore be correlated closely with these subjects.

3. It is important that pupils should get a good command of all the ordinary terms used in describing disease conditions—their spelling, pronunciation, and their exact meaning. Hence it is advisable to have brief written and oral reviews and quizzes when possible.

ILLUSTRATIVE MATERIAL

Pathological specimens, slides, charts, X-ray photographs, and illustrations from books. Microscopes.

TEXT AND REFERENCE BOOKS

Roberts: Bacteriology and Pathology for Nurses.
Sedgwick: Principles of Sanitary Science.
Roger: Principles of Medical Pathology.
Adami and McCrea: Textbook on Pathology.
Wells: Chemical Pathology.
Henry: A Nurse's Handbook of Medicine.
Emerson: Essentials of Medicine.
Councilman: Disease and Its Causes. (Home University Library)
Mackenzie: Health and Disease. (Home University Library).
Mackenzie: Symptoms and their Interpretation.
Medical Dictionaries.
See also books on Bacteriology, Medicine, Surgery, and Hygiene.

Nursing in Medical Diseases

TIME: 20 hours, divided as follows:

Lectures and clinics by physicians—10 one-hour periods.

Classes and demonstrations by nurse instructor—10 one-hour periods. Given in the second half of the first year.

OBJECTS OF COURSE

1. To give the nurse a practical understanding of the causes, symptoms, prevention and treatment of the commoner medical diseases, so that she may intelligently care for her patients, and give skilled assistance to the physician.

2. To give her skill and precision in the administration of the more advanced nursing treatments and to make her a keen observer and reporter of the symptoms of disease and the effects of treatments.

OUTLINE OF LECTURES AND CLASSES

I and III. (Lectures) *Diseases of the Blood, Heart and Circulatory System*
Anaemia, leukaemia, chlorosis, pericarditis, endocarditis, myocarditis, valvular diseases, arteriosclerosis, aneurism, phlebitis.

II and IV. (Classes) Quiz on lectures. General nursing measures used in above conditions—diet, drugs, appliances, etc. Symptoms to be observed. Special treatments. Administration of drugs by hypodermic. Hypodermoclysis, transfusion, and intravenous. Saline infusion.

V and VII. (Lectures) *Diseases of the Respiratory System*
Pneumonia, broncho-pneumonia, pleurisy, empyema, pneumo-thorax, oedema, bronchitis, bronchial asthma, etc.

VI and VIII. (Classes) Quiz on lectures. General nursing measures required in above conditions. Review treatments such as inhalations, croup-tent, irrigations, oxygen, etc., adding, cupping, actual cautery, cantharides, leeches, and special counter-irritants. Administration of pneumonia serum.

IX, XI, XIII. (Lectures) *Diseases of the Gastro-Intestinal Tract and Accessory Organs*
Gastritis, dilatation of stomach, duodenal ulcer, carcinoma of stomach, haematemesis, gastric neurosis, constipation, diarrhoea, mucous colitis, chronic appendicitis, ascites, jaundice, cirrhosis and carcinoma of the liver, etc. (Typhoid should be included here if pupils are likely to care for such cases early. See communicable diseases.)

X, XII, and XIV. (Classes) Quiz on lectures. General nursing measures required in above conditions. Special treatments—test meals, lavage, gavage, nasal feeding, intestinal irrigations, proctoclysis, rectal feeding. Antipyretic measures—cold sponge, slush bath, cold pack.

XV, XVII, and XIX. (Lectures) *Diseases of the Urinary Tract and Constitutional Diseases*
Nephritis, uraemia, cystitis, rheumatism, gout, diabetes, and diseases of the special glands.

XVI, XVIII, and XX. General nursing measures required in above conditions. Catherization, bladder irrigation, instillation, cystoscopic examination. Diaphoretic treatments—hot pack, vapor and hot air baths, medicated baths.

NOTE. If it is impossible to combine the medical lecture and nursing classes in this way for each group as it finishes the preliminary course, it is suggested that the nursing classes be

given separately to each group, and that all groups be combined for the medical lectures. Where the medical lectures have to be postponed till the second year, the nursing classes should include a summary of the principal medical diseases such as is found in most nursing text books. The course in pathology should precede or accompany the course in medical nursing. Practical experience in the general medical wards should be given early to all pupils, as it is fundamental to all the special branches of nursing.

Methods of Teaching

1. The clinical method of teaching medical diseases is to be preferred wherever it is possible. Lectures and classes should be illustrated constantly by reference to patients in the wards and nurses quizzed on the cases from their own wards. Short written reports on interesting cases may be read in class by pupils.

2. The anatomy and physiology of each system should be assigned for review before taking up the diseases of each system. Quizzes should include previous related work in bacteriology, hygiene, materia medica, dietetics, etc.

3. In the short time allowed it will not be possible for nurses to practice the nursing procedures in the class-room. However each nurse should be given an opportunity as soon as possible, to carry out each procedure on the ward. No treatment should be given the first time without observation by the head nurse or instructor. The pupil's card should be marked up when the treatment has been given satisfactorily and care should be taken to see that no important procedure is omitted.

4. Charting should be emphasized in connection with every lesson and typical charts studied in connection with the different diseases.

Equipment and Illustrative Material

Laboratory specimens showing diseased organs, charts, diagrams, X-ray plates, lantern slides, skeleton, bones, etc. Demonstration room equipment.

Text and Reference Books

Emerson: Essentials of Medicine.
Robb: Nursing Principles and Practice.
Maxwell-Pope: Practical Nursing.
Sanders: Modern Methods in Nursing.
Wheeler: Nursing Technique.
Osler: Practice of Medicine.
Hughes: Practice of Medicine.
Stevens: Practice of Medicine.

Rosenau: Preventive Medicine and Hygiene.
Hare: Practical Therapeutics.
Hinsdale: Hydrotherapy.
Baruch: Principles and Practice of Hydrotherapy.
Brunton: Lectures on the Action of Medicines.
Farr: Internal Medicine.
Lee: Scientific Features of Modern Medicine.
See also reference books on Pathology, Materia Medica, Dietetics, etc.

Nursing in Surgical Diseases

TIME: 20 hours divided as follows:
Lectures or clinics, conducted by a surgeon—10 hours.
Nursing classes, quizzes and demonstrations, conducted by an expert surgical nurse—10 hours.

OBJECTS OF COURSE

1. To give the pupil nurse a good general idea of the nature of the principal surgical diseases, their symptoms and treatment, so that she may care for surgical patients intelligently, be of the greatest possible assistance to the surgeon in dressings and surgical treatments, and be able to act promptly and wisely in emergencies.
2. To give her skill in elementary surgical procedures and bandaging, and to establish good habits of surgical technic.

OUTLINE OF LECTURES AND CLASSES

I. (Lecture) *Introduction*
History of antiseptic and aseptic surgery. Microörganisms specially concerned in wound infections. Sources and modes of infection. Surgical nomenclature. Outline of the surgical field. General principles of modern surgery.
II. (Class) Essential qualifications for success in surgical nursing. Surgical materials and their preparation. Sterilization of surgical instruments and dressings. Skin disinfection and surgical toilet. Care of the dressing carriage and dressing room.
III. (Lecture) *Wounds and Wound Infections*
Kinds of wounds—accidental and operative—clean and infected. The healing process. Pathological conditions—inflammation, suppuration, necrosis, gangrene, septicaemia, pyaemia, erysipelas, tetanus. Burns and scalds.
IV. (Class) Surgical dressings in clean and infected wounds. Wet dressings. Packing, drainage, and special applications. Removal of sutures. Treatment of contusions. Nursing care of burn cases. Setting up of surgical trays for various kinds of dressings.

V. (Lecture) *Surgical Emergencies*

Hemorrhage—causes, symptoms, and treatment. External and internal hemorrhage. Shock—causes, symptoms and treatment. Theory and technic of anoci association.

VI. (Class) Methods of controlling hemorrhage by digital pressure, position, toruniquet, etc. After treatment of hemorrhage. Prevention and treatment of shock.

VII. (Lecture) *Minor Surgical Procedures*

Local incisions for abcesses, empyema, tracheotomy. Technic of exploration, lumbar puncture, phlebotomy, aspiration, paracentesis, etc. Local anaesthetics.

VIII. (Class) Preparation for local incisions and operations and after care. Provision for drainage. Biers cups.

IX. (Lecture) *Major Surgical Operations and Surgical Complications*

Preparation of patient for operation. General care during and after operation. Post-operative complications—nausea, vomiting, tympanites, auto-intoxication, pulmonary and kidney complications, hemophilia, thrombosis, embolism, phlebitis, etc.

X. (Class) Review ether-bed, Fowler's position and general points as to routine nursing care and treatment in major operations. Observation of symptoms. How to keep surgical charts and records. Treatment of surgical complications.

XI. (Lectures) *Surgical Conditions Involving Bony and Muscular Systems*

Fractures, dislocations and sprains. Amputations of extremities. Necrosis and osteomyelitis. (Orthopedic conditions discussed in special course.)

XII. (Class) Review of fracture bed, splints, extensions, etc. Preparation and after care in each type of operation or injury, especially fractures of skull, spine, pelvis, and compound fractures. Special bandages—Velpeau, stump, ankle, etc. Strapping for sprained ankle, knee, etc.

XIII. (Lecture) *Surgical Conditions of the Alimentary Tract and Accessory Organs*

Common operative procedures involving stomach, spleen, liver, and intestines. Operations for ulcer and cancer of stomach and intestines, intestinal obstruction, tubercular peritonitis, appendicitis, hernia, gallstones, etc.

XIV. (Class) Preparation for above, procedures and after care in each type of operation. Bandages and dressings. Special nursing care of fecal fistula, gall-bladder and hernia cases. Charting.

XV. (Lecture) *Surgical Conditions of Thorax and Back*

Operations on chest, breast and kidney, including sarcoma, carcinoma, cysts, tumors, stone, etc. (Brief survey of surgery of genito-urinary tract given here. To be treated more fully later in a special course.)

XVI. (Class) Preparations and after care in each type of operation. Special bandages and dressings. Charting.

XVII. (Lectures) *Surgery of the Head and Spinal Cord*
Surgical conditions of brain and spinal cord, mouth, tongue, and thyroid gland.

XVIII. (Class) Preparation and after care in each type of operation. Special dressings and bandages. Charting.

XIX. (Lecture) *Plastic Surgery*
Grafts—bone and skin. Surgical treatment of hare-lip, cleft palate, etc.

XX. (Class) Preparation and after care in each type of operation. Special dressings and bandages.

METHOD OF TEACHING

Follow same general method as that outlined under medical nursing.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Dressing carriage and full equipment of surgical materials. Trays for various types of surgical dressings, hypodermoclysis, preparation, etc. Samples of special instruments and apparatus. Lantern slides, X-ray plates, skeleton, etc. Anatomical and first aid charts.

TEXT AND REFERENCE BOOKS

Parker and Breckenridge: Surgical and Gynecological Nursing.
Fowler: Operating Room and Patient.
Howell: Surgical Nursing and Hospital Technique.
Rose and Carless: Manual of Surgery.
DaCosta: Modern Surgery—General and Operative.
Morrow: Immediate Care of the Injured.
Saleeby: Surgery and Society.
Crile: Anoci-Association.
See also under Elementary Bandaging and First Aid.

Nursing in Communicable Diseases

TIME: 20 hours—divided as follows:

Medical lectures or clinics by a physician—9 hours.

Medical classes and demonstrations, by a nurse who is a specialist in the field—9 hours.

Lectures on social aspects by social service worker or specialist in this phase of the subject—2 hours. Course to be given in the earlier half of the second year.

OBJECTS OF COURSE

1. In most infectious diseases, the nursing care is the most important part of the treatment, hence the nurse needs to be thoroughly informed on the nature of these diseases, and on every point that would help her to give intelligent nursing care and to prevent the spread of disease to others.

2. Especially in public health nursing, the nurse is expected to detect the early signs of the infectious diseases, so she ought to be very familiar with the symptoms of all the commoner infections, and should know the local regulations for the handling of such cases.

3. It is very important that she should also recognize the social and economic aspects of this whole question of preventable diseases, and should appreciate her responsibilities and opportunities in the campaign to eradicate them.

Outline of Lectures and Classes

I. (Lecture) *Typhoid Fever*
Introduction to the study of fevers. General clinical features, causes, stages and general lines of prophylaxis and treatment. The causes, modes of transmission, incubation period, symptoms, varieties, complications, after effects, and treatment of typhoid.

II. (Class) Quiz on lecture. Sanitation of sick-room and hygiene of patient, family and nurse, Patient's toilet, antipyretic measures, diet, and general nursing care in fevers. Preparation for Widal and anti-typhoid serum. Precautions and treatment in hemorrhage, perforation, tympanites, etc. Quarantine and personal precautions.

III. (Lecture) *Scarlet Fever, Measles, German Measles*
General features of the exanthemata. Latest conclusions regarding causes and methods of infection. Periods of incubation, immunity, symptoms, types and characteristics of each disease. Complications, after effects, and treatment. General precautions and Board of Health regulations.

IV. Quiz on lecture. General technic of aseptic nursing, disinfection, isolation, etc. Prevention of cross infections. Nursing care in above diseases. Special care of mouth, nose, throat, eyes, and ears. Precautions as to rest, warmth, diet, and bathing. Nursing treatment of nephritic complications, otitis media, endocarditis, etc. Charting.

V. (Lecture) *Small-pox, Cow-pox, Chicken-pox, and Erysipelas*
History of small-pox. Cause, mode of transmission, incubation period, symptoms, types, stage of eruption, toxemia, complications, after effects, and treatment of each disease. Degree of quarantine and infectivity.

VI. (Class) Quiz on lecture. Nursing care in above diseases as to rest, bathing, diet, etc. Preparation for vaccination and dressing. Local applications of cold, antiseptics, etc. Irrigation of eyes and prevention of pitting in small-pox. Methods of disinfection and precautions. Care of body after death.

VII. (Lecture) *Diphtheria, Tonsillitis and Septic Sore Throat*
History of diphtheria. Causes, symptoms, complications, after effects, and treatment of each disease. Board of Health regulations.

VIII. (Class) Quiz on lecture. Nursing care and management of above diseases. Local throat treatments. Preparation for giving antitoxine, intubation, tracheotomy, Schick test. After-care of intubated cases. Heart precautions. Vincent's angina. Use of mouth gag and feeding. Care of tubes—threading, cleaning, etc.

IX. (Lecture) *Influenza, Whooping Cough, Mumps and Colds*
History, causes, modes of transmission, symptoms, complications, after effects, treatment, etc. Board of Health regulations.

X. (Class) Quiz on lecture. Nursing care and management of above. Review of hot and cold applications, counter irritants, croup-tent, etc. Precautions. Technic of isolation and disinfection in a private home for more severe and milder infections.

XI. (Lecture) *Cerebro-Spinal Meningitis, Infantile Paralysis*
Causes, modes of transmission, infectivity, symptoms, complications, after effects, and treatment. Board of Health regulations.

XII. (Class) Quiz on lecture. Nursing care in the above diseases. Importance of surroundings, position and support. Care in convulsions. Preparations for lumbar puncture. Precautions and disinfection.

XIII. (Lecture) *Malaria, Yellow Fever, Typhus, Amoebic Dysentery, Bubonic Plague and Hook-worm*
History, causes, mode of transmission, symptoms, complications, after effects, and treatment. Recent campaigns for eradication of malaria, plague, hook-worm, etc. Maritime quarantine.

XIV. (Class) Quiz on lecture. Nursing care in above. Baths, diet, intestinal irrigations, and specifics. Measures for destruction of insects. Camp sanitation.

XV and XVI. (Lecture) *Tuberculosis*
History of tuberculosis, and modern campaign for prevention and control. Exciting and predisposing causes, sources and modes of infection, pathology, types and infection, early symptoms and course of disease, complications and accidents, treatment, Board of Health regulations.

XVII and VIII. (Classes) Quiz on lectures. Nursing care in tuberculosis. Hygiene, rest, diet, and fresh air. Provision for out-of-door sleeping. Klondike bed. Methods of disinfection. Care of advanced cases. Technic of special treatments—strapping, blistering, cupping, aspiration, pneumothorax. Care in hemorrhage. Temperature taking and charting. Nurse's care of herself.

XIX and XX. (Lectures) *Social, Economic, and Educational Factors in Prevention and Treatment of Communicable Diseases*
Problems of industry, housing, and poverty in relation to infectious diseases, particularly tuberculosis. Institutions for

the care of such patients. Education and care of patients in their homes. Occupation and employment. Problems of relief. The out-door clinic. Reports and records. Methods of instruction. Relation of immigration to communicable diseases. Publicity methods.

NOTE—If the course in venereal diseases cannot be given separately, at least two lectures in this subject should be included here.

METHODS OF TEACHING

1. The method advocated is much the same as that followed in medical nursing.
2. A visit to the Board of Health laboratories would be extremely profitable during this series of classes; also exhibits in preventive methods.
3. Experience in an infectious hospital and in tuberculosis nursing is of the very greatest importance, especially for all those who may engage in any form of Public Health work. Experience in the out-patients' department is also invaluable.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Bacteriological slides and cultures, charts, models, etc. Equipment for demonstration of all practical procedures.

TEXT AND REFERENCE BOOKS

Lee: Scientific Features of Modern Medicine.
Paul: Nursing in the Acute Infectious Fevers.
Register: Practical Fever Nursing.
Wilson: Fever Nursing.
Wilcox: A Manual of Fever Nursing.
Emerson: Essentials of Medicine.
Roseneau: Preventive Medicine and Hygiene.
McNutt: Manual for Health Officers.
Knopf: Tuberculosis a Curable and Preventable Disease.
Newsholme: The Prevention of Tuberculosis.
Otis: The Great White Plague.
Crowell: Tuberculosis Dispensary Method and Procedure.
Publications of Boards of Health.

See also under Medical Nursing, Bacteriology and Public Sanitation.

Nursing in Diseases of Infants and Children

TIME: 20 hours—divided as follows:

Lectures or clinics by pediatrician—7 hours.

Classes and demonstrations by nurse (head of children's ward)—7 hours.

Lectures on social and psychological topics (special lectures) —2 hours.

Classes and demonstrations in infant feeding by nurse or dietitian—4 hours.

The course to be given early in the second year.

OBJECTS OF THE COURSE

1. To help nurses to understand something of the physical and mental development of normal children and the essential principles of child hygiene and management, so they may intelligently care for normal children and teach others to care for them properly.

2. To teach them the principal diseases which affect children, what their special manifestations are, and how to adapt nursing measures to meet the needs of sick children.

3. To make the pupil nurse intelligent, skillful and exact in the preparation of infant feedings, and to emphasize the importance of proper feeding as a therapeutic measure in the diseases of infancy.

4. To give a good sound basis for later work in connection with milk depots, baby welfare, school-nursing and other fields of work where knowledge and skill in children's nursing are of essential importance.

5. To give pupils some appreciation of the causes and social aspects of infant mortality, and secure their interest and coöperation in the conservation of child life.

OUTLINE OF LECTURES AND CLASSES

I. (Lecture) *The Physical Development of the Normal Child from Birth to Adolescence*

How the child differs from the adult. Appearance, weight, height, muscular development of organs and special senses at various ages. Normal dentition and possible complications. Normal excretions. Relation between physical and mental growth. Hygiene of infancy and childhood. Hygiene of adolescent boy and girl.

II. (Class) *Physical Care of the Normal Infant*

Bathing, exercise, fresh air, sleep and clothing. The handling of the baby and run-about child. The nursery—its furnishings and care. The daily régime at different stages. Qualifications of a good children's nurse.

III. (Lecture) *The Feeding of Normal Children*

Feeding during the first year. The very great importance of breast feeding and methods of encouraging and promoting it. Artificial feeding. Conditions to be met. Modified milk. Formulae adapted to the infant at various stages. Feeding of the premature infant. Diet through later stages of childhood. Food habits.

IV. (Class) Quiz on above. Position and care of infant in breast feeding. Care of feedings on the ward, and administration. Feeding delicate infants and run-about children. Making diet attractive to older children.

(Classes XVII to XX to run parallel if possible.)

V. (Lecture) *Disorders of the Digestive Tract in Infancy and Childhood*

The sick baby—variations in symptomatology from adults. Diseases of nutrition, digestion and metabolism—marasmus, rachitis, etc. Their causes, symptoms, treatment and convalescent care. Relation of diet to gastro-intestinal disorders. (Distinguish clearly between the infant up to 2 years and over.)

VI. (Class) Quiz on lecture. Observation and description of symptoms in babies and older children. Difference in handling and nursing care of sick children. Gavage, nasal feeding, lavage, and enemata, as applied to small babies and older children. Care of buttocks. Administration of medicines to children. Collection and care of specimens.

VII. Lecture) *Disorders of the Respiratory System in Infancy and Childhood*

Bronchitis, pneumonia (broncho and lobar), pleurisy, empyema, croup, tuberculosis. Relative gravity of symptoms in child as compared with adult. Treatment and convalescent care.

VIII. (Class) Quiz on lecture. Observation and nursing care. Fresh-air treatment. Out-door bed and clothing. Heliotherapy. Croup-tent. Preparation for aspiration of chest. Restraint of child during treatments.

IX. (Lecture) *Infectious Diseases in Infancy and Childhood*

Susceptibility of children to infectious diseases and differences in reaction from adults. Sources and modes of infection in hospital wards. Prevention of spread of diphtheria, scarlet fever, influenza, common colds, etc. Control of vaginitis and isolation of specific diseases in children's wards. Typhoid in children. After-effects of various infections.

X. (Class) Quiz on above. Aseptic precautions in nursing care of children, with special reference to utensils, thermometers, etc. Care of special precaution and isolation cases. Treatment of infected eyes in infant. Modifications of other treatments with infants and children—baths, packs, hot and cold applications, etc.

XI. (Lecture) *Constitutional and Nervous Disorders in Infancy and Childhood*

Principal causes of nervous disorders, hysteria, chorea, epilepsy, convulsions, "tantrums," etc. Mental defects—idiocy, imbecility, cretinism and mutism. Rheumatism, nephritis, and chronic heart diseases in children. The significance of "growing pains."

XII. (Class) Quiz on above. Observation and management of nervous children. Mental hygiene. Care of defective children. Daily régime for heart cases. Modifications of common treatments—hot pack, mustard bath, cupping and counter irritants, etc., for children.

XIII. (Lecture) *Surgical Conditions in Infancy and Childhood*

Congenital and acquired deformities and malformations—cleft palate, hare-lip, spina bifida, obstruction, imperforate anus, etc. Phimosis, circumcision, umbilical hernia, intussuception. Effects of anaesthetics on children. Early symptoms of spinal and other deformities. Burns.

XIV. (Class) Quiz on above. Care of such cases before and after operation, including special dressings and treatments. Feeding and restraint. Nursing care of burn cases. (For care of orthopedic conditions see later course.)

XV. (Lecture) *Social Aspects of Children's Diseases.* (By head of Social Service Department or special lecturer.)

The problem of infant mortality—what it means to the community. Causes of high death rate in infants. Home versus institutional care of infants. Effects of child labor, malnutrition, bad housing, etc. on vitality and health of children. Movements for conservation of child life. (An excursion to a milk station or orphanage, day nursery or foundling home might supplement this lecture.)

XVI. (Lectures) *The Psychology of Childhood* (Given by a teacher or other expert in child psychology—should be introduced before Lecture XI if possible.)

Mental development of the normal child from birth to adolescence. Instincts and capacities as they appear in normal development. Characteristic phases of development in boys and girls. How to interest and manage children at various stages. Abnormal types. How to deal with pernicious habits. The psychological and therapeutic value of play. Some principles of education. (This lecture might be supplemented by one or more classes by a kindergartner dealing with appropriate plays, games and amusements for children, good pictures and stories for children at different ages, and the way of telling an interesting story.)

The following classes in infant feeding should run parallel to topics III to VI if possible.

XVII. (Class) *Utensils*

Sterilizer, pasteurizer, pitcher (aluminum), bottle rack, feeding bottles, Chapin dipper, glass funnel, graduate, ounce measuring glass, thermometer, bottle brush, nipples, skewer, etc. Kinds and reasons why some are better than others. Substitutes for home use—ex. quart dipper for graduate and tablespoon for ounce measuring glass, etc.

XVIII. (Class) *Materials*

Lime water— its composition and action. Sugars—lactose, maltose, dextri-maltose, cane sugar—their composition and action. Milk—cows' milk as compared with human milk. Composition of each and reasons for modifying. Sources of supply and methods of handling certified milk. Reasons for using and Board of Health regulations governing certified milk. Pasteurized milk,—method of pasteurization, reasons for pasteurizing and objections. Percentage milks—table showing composition of bottled milk at different depths. Starches —barley flour, oatmeal flour—their composition and action.

XIX. (Class) *Formulae*

Simple dilution with boiled water, whole milk, percentage milk, milk sugar and lime water. Simple dilution with cereal waters—rice, oatmeal or barley—action of each. Splitting of protein by (1) coagulation of casein and using of whey. Constituents of whey. (2) Coagulation of casein and using of casein—Eiweiss. Fat free milk. Predigested foods. Pepsin or pancreatin extract. Patent foods—their objections and uses. Malt soup mixtures. Use of strained cereals, broths and vegetable soups in infant feeding.

XX. (Class) *Technic*

Care of hands. Care of milk after delivery. Care of milk after modifying. Care of utensils—to be used only for formulae—to be thoroughly washed and sterilized. Care of nipples and bottles. Accuracy in measurements. Preparation of feedings—bottles filled with exact amount required for feedings. Sealing with sterile cotton handled with forceps or patent caps. Method of labelling for hospital use. Method of applying nipples.

METHODS OF TEACHING

1. Follow the general method outlined under medical nursing. The clinical method is infinitely superior to the simple lecture, and should be adopted in this subject if at all possible. Every opportunity should be taken to have pupils observe and handle actual cases.

2. Practical experience in the care of children is of paramount and increasing importance for every nurse. Such experience should include the care of very young children as well as those of later years, and in medical and feeding cases as well as surgical and orthopedic cases. Dispensary experience in the children's clinic is also invaluable, especially for those who expect to go into school or milk station work or any form of Public Health work.

3. The nursing procedures as applied in the children's ward are so different in many respects from the methods employed in adult wards, that it will be necessary to discuss those modi-

fications and adaptations in detail and to demonstrate them for pupils. These demonstrations can be given in the ward or in the demonstration-room.

4. Work in this course should be correlated closely with courses in general medical and surgical nursing, dietetics, orthopedics, etc.

5. The classes in infant feeding should be held in the diet kitchen or milk laboratory where all the materials and utensils can be seen and demonstrated. In the limited time assigned, no individual laboratory work could probably be covered, but each student should have a period of practical experience in the milk-room in connection with her training in the children's wards.

ILLUSTRATIVE MATERIAL AND EQUIPMENT

Charts, models, pictures, utensils and materials for infant feeding, food-charts, etc.

TEXT AND REFERENCE BOOKS

McCombs: Diseases of Children for Nurses.
Ramsay: Care and Feeding of Infants and Children.
Holt: Diseases of Infancy and Childhood.
Holt: The Care and Feeding of Children.
Chapin and Pisek: Diseases of Infants and Children.
Brown: The Baby.
Grulee: Infant Feeding.
Morse: Care and Feeding of Children.
Morse and Talbot: Diseases of Nutrition and Infant Feeding.
Kerley: Practice of Pediatrics.
Kerley: Short Talks to Young Mothers.
Starr: Hygiene of the Nursery.
West: Care of Children and Prenatal Care—Pamphlets from Children's Bureau, Washington, D. C.
Rose: Feeding the Family.
Smith: Baby's First Two Years.
Kirkpatrick: Child Study.
Kirkpatrick: Individual in the Making.
Amusements for Convalescent Children—from New York State Board of Health.
American Journal Diseases of Children.
American Journal for Care of Cripples.

See also under Special Therapeutics, Orthopedic Nursing Obstetrical Nursing, etc.

Gynecological Nursing and Diseases of the Male Genito-Urinary Tract

TIME: 10 hours—divided as follows—

Lectures or clinics by physician specialist in gynecology and genito-urinary diseases—5 hours. Quizzes, classes and demon-

strations conducted by the head nurse of the gynecological ward—5 hours. Course to be given in the Second Year.

OBJECTS OF COURSE

1. It is intended, through the lectures, to give the student an intelligent understanding of the diseases of the genito-urinary tract, and the various forms of operative treatment for surgical conditions of the tract.

2. The classes and demonstrations are for the purpose of enabling the student to become more familiar with the particular nursing procedures in this branch of work.

OUTLINE OF LECTURES AND CLASSES

I. (Lecture) *Introduction*

Brief history of gynecology as a specialty. Anatomy and physiology of the reproductive organs in review. Menstrual and reproductive functions of organs. Puberty and the menopause. Sterility and its causes. Abnormal menstruation—causes and treatment. Menstrual hygiene.

II. (Class) Quiz on anatomy and physiology of pelvic organs. Review on surgical materials especially those used in gynecological and G. U. dressings and treatments. Equipment and care of the dressing-rooms for gynecological and genito-urinary cases. Nurses' relation to educational and ethical problems arising from this special type of work.

III. (Lecture) *Diseases of the Reproductive Tract*

Sources of infection, symptoms, treatment. Relation of venereal disease to infection. Displacement of organs. Malformations. Tumors of the pelvic organs, benign and malignant. Early symptoms and cancer. Importance of early diagnosis and treatment. Tumor complications.

IV. (Class) Quiz on causes, treatment and nursing care in above conditions. Reception of patient. Observation of symptoms. Importance of mental attitude of patient. Review of gynecological treatments—douches, catherization, etc. Nurse's responsibility in the early diagnosis of malignant tumors. Opportunities for educational work in the prevention of cancer.

V. (Lecture) *Diseases of the Urinary Tract*

Malformations, foreign bodies, infections, fistulae, tumors, stricture, calculi and diseases of the external genitalia. Examinations, treatments and operative measures used in above conditions.

VI. (Class) Preparation for examinations—abdominal, pelvic, cystoscopic. Discussion of nursing care and technique in relation to important treatments. Nursing care of drainage cases.

VII. (Lecture) *Gynecological Operations*

The various postures, and instruments used. Protection of patient. Assistance to physician. Preparation for operation

—the skin—the digestive tract. The main types of minor operations and the nursing measures required to insure successful results.

VIII. (Class) Quiz on major and minor operations and vocabulary in connection. Preparation of patient for operation, local and general. Importance of comfortable positions during operation and in post-operative care. Care of skin and binder. Importance of air and nourishment. Drugs used in treatment. Dressings in each type of operation.

IX. (Lecture) *Gynecological Operations*

Vocabulary. Major operations, including those for malformations and displacements. Injuries. Inflammatory conditions and new growths. Post-operative treatment and complications. Post-operative care of patient.

X. (Class) Observation of first symptoms after operation. Methods of preventing and meeting complications and emergencies—shock, hemorrhage, infected stitches, retention of urine, burns by heat, iodine, anesthetic or acid, phlebitis, etc.

METHODS OF TEACHING

The general plan to be followed is outlined under Surgical Nursing.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Bony pelvis of skeleton, muscular pelvis of mannikin with organs in position; pathological specimens of tract from laboratory.

TEXT AND REFERENCE BOOKS

Parker and Breckinridge: Surgical and Gynecological Nursing.
Cragin: Essentials of Gynecology.
Kelly: Medical Gynecology.
Kelly: Operative Gynecology.
Davis: Obstetric and Gynecologic Nursing.
MacFarlane: Gynecology for Nurses.

See also books under Anatomy and Physiology, Obstetrics, Hygiene and Venereal Diseases, etc.

Orthopedic Nursing

TIME: 10 hours divided as follows:—

Lectures or clinics by orthopedic specialist—4 hours.

Classes and demonstrations by a nurse with special training in orthopedic work—5 hours.

Lecture on social aspects of orthopedic work by head of social service department—1 hour. Given in the later part of the second year.

OBJECTS OF THE COURSE

1. To give the nurse a definite idea of orthopedic nursing as distinct from general surgical nursing, with a knowledge and practice in the use of various splints and apparatus peculiar to orthopedic work.

2. To teach her the cause and prevention as well as the care of orthopedic conditions, and the subsequent needs of the individual resulting from what at best is generally a long-continued illness, whether it be chronic or acute.

3. To give her a better understanding of certain educational and social problems concerning the physically deficient children in our schools, and a keener interest in public health and tuberculosis work.

OUTLINE OF LECTURES AND CLASSES

I. (Lecture) *Orthopedic Conditions Due to Tuberculosis*
Anatomy and histology of bone. Deformities due to tuberculosis and the care and treatment of the same. General hygiene. Congenital malformations and deformities. Dislocations, club feet, etc.

II. (Class) Orthopedic apparatus—frames, traction splints, Thomas splint, caliper splints, braces, strappings (adhesive), etc. Practice in the application of apparatus, frames and extensions. Bed making, bathing and general nursing care for such patients.

III. (Lecture) *Diseases Due to Faulty Nutrition*
Causes, symptoms and treatment of rickets, bow legs, breech knees, etc. Prevention. Dietetic and hygienic care.

IV. (Class) Quiz on lecture. Practice in application of apparatus—splints, adhesive strappings, for flat foot and other strains.

V. (Lecture) *Deformities of the Spine*
Causes, symptoms, and treatment of Pott's disease, curvatures, etc. Orthopedic exercises and corrective work.

VI. (Class) Quiz on lecture. Practice in general exercises and special gymnastic work. Special scoliosis clinics. Possibility of home treatment.

VII. (Lecture) *Infantile Paralysis.* Spastic and other paralyses. After-care. Muscle-training. Splints and other appliances.

VIII. (Class) Quiz on lecture. Use of the plaster-of-paris bandage. Practice in making and applying.

IX. (Lecture) *Social Problems Connected with Orthopedic Work.*
Special problems of education and training of physically handicapped. Employment for cripples. Special schools and institutions for crippled children. Work of the school nurse and visiting nurse in discovering and dealing with orthopedic cases. Coöperation with social and educational agencies.

X. (Class) Practice in the making and application of the plaster-of-paris bandage.

METHOD OF TEACHING

1. The method of teaching is by lecture, demonstration, recitation and practice, all lectures and demonsrations being illustrated by clinical material from the wards. An effort should be made throughout to emphasize the nursing side of the various problems presented.

2. It is particularly necesssary that the nurse have ample practice in the handling of apparatus, and the actual application of splints, frames, plaster and the like, under careful supervision, before she be allowed to do the work for the patient. It is presupposed that she shall already have been well instructed in bandaging, massage and general surgical technique. To be complete her ward experience should be supplemented by outside visiting or dispensary work, where she may learn the end results which in such long cases do not come to her attention in the hospital wards.

3. This course should be correlated closely with courses in surgical nursing, in diseases of children and massage.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Plaster bandages and materials for making Bradford frames, traction, Thomas and caliper splints, braces for breech knees, bow legs, curvature of the spine, etc. Adhesive plaster, plaster models, charts and photographs illustrating deformities.

TEXT AND REFERENCE BOOKS

Berry: Orthopedic Surgery for Nurses.
Thorndike: Orthopedic Surgery.
Bradford and Lovett: Treatise on Orthopedic Surgery.
Tubby: Deformities—including diseases of the Bones and Joints.
See also Surgical Nursing, Nursing in Diseases of Infants and Children, etc.

Obstetrical Nursing

TIME: 20 hours divided as follows:—

Lectures and clinics by obstetrician—10 hours.

Classes and demonstrations by nurse (head of obstetrical ward preferably)—9 hours.

Lecture on social aspects of obstetrics by social service nurse —1 hour.

OBJECTS OF COURSE

1. To make nurses intelligent and competent in the nursing care of obstetrical cases, both normal and abnormal, and in the care of small babies.

2. To enable the nurse to advise and instruct mothers in the care of their own health both before and after child-birth, and in the conditions necessary for the rearing of healthy children.

3. To arouse an interest in obstetrical nursing and a keener appreciation of its importance, not only to individual mothers and babies, but to the welfare of the race.

4. To arouse an interest in the social aspects of obstetrical work and to develop a wholesome and helpful attitude toward such sex problems as the nurse meets in connection with her work.

5. To establish a definite connection between previous work in surgical technic and obstetrics.

OUTLINE OF CLASSES AND LECTURES

I. (Lecture) *Introduction*

Brief history of obstetrics. The place of obstetrics in medicine. Responsibilities and opportunities of obstetricians and nurses. Anatomy of female pelvis. Landmarks. Varieties of pelvis and their relation to position and presentation. Abnormalities and their relation to child-birth. Review of female organs of generation.

II. (Class) Brief quiz on anatomy of reproductive system. Outline of reproduction in lower animals, beginning with one-celled animals and using the chick, the frog, and the rabbit or cat as types. (See Marshall's Embryology, or Bigelow's Applied Biology.)

III. (Lecture) *Physiological Pregnancy*

Ovulation, menstruation and impregnation. The phenomena of pregnancy and segmentation. Nourishment of fetus—size and weight at different stages. Circulation. Conditions necessary for normal development. The facts about "maternal impressions." Influence and determining factors in heredity. The purpose and scope of eugenics.

IV. (Class) Quiz on lecture. The mother's preparation for herself as to clothing, dressings, utensils, etc. The "layette." Newer ideals as to babies' clothing. Simplicity and economy emphasized. The baby's cot or basket.

V. (Lecture) *Changes in the Maternal Organism During Pregnancy*

Signs and symptoms of pregnancy—presumptive, probable, and positive. Duration. Methods of reckoning date of termination. Hygiene and management of pregnancy.

VI. (Class) Quiz on lecture. Pre-natal care. How to advise and help the mother as to employment, reading, diversions, clothing, diet, etc. Importance of mental attitude. Problems in calculation of dates. Make out suggestive diets. Routine examination of urine in pregnancy. The nurse's obstetrical outfit.

VII. (Lecture) *Disorders and Diseases of Pregnancy*

Nausea, pernicious vomiting, varicose veins, oedema, anemia, neuralgia, eclampsia, ectopic gestation, placenta praevia, abortion, and miscarriage. Causes, symptoms, and treatment.

VIII. (Class) Quiz on lecture. Nursing care in above conditions. Drill on obstetrical terms. Instruments and equipment of delivery-room. Making of bed for obstetrical case. Rules for admission of obstetrical patients in the hospital.

IX. (Lecture) *Mechanism and Conduct of Normal Labor*
Theories concerning cause of labor. Obstetrical ether. Nitrous oxide or American "Twilight Sleep." Signs of labor—the three stages. Presentations. Management of each stage. Immediate care of mother and infant.

X. (Class) Quiz on lecture. Preparation of delivery-room. Preparation of patient. Technic of nursing care and assistance to physician at each stage of labor. Duties of nurse in absence of physician.

XI. (Lecture) *Operative Delivery*
Forceps delivery, breech delivery, Caesarian section and destructive operations. Methods of inducing premature labor. Requirements for repair of lacerations.

XII. (Class) Quiz on lecture. Preparation for various operative measures, and nursing care of patient before, during and after each. Care of perineal stitches.

XIII. (Lecture) *Accidents and Complications*
Symptoms and treatment of post-partum and intra-partum haemorrhage, eclampsia, heart-failure, retained placenta, etc. Accidents and injuries to the new-born—asphyxia, haemorrhage, traumatisms, infections, etc.

XIV. (Class) Quiz on lecture. Nursing care of patient in above conditions. Preparation for uterine packing, saline infusions, hot packs, etc. The care of the baby—dressing of cord, care of the eyes, etc. First care of the premature baby—jacket and cot, feeding, resuscitation and use of lung motor.

XV. (Lecture) *The Puerperium*
Anatomical changes in uterus, cervix, vagina, and abdominal walls. Symptoms to be observed and reported. Special attention to lochia. Care of breasts and encouragement of breast feeding. Contra-indications for breast-feeding.

XVI. (Class) Quiz on lecture. The routine nursing care of normal cases—position, bathing, diet, application of breast and abdominal binders and perineal dressings. Use of breast pump. Massage of breast. Local applications for nipples and breasts. The obstetrical chart. Catheterization of puerperal patient.

XVII. (Lecture) *Pathological Puerperium*
Puerperal septicaemia, phlegmasia dolens, mastitis, puerperal insanity, urinary and intestinal disturbances, etc. Causes, symptoms, treatment, and general care.

XVIII. (Class) Quiz on lecture. Nursing care of above cases and special treatments reviewed. Preparations for intra-uterine douche. Dressing for incision of breast. Precautions and treatment in puerperal insanity.

XIX. (Lecture) *Social Aspects of Obstetrical Nursing*

The older and newer attitude toward child-birth. Social problems arising in obstetrical work. The unmarried mother. The child mother. Relation of industry to child-birth. Rescue homes and foundling institutions. Infanticide and abortion. Blindness of the new-born. The problem of birth control. Reasons for and against the teaching of birth-control. Legislation governing in this and other countries. The midwife problem. The nurse's influence and responsibility in such problems.

XX. Observation lesson or clinic to be introduced wherever it will be most helpful—preferably in small groups. Attendance throughout one case of labor with full report of the case.

METHODS OF TEACHING

1. The clinical method should be used as far as possible. All specially interesting cases should be seen by nurses. As many procedures as possible should be demonstrated in the delivery room.

2. The nurse should have her operating room training before she has her practical work in obstetrics. If these lectures and classes can not run parallel with the practical training it is better for them to come first. The practical experience is of very great importance and it should be as full and complete as possible. Out-patient work is not very profitable unless carefully supervised by a teaching graduate nurse.

3. Correlate course in obstetrics closely with courses in bacteriology, gynecological nursing, surgical nursing, and nursing, of infants and children.

ILLUSTRATIVE MATERIAL AND EQUIPMENT

Skeleton, separate pelvis, model of baby and placenta. Laboratory specimens of embryo and fetus at various stages. Lantern slides illustrating reproduction.

TEXT AND REFERENCE BOOKS

De Lee: Obstetrics for Nurses.
Cooke: A Nurse's Handbook of Obstetrics.
Williams: Obstetrics.
Polak: Obstetrics.
Marshall: Vertebrate Embryology.
Bigelow: Applied Biology.
Slemons: Prospecive Mother.
Latimer: Girl and Woman.
Prenatal pamphlet published by Federal Children's Bureau.
Pamphlet on Midwives published by Committee on Blindness of State Charities Aid, N. Y.

See also under Diseases of Infants and Children, Venereal Diseases, etc.

Nursing in Diseases of the Eye, Ear, Nose and Throat

TIME: 10 hours, divided as follows:

Medical lectures and clinics given by specialists—5 hours.

Nursing classes and demonstrations given by nurse specially qualified in E. E. N. and T. work—4 hours.

Lecture on social aspects given by head of social service department or other qualified person—1 hour. This course to be given in the latter half of the second year preferably.

OBJECTS OF COURSE

1. To give nurses an understanding of the care and treatment of the eye, ear, nose and throat in normal and abnormal conditions.
2. To enable them to safely and efficiently care for patients with diseases of these organs.
3. To arouse an interest in this branch of nursing which will lead nurses into this field equipped with a basis for further specialization, and for preventive and educational work.

OUTLINE OF CLASSES AND LECTURES

I. (Lecture) *Diseases of the Eye*

Review of the anatomy and physiology of the eye. Eye strain—prevention and effects. Injuries of the eye. Diseases of the lids, lacrymal apparatus and conjunctiva. Corneal ulcer, keratitis, iritis, glaucoma, cataract, gonorrheal ophthalmia, opthalmia neonatorum, and trachoma. Causes, symptoms and treatment of these. Usual operative procedures.

II. (Class) Quiz on lecture. Assisting with examinations of the eye. Solutions used in treatment,—effects, preparation, care. Demonstrations of hot and cold eye applications, the eye irrigation, the preparation for dressings. Preparation of patient for operation and after care. Nurse's duties in cases of injuries or foreign bodies. Precautions in care of patient suffering from communicable eye disease.

III. (Lecture) *Diseases of Mouth, Pharynx and Larynx*

Review of anatomy and physiology. Diseases of the teeth and gums—pyorrhea, abscesses, etc. Effect on health. Hygiene of mouth and teeth. Operative procedure for correction of deformities of teeth and jaws. Diseases of the tonsils and adenoids—causes, effects, symptoms, treatment and operative procedures. Diseases of larynx. Tumors, benign and malignant. Causes, effects, symptoms, treatment and operative procedures.

IV. (Class) Quiz on lecture. Nurse's duties in connection with oral hygiene. Assisting with examinations of mouth, pharynx, and larynx. Applying medication. Gargles, irrigations, in-

halations, etc., reviewed. Preparation of patient for operation and after care in case of tonsillectomy, laryngectomy, tracheotomy, etc. Control of hemorrhage.

V. (Lecture) *Diseases of the Ear*

Review of anatomy and physiology of the ear. Examination of ear. Deafness—its causes and prevention. Common tests of hearing. Diseases of the auricle and external ear (foreign bodies, eczema, furunculosis, impacted cerumen, etc.). Diseases of the middle ear—chronic and acute otitis media, mastoiditis, etc. Complications—cerebral abscess, meningitis, sinus, thrombosis, etc.—causes, symptoms and treatment, operative and non-operative.

VI. (Class) Quiz on lecture. Advice nurses may give concerning foreign bodies, chronic discharging ears, etc. Demonstration of hot and cold applications. The ear irrigation. Preparation for myringotomy and incision of furuncle. Preparation of patient for mastoid operation and post-operative care. Dressings, instruments and supplies used. Symptoms and signs of complications. Nursing care of patients with cerebral abscess, meningitis, thrombosis.

VII. (Lecture) *Diseases of the Nose and Accessory Sinuses*

Review of anatomy and physiology. Diseases of the nasal tract, including acute and chronic rhinitis and deflections of the septum—their causes, symptoms and effect on general health. Methods of examination and treatment, operative and non-operative. Infections of the sinuses. Mechanism of infections—their causes, symptoms and effect on health. Methods of examination and treatment.

VIII. (Class) Quiz on lecture, assisting with examination of the nose and sinuses. Demonstration of nasal irrigation and nasal spray. Control of nasal hemorrhages. Care of patient after nasal operations. The preparation of patient and apparatus for opening and irrigating the sinuses.

IX. (Lecture or clinic) *The Observation of Early Symptoms and Marked Abnormalitise*

How to recognize early signs of eye, ear, nose and throat trouble. Simple routine tests of vision and hearing for school nurses. Examination of the mouth for adenoids, enlarged tonsils, and defective teeth. Assistance in dispensary treatment. (This lesson should be held in the dispensary or children's clinic and pupils should have an opportunity to observe cases themselves and try to identify the commoner abnormal conditions.)

X. (Lecture) *Social Aspects of Diseases of the Eye, Ear, Nose and Throat*

Social importance of defects and diseases of the special senses. Relation to defectiveness, dependency, unemployment, etc. Social causes of blindness—industrial accidents, venereal diseases, the midwife problem, etc. Organized movements for

the prevention of blindness. Legislation, research and publicity. Institutional care of the blind and deaf. Relation of adenoids, tonsils and teeth defects to education and delinquency. Special applications to the work of the school nurse and general public health work.

METHODS OF TEACHING

The clinical method should be used as much as possible. A term of service in the out-patient department will usually provide good experience in this line of work. The general operating room training should precede the course.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Skeleton and separate head. Models of eye and ear. Charts. All materials needed for practical demonstrations.

TEXT AND REFERENCE BOOKS

Emerson: Essentials of Medicine.
Bacon: Manual of Otology.
May: Diseases of the Eye.
Manhattan E. E. and T. Hosp.: Nursing in Diseases of the Eye, Ear, Nose and Throat.
Pamphlets published by the New York State Committee for the Prevention of Blindness.
See also under Anatomy and Physiology, Bacteriology and Modern Social Problems.

Nursing in Mental and Nervous Diseases

TIME: 20 hours divided as follows:

Lectures and clinics by physician (neurologist or psychiatrist), 10 hours.

Classes and demonstrations by nurse instructor with special training, 9 hours.

Lecture on social aspects by head of social service department or a specialist in mental hygiene, 1 hour.

Course to be given in early part of third year.

OBJECTS OF THE COURSE

1. To teach the student nurse the relationship between mental and physical illness and the application of general nursing principles to mental nursing.

2. To teach the underlying causes of mental disease with modern methods of treatment available both in the hospital and in the community, and to endeavor to overcome the stigma attached to mental illness or mental hospital care.

3. To train the nurse in observation of symptoms as expressed in early childhood and in later life through the behavior of patients, so that the early signs of mental illness may be under-

stood and appreciated, and so that nurses may give active and intelligent coöperation in movements for the prevention of mental illness.

4. To teach the importance of directed habits of thought, desirable associations and proper environmental conditions in early childhood and to show the relationship of make-up to mental disorders.

5. To assist in developing resourcefulness, versatility, adaptability and individuality in the nurse. To emphasize qualities essential to success in mental work and the importance of special training in this branch of nursing.

Outline of Lectures and Classes

I. (Lecture) *Introduction*
Anatomy and physiology of the central nervous system. Biological introduction. Sympathetic system and function.

II. (Class) Quiz—Anatomy and physiology of the nervous system.

III. (Lecture) *Neurology*
Disorders of the cord: tumors, myelitis, poliomyelitis, tabes, syringomyelia, sclerosis, atrophies, paralysis agitans, chorea, tics, tetany.

IV. (Class) Summary of care of mental patients in hospitals with present-day developments. The mental hygiene movement. The admission of patients. Commitment procedures and parole. Indications and contra-indications for restraint methods of treatment. Personal qualifications and educational resources desirable for the nurse in mental work.

V. (Lecture) *Neurological Conditions Associated with Abnormal Mental States*
Epilepsy, traumatic psychosis, brain tumor and brain abscess, arterio-sclerosis of brain, aphasia, paralysis.

VI. (Class) General principles governing care of mental and nervous patients. The application of nursing procedures in neurological conditions with special emphasis on care of skin and the care of patients in convulsions. The effect of environment, diet, exercise, massage, electric treatment, etc. The observation of symptoms as indicated in behavior. The necessity for accurate record keeping of what actually occurs, not simply impressions received. The importance of noting all physical symptoms as well as mental.

VII. (Lecture) *Organic Reaction Types*
Senile dementia, dementia paralytica (general paralysis, syphilis of nervous system). Cause, treatment, prognosis. Laboratory aids to diagnosis.

VIII. (Class) Quiz on previous lecture. Nursing procedures in retarded conditions, deteriorations, unconscious states, paralysis. Importance of attention to bodily functions, diet, cleanliness, prevention of bed sores, etc. Nursing measures in treatment

by salvarsan or mercury. Methods of administering. Observation of symptoms.

IX. (Lecture) *Delirium and Infectious Exhaustive States*
States of intoxication. Alcoholic and drug psychosis. Hallucinosis. Value of treatment by elimination—drugs, hydrotherapy, etc.

X. (Class) Quiz on lecture. Nursing procedures in delirium and exhaustion. Continuous tubs, packs, sponges. Various prescribed treatments by eliminative, sedative or stimulating drugs. Precautionary protective measures in administering drugs and in giving treatments.

XI. (Lecture) *States of Defect: Idiocy and Imbecility*
Types of personalities. Constitutional inferiority and psychopathic personalities. Psychopathology. Mental conflict and perversions of adjustment and behavior.

XII. (Class) Quiz on lecture. Description of terms used in expression of mental states and conditions. Methods of dealing with patient's questions. Observations necessary to gain the confidence of patients. Disciplinary methods. The necessity for a sympathetic understanding of human nature. Observation of habits and tendencies to perversions. Preventive measures.

XIII. (Lecture) *Dementia Praecox*
Etiology, types, treatment.

XIV. (Class) Quiz on lecture. Observation of early symptoms—habit deteriorations, etc. Re-educative measures. Therapeutic value of occupations and diversions. Tube feeding.

XV. (Lecture) *Manic-Depressive Psychoses*

XVI. (Class) Quiz. Management of resistive, combative, violent and destructive patients. Precautionary measures against homicide and suicide or injury. The furnishing of rooms of wards for excited patients. The serving of meals. Observations to prevent accidents—care of keys, doors, locks, sharp instruments, clothing, dishes, etc. Routine necessary for protection of patients. The value of hydriatic treatment and diversion. The management and care of untidy patients.

XVII. (Lecture) *Psychasthenia and Hysteria*
Psychoneuroses. Minor psychoses.

XVIII. (Class) Quiz on lecture. General nursing procedures in functional psychoses. Value of rest, isolation, diet, occupations, hydrotherapy, diversions, re-education, environment, good hygiene—mental and physical. Management of hysterical convulsions. Value of packs and continuous tubs. Methods of dealing with delusions and hallucinations.

XIX. (Lecture) *Psychoanalysis in Diagnosis and Treatment*
Means of obtaining data. Mental examinations. The value of early hospital care. The nurse's influence in the community as a means of furthering education and for the prevention of mental disease.

XX. (Lecture) *Social Aspects of Mental Disease*

Economic and social conditions conducive to mental and nervous diseases, poverty, over-work, social vices, drugs and alcohol, isolation, etc. Relation of mental disorders and defects to the family, to occupation, education, prostitution, crime and lawlessness, etc. The burden on the community for the care of mentally ill and defective. Measures for the prevention and control of mental disease.

METHODS OF TEACHING

1. Few hospitals offer a special department in psychiatry, but there is usually some clinical material in any general hospital, which might well be used to illustrate the principles outlined above. Some of these are the mental or nervous conditions following or accompanying infectious diseases, toxemias, alcoholism, advanced heart and kidney cases, carcinoma patients, drug cases, and the various forms of hysteria and neurasthenia. Where possible an affiliation should be arranged with a mental hospital or psychiatric department, giving the pupils the opportunity for more continued observation and experience in this very important branch of nursing.

2. As in other medical subjects the clinical method should be used wherever possible, and every effort made to connect the nursing, medical and social aspects of this class of diseases.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Charts and models, case notes, lantern slides and laboratory specimens.

TEXT AXD REFERENCE BOOKS

Meyer and Kirby: Notes of Clinics in Psychopathology.
White: Outlines of Psychiatry.
White: Principles of Mental Hygiene.
Kraeplin: Clinical Psychiatry, Vol. III.
Barrus: Nursing the Insane.
Davenport: Heredity in Relation to Eugenics.
Richards: Euthenics "The Science of Controllable Environment."
Thorndike: Elements of Psychology.
Thorndike: Individuality.
James: Psychology.
Tiffany: Life of Dorothea Lynde Dix.
Dubois: The Education of Self.
Dubois: The Influence of the Mind on the Body.
Munsterberg: Psychotherapy.
Hollander: Nervous Women.
Chapin: Compendium of Insanity.
Beers: The Mind that Found Itself.

See also references on Occupation Therapy, and Modern Social Conditions.

Nursing in Occupational, Skin, and Venereal Diseases

TIME: 10 hours, divided as follows:

Lectures and clinics by physicians (specialists)—7 hours.
Classes and demonstrations by nurses (specially equipped in these branches)—2 hours.
Lecture by social service nurse—1 hour.

OBJECTS OF COURSE

1. To make the pupil nurse familiar with the outstanding features of the diseases in question, so that she may be able to care for such cases, intelligently and skillfully and assist in preventive work.
2. To help her to understand the social significance of these diseases and to secure her interest and coöperation in removing the social and economic causes which contribute so largely to their development.

OUTLINE OF LECTURES AND CLASSES

I and II. (Lectures) *Occupational Diseases*

Occupational factors in disease in general. Classification of health hazards. Occupational diseases due to (a) gases, vapors and high temperature, (b) conditions of atmospheric pressure, (c) metallic poisons, dust and fumes, (d) organic and inorganic dust and heated atmospheres, (e) fatigue. Special forms of poisoning—lead, phosphorus, arsenic, mercury, etc. Parasitic diseases. Fatigue—its causes and effects. Occupation neuroses. Industrial accidents. Nursing care of occupational diseases.

(For principles of Industrial Hygiene, see Public Sanitation.)

III. (Lecture) *Venereal Diseases—Syphiliis*

History of syphilis. Earliest recorded appearance in Europe. Discovery of germ and its characteristics. Clinical and laboratory methods of diagnosis. Pathology of syphilis and general characteristics of acquired syphilis. Primary stage from venereal and non-venereal infection. Value of early diagnosis. Secondary stage—clinical symptoms—infectious and non-infectious lesions. Tertiary stage—general symptoms and physical complications (mental, nerve, heart, etc.) Hereditary syphilis—evidences in infants, children and adults.

IV. (Lecture) *Gonorrhea*

History of gonorrhea. Characteristics of gonococcus. Clinical and laboratory methods of diagnosis. Acute gonorrhea, ophthalmia neonatorum and vaginitis in children. Symptoms, treatment and complications. Manifestations in adults—symptoms, treatment and complications. Mode of infection. Preventive measures. Chronic or recurring gonorrhea.

V. (Class and Demonstration) Quiz on preceding lecture. Nursing care of patients suffering from above diseases. Precautions regarding infection. Preparation for Wassermann and Leuten tests, administration of salvarsan (by intravenous, intraspinal, and intramuscular methods), mercury injections and inunctions, injection of silver salts and topical applications.

VI. (Lecture) *Diseases of the Skin—Introduction*

Review structure and function of the skin and accessory organs. Relation to nerve supply and temperature control. The hygienic care of the skin. Pathology of skin diseases. Inflammatory changes of pigment and the causes of growths. Classification of skin lesions. Assign cases for observation and report.

VII. (Lecture) *Lesions of the Skin*

Review bacteriology of skin diseases. Types of lesions in skin proper and in mucous membranes. Symptoms—general and local. Characteristic rashes. Complications, treatment and general precautions. Board of Health Regulations.

VIII. (Lecture) *Common Skin Diseases*

Occurrence, causes, symptoms, treatment, and prophylaxis of anaemia of the skin, hyperemia, erythema, eczema, herpes, urticaria, dermatitis, impetigo, psoriasis, erysipelas and parasitic diseases of the skin.

IX. (Class) Quiz on three preceding lectures. Nursing measures in skin diseases with special reference to hygiene, diet, bathing, local applications and dressings, etc. Starch and alkaline baths. Preparation for X-ray treatments.

X. (Lecture) *Social Aspects of Skin and Venereal Diseases*

Relation of housing, living conditions, social habits, immigration, etc., to skin diseases. Relation to occupation and to social intercourse (as in schools, clubs, etc.) Relation of venereal disease to prostitution, blindness, illegitimacy, infant mortality, insanity, crime and other social problems. Public Health aspects of the problem. Legislation and publicity methods. Reporting of cases of venereal diseases. The menace of charlatans and secret remedies. The function of the free and pay clinic.

(For social and economic aspects of occupational disease and for educational problems connected with sex-hygiene see under Modern Social Conditions.)

METHODS OF TEACHING

1. Use the clinical method wherever possible. Have pupil study case records and observe typical cases in wards and outpatients department between classes. Dispensary experience is especially valuable in connection with this course.

ILLUSTRATIVE MATERIAL AND EQUIPMENT

Bacteriological slides and cultures, charts and models, publicity literature and exhibits.

TEXT AND REFERENCE BOOKS

Oliver: Diseases of Occupation.
Thompson: Occupational Diseases.
Goldmark: Fatigue and Efficiency.
Dock: Hygiene and Morality.
Morrow: Social Diseases and Marriage.
Stelwagon: Diseases of the Skin.
Jackson: Diseases of the Skin.
Meachen: Diseases of the Skin for Nurses.
Publications of Society of Moral and Sanitary Prophylaxis (N. Y.). American Social Hygiene Association and State Departments of Health—(See Oregon and other state and local publications).

Operating Room Technic

TIME: 10 hours. Classes and demonstrations I to VIII conducted by the operating-room nurse. Lectures IX and X by a physician or trained anesthetist. Course given in the second year.

OBJECTS OF THE COURSE

1. To give the pupil nurse a good scientific basis for the surgical technic of the operating room, to introduce her to the various methods and procedures in use in all forms of operative work, whether in the hospital or outside, and to help in developing the "aseptic conscience."

2. To make the pupil familiar with the equipment of the operating-room, its cost, use, and care, and to help her in the preparation of standard supplies.

3. To give her a general idea of the use and action of anesthetics, so that she may be able to care for the patient and assist the anesthetist more intelligently, and if necessary administer an anesthetic in an emergency, under a surgeon's direction.

NOTE. It is not the intention here to have the pupil specialize in either operating-room work or anesthetics. This would require a longer preparation and should be deferred till after graduation.

OUTLINE OF CLASSES

I. *The Operating Room and its Equipment*

The relation of this department to others in the hospital. Structure, finishings, and furnishings of the operating-room and suite. Temperature and moisture of air. Light. Care and cleaning of the room and equipment. Manipulation of tables, etc. The operating-room staff, its duties and responsibilities. Special need for intelligence, concentration, and trustworthiness on part of operating-room nurses. Organization of the daily service. Surgical nomenclature.

II. *The Sterilizing Room*

Review of surgical bacteriology and principles of sterilization. Construction, operation, and care of autoclave and sterilizers. Fractional and single sterilization. Disinfectant solutions in the operating-room. Their preparation and use. Sterilization of utensils, pitchers, basins, etc.

III. *Instrument and Supply Room*

Names of instruments. Care, cleaning, and sterilization.

Drugs and solutions, kinds, preparations, and sterilization. Storage and care of splints, sandbags, and mechanical appliances. Care of actual cautery and special apparatus.

IV. *Preparation of Dressings and Supplies*

Preparation and sterilization of gauze dressings, pads, packings, drains, bandages, needles, sutures, ligatures, and linen supplies (gowns, masks, sheets, swathes, etc.) Storing and assembling supplies.

V and VI. *The Operation*

Essentials of aseptic technic. Results of broken technic. Necessity for good team work in securing speed and efficiency. Fitting up the operating-room. Preparation of surgeon and nurse. Preparation of the patient. Positions on the table, support and draping. Preparation of the site of operation. Operative steps. The sponge count. Emergency measures, infusions, transfusions, etc. Duties of each member of the operating and assisting staffs. Removing patient from the table. After care and clearing away. Care of pathological specimens.

VII. *Modifications of Technic for Special Types of Operation*

Selection of instruments, dressings, sutures, etc., for operation on head, neck, liver and gall bladder, kidney, vagina, etc. Also for fractures, orthopedic cases, minor operations and septic cases.

VIII. *The Emergency Operating-Room*

Equipment of the emergency operating-room. Emergency technic. Minimum requirements. Typical emergencies as a result of mine disasters, train wrecks, etc., and their handling, with and without standard equipment. Night operations. Arrangements of light and other special adjustments.

IX and X. *Anesthetics*

History of anesthesia. Types of anesthetics, local, spinal, and general, and their uses. Types of inhalers. The equipment of the anesthetic room. The anesthetic table and stimulating tray. Oxygen apparatus. Nurse's care of the patient before, during, and after the anesthetic. Principles to be observed in the administration of the commoner anesthetics. The preliminary steps. Unfavorable symptoms. Accidents. After-effects. Mental influences in relation to anesthesia. Technic of anoci-association.

METHOD OF TEACHING

1. The classes should be held in the operating-room where pupils can see and handle the equipment and where demonstrations can be set up by the instructor and the pupils. Observation of one or two operations would help to illustrate the main principles and methods.

2. If it is possible it would be better to give this course to smaller groups, taking those who have just begun their operating-room training or who are soon to begin it. The class and practical work would then supplement and reinforce each other. If it is impossible to give time for regular organized class work, the subject should be covered through individual instruction and demonstration with supplementary readings in good reference books.

3. Quizzes should be given frequently, and drills on essential points. Students should not be required to memorize lists of instruments and supplies but should if possible have typewritten sheets giving typical layouts, which can be referred to when needed.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

The equipment of the operating-room. Catalogues of supply houses giving names and prices of instruments, furniture, utensils, etc. Skeleton, charts, etc., as required.

TEXT AND REFERENCE BOOKS

Parker and Breckinridge: Surgical and Gynecological Nursing.
Howell: Surgical Nursing and Hospital Technic.
Robb: Aseptic Surgical Technic.
Senn: Operating-Room Technic.
Fowler: The Operating-Room and the Patient.
Smith: The Operating Room.

Emergency Nursing and First Aid

TIME: 10 hours. Classes and demonstrations conducted by the nurse instructor, or by a physician and nurse who are especially competent to handle this subject. To be given in the latter part of the senior year.

OBJECTS OF THE COURSE

1. This short course is intended to help the nurse to adapt her hospital methods a little more readily to the situations which she will meet on graduation, especially to emergency conditions such as may be met in army work, in accidents of various kinds, and in pioneer service where equipment and facilities are limited.

2. Such a course will also serve as a review of practical nursing principles and procedures for students who intend to take

the state examinations. Quick thinking, adaptability, resourcefulness, economy and speed, would be emphasized as well as careful technic.

3. The demand for classes in elementary nursing and first aid to be given to clubs and groups of various types is increasing so rapidly that nurses should be prepared to assist in such teaching and should thus be in touch with the latest and most approved methods in emergency work.

OUTLINE OF CLASSES AND DEMONSTRATIONS

I. *Introduction*

General principles and scope of first-aid work. Qualities demanded and dangers to be avoided. Materials required. First-aid outfits of various types. Improvised outfits. Organization of nursing service in case of fires, railway accidents and other public disasters. Organization for service in time of war.

II and III. *Transportation of the Injured*

General principles to be observed in transportation. Vehicles available. Ambulances. Improvised vehicles. Stretchers—manufactured and improvised. Loading and carrying stretchers, carrying over obstructions, up and down stairs, etc. Carrying patients in a chair, hammock or blanket-sling. Carrying pick-a-back and in arms. The fireman's lift. The two, three and four-handed seat. Special methods of transportation in fires, in case of flood, etc. Stretcher drill.

IV and V. *Surgical Emergencies*

Essentials of surgical first-aid. Emergency dressings and methods of sterilization and disinfection. Improvised splints, padding and bandages for use in fractures, dislocations, sprains, etc. Improvised tourniquets. First-aid treatment of fractures, wounds, burns, bruises, frost-bites, etc., of various types. Treatment of hemorrhage.

VI and VII. *Medical Emergencies*

States of unconsciousness. Various causes and how to distinguish commoner conditions. First-aid treatment of fainting, shock, apoplexy, intoxication, convulsions (of commoner types), sun-stroke, heat exhaustion, electrical shock, drowning, choking, gas and drug poisoning.

VIII. *Adaptation of Nursing Measures*

Surroundings, conditions and facilities usually found in city tenements, in country districts, in military camps, mining districts, etc. Essentials of sick-room sanitation and personal care under any of these conditions. Modification of treatments to be worked out on basis of resources available.

IX and X. (Two-hour period) *Demonstration of Nursing Measures*

The following problems are suggested:—Putting up a croup-tent in a city tenement; making a camp bed; giving a slush

bath in a camp bed; giving a hot pack in a camp or country house; preparing for an obstetrical case in a private house; preparing for an operation in a private house or camp; care of shock under emergency conditions, etc.

METHODS OF TEACHING

1. Since most of the principles covered in this course should be familiar to senior nurses, the main effort will be to have them work out the applications as a test of their understanding and resourcefulness. Problems should be assigned ahead of time and each individual should be responsible for some part of the discussion and demonstration.

2. It is suggested that the demonstrations be made before the school and the pupils rated on the points most essential in first-aid work.

3. An excellent way of developing interest in such a course is to have the pupils assist in giving classes to a small group of factory girls, boy or girl scouts or camp-fire girls. Great care should be taken, however, that the work should be very elementary in character and thoroughly taught.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

1. Beds, bedding, utensils, furnishings and surgical materials as for other nursing classes, with a variety of common household and out-door materials to be used for improvising equipment.

2. First-aid outfits for use in factories, mine accidents, schools and households, army kit, Red Cross kit, outfit for automobile trips, etc.

3. First-aid charts (Red Cross and other kinds).

TEXT AND REFERENCE BOOKS

Morrow: Immediate Care of the Injured.
Lynch: Red Cross Text-book on First-aid and Relief Columns.
Wharton: Minor Surgery and Bandaging.
Doty: Prompt Aid to the Injured.
Eliason: First Aid in Emergencies.
See also text-books in Nursing, Medicine and Surgery.

Special Disease Problems (Elective)

TIME: 10 hours. Conferences, case studies and written reports. Conducted by experts in different subjects studied.

OBJECTS OF COURSE

1. The idea is to give each senior student an opportunity of making a more extended study of some method of treatment or some one disease or class of diseases, taking the case as the

unit of study, and coördinating all the various aspects (pathology, therapeutics, nursing, etc.) previously studied as separate subjects.

2. To test out their ability to work out an independent problem as they will have to do when they leave the hospital, to consult sources and gather material for themselves and to organize the results of their observation and inquiry in the form of a report or case history, such as might be published in a nursing journal.

3. To study any new or special forms of disease or treatment which may have been slighted or overlooked in the previous courses.

SUGGESTED PROBLEMS

These would vary widely, according to the special interest of the student, and the material at hand. Problems along the following lines might be suggested:

I. Newer methods of treatment in pneumonia, infantile paralysis, typhoid or any other disease.

II. Devices for improving nursing technic and increasing efficiency in nursing procedures.

III. Special dietary studies.

IV. Special forms of therapeutics.

V. Nursing treatment of rare or unusual cases.

VI. Study of a hospital epidemic.

VIII. Special features in any branch of nursing—obstetrical, children's, mental and nervous, etc.

IX. Study of certain symptoms or phases of disease such as shock, post-operative vomiting, chill, crises, symptoms of approaching death, sleeplessness, delirium, etc.

METHODS OF TEACHING

1. A great deal of this work would have to be individual. General direction and advice could be given by the best qualified person available, but the student must do the greatest part of the work herself.

2. A few conferences of the class would be held to present reports of the work being done, so that each student would profit by the results of the others' work.

3. These should be supplemented by lectures by specialists on any new or interesting subjects connected with the study and treatment of disease.

TEXT AND REFERENCE BOOKS

See under preceding subjects.

F. SOCIAL AND PROFESSIONAL SUBJECTS

History of Nursing (including Ethical and Social Principles)

TIME: 15 hours, divided as follows:

Classes I to X conducted by the superintendent of nurses or instructor—10 hours.

Classes XI to XV given by the social service worker or visiting nurse—5 hours. This course to be given in the early part of the preparatory year.

OBJECTS OF COURSE

1. To arouse interest and enthusiasm in nursing as an occupation, by introducing the pupil nurse early to the long and splendid history of nursing, and the great leaders who have established its traditions and ideals.

2. To make them appreciate some of the obstacles that have been overcome in making the profession what it is, and some of the opportunities which are open to them in the future.

3. To explain the origin and meaning of hospital regulations and hospital etiquette, and to secure the coöperation of the pupil nurse in carrying out the purposes of the hospital harmoniously and effectively.

4. To interest the pupil from the beginning in the social as well as the medical aspects of her work and give her some realization of the social and economic conditions which bring patients to the hospital and complicate recovery.

5. To encourage in the pupil a sympathetic attitude toward her patients as people, a better understanding of their problems and the conditions under which they live, and to make her more ready and able to coöperate with the social service department and other agencies in helping them.,

OUTLINE OF CLASSES

I to X. *History of Nursing—including ethical principles*

I. *Introduction:*

Brief discussion on the meaning of nursing, the present demands in hospital work, and the ideals which pupils bring to their new task. Reasons for the study of nursing history—to understand and appreciate nursing traditions and ideals, to study the stages of development through which nursing has passed, to note the people and influences which have helped to make the profession what it is and to find out the origin of common observances and customs. Explanation of the purpose of training and those features of hospital life which are of immediate importance to new pupils. A very brief outline of the main periods in general history reviewed as a basis for nursing history.

II. *The Origin and Early Development of Nursing*

Original meaning of nursing—"to nourish." Maternal or parental instinct, the root of the nursing impulse shown in protection, nourishment, care and fondling of young. Nursing and first-aid among animals. Rudiments of nursing care among primitive peoples. Influence of religious beliefs and ceremonials on the care of the sick. Early rites of hospitality —their relation to ancient institutions for the care of sick strangers. Gradual development in standards of humanity and justice. Beginning of public relief for sick and unfortunate. General standards of hygiene, sanitation, therapeutics, nursing and medical science in ancient civilizations. Hippocrates—the "Father" of medicine—influence on medicine and nursing. Ethical ideals as shown in the Hippocratic Oath. Countries where nursing is still in the primitive stage of development.

III. *Influence of Christianity on Nursing. The Ascetic or Saintly Ideal*

Influence of Christian ideas of brotherhood, pity, charity and self-sacrificing service seen in the work of the deacons and deaconnesses of the early church—first organized nursing service. Relief of sick and unfortunate gradually taken over by the church. Hospitals established as religious and charitable institutions. Nursing advocated as a form of religious discipline and service. Paula, Marcella and Fabiola—types of nursing leaders of this period. Growth of monastic institutions and tendency toward seclusion from the world and the contemplative life rather than the active life of service. Emphasis on ascetic practices—penance, self-mortification and self-abnegation. Monasteries as centres of relief and hospitality. Nursing and medical work of monks and nuns. Influence of prevalent superstititions, and belief in magic and miracle on the care of the sick. Radegunde and Hildegard, types of monastic women.

IV. *Aristocratic and Military Influences. The Romantic or Knightly Ideal*

Rise of the institution of chivalry with new ideal of the Christian knight, defender of the weak and helpless and redressor of human wrongs. Life of struggle, adventure and romance opposed to the repressed, sheltered, contemplative life of the cloister. Virtues of the warrior-knight, robust, active and positive—courage, hardihood, honor, courtesy, loyalty, leadership, etc. Combination of chivalric and monastic ideals in military nursing orders developed during the crusades. Hospital expansion under the knightly orders. Introduction of aristocratic and military features in hospital organization and management. Knights of St. John as types of Hospitallers. Influence of knightly and military ideals on later hospital nursing, Red Cross and army work.

V. *Democratic and Secular Tendencies in Mediaeval Nursing*

Rise of the mendicant order under Saint Francis of Assisi as a reaction against extreme forms of monasticism and aristocratic tendencies of military orders. Friars—a democratic organization bringing spirit of brotherhood and ideals of practical religion into every day life. Nursing one of many forms of active social service undertaken by mendicants, illustrated by St. Francis' work among the lepers. Founding of secular and semi-secular orders for nursing and relief opened avenues of service to people in common walks of life and led to higher ideals of citizenship. Extreme restrictions and ascetic discipline of monastic orders no longer considered essential to nursing and charitable work. The Tertiaries of St. Francis, and the Beguines, types of voluntary secular orders organized on a religious basis. St. Catherine of Siena and St. Elizabeth of Hungary types of non-monastic nursing saints and popular heroines of mediaeval times. Cities and communities beginning to undertake some responsibility for relief and care of sick and unfortunate and prevention of poverty and distress. Revival of interest in medicine after a long period of indifference and neglect, and study of medicine in the early universities.

VI. *The Dark Period in Nursing*

Decline in many of the religious orders and general deterioration in hospital and nursing work. Suppression of many orders. Hospitals gradually taken over by civil authorities. Servant nurses generally employed for the care of the sick both in religious and civil hospitals. "Sairey Gamp"—type of the ignorant, secular, servant nurse or "monthly nurse." Low ideals of honesty, personal morality, dignity and humanity. Standards of hospital service very low. Amateur "Lady Bountiful" type of nursing and charitable work in parish and country districts. Work of missionary nurses in Canada compared with servant nurses and religious orders at home. Countries where nursing is at present largely in the hands of servant nurses and amateurs.

VII. *Humanitarian Movements of the Early Modern Period*

Beginnings of organized charity in France (17th C) under leadership of Vincent de Paul. Sisters of Charity—new type of nursing and relief organization. Reforms in care of prisoners, insane and sick in hospitals, stimulated by work of John Howard, Elizabeth Fry, William Tuke, Dr. Pinel and other humanitarian leaders. Revival of deaconess work by the Fliedners of Kaiserworth. Humanitarian and religious ideals combined in these newer nursing organizations, with beginnings of definite standards of nursing work and training. Gradual advance in medicine as a result of discoveries of Harvey and other scientists. Revival of surgery through barber surgeons, Paré and others.

VIII. *Modern Nursing Established by Florence Nightingale*

Story of Florence Nightingale's life and work. Her new conception of nursing as an economically independent secular vocation or art demanding intelligence, knowledge and skill, as well as devotion and moral purpose. The necessity of long and careful training emphasized and the first schools of nursing established. Ideals of nursing as shown by Florence Nightingale's example and teachings. Influence of the growing freedom and independence of women on nursing work.

IX. *Recent Developments in Nursing*

Scientific advances of the 19th C in medicine, surgery, sanitation, anesthetics, etc., due to the work of Pasteur, Lister, Morton and others. Social and philanthropic movements as seen in the work of Dorothea Dix, Octavia Hill, etc. Founding of the Red Cross. Work of Dunant, Clara Barton and others. Educational advancements, especially in the education of women. The influence of all these movements on nursing. Founding of first nursing schools in America. Pioneer leaders in nursing education. Founding of nursing organizations. Modern expansion of the field of nursing.

X. *Modern Professional Ideals and Standards*

Evidences of religious, ascetic, military, democratic and humanitarian ideals in nursing of the present day. Status of nursing in principal countries of the world. What it means to be a member of a profession. Application of nursing ideals and spirit to practical problems of hospital life. Origin and meaning of hospital etiquette, hospital discipline, the uniform, etc. Responsibility of nurses in maintaining the great traditions of nursing.

Periods XI to XV. Social Aspects of Nursing and Hospital Work

XI. *Relation of Nursing and Hospital Work to Community and Family Welfare*

Brief survey of nursing history to show the identification of nursing with all forms of social and philanthropic work in the past. Nursing still essentially a form of social work. The hospital also essentially a social institution bound up intimately with family and community welfare. Meaning of community or social welfare. Recent changes in the conception of all charitable and philanthropic work. New emphasis on preventive and constructive measures. Definition of "society"—"social." Elements for which adequate provision must be made in a normal or healthy community—health, education, employment, recreation, moral and spiritual life. Importance of the family in community life. Biological and social functions of the family. Training for citizenship and life in larger social groups. Deficiencies in institutional type of upbringing. General effects of family disorganization and disintegration. Efforts to conserve the family and promote its influence and welfare.

XII. *Some Social Problems as Seen in the Hospital*

Types of patients seen in the wards and dispensary who represent social problems of various kinds—drug habitués, prostitutes, unmarried mothers, tramps and rounders, dependents, alcoholics, patients with venereal diseases, patients with other communicable diseases, foreigners, victims of industrial diseases and accidents, etc. Social causes operating to bring these people to the hospital—ignorance, poverty, lack of sanitation and sanitary control on part of community, bad industrial conditions, etc. In case of foreigners all of above combined with exploitation and lack of adaptation to American conditions. What the social service department tries to do for these people.

XIII. *How Adverse Social and Economic Conditions Operate in Childhood*

In infancy bad heredity due to alcoholism, mental defect, degeneracy of parents, etc., insufficient care of mother before and after childbirth and of child at birth and during early period, inability of mother to nurse child, impure milk, bad sanitary surroundings, mother's ignorance, etc. In childhood —lack of care, due to ignorance, poverty, resulting in malnutrition and bad environment, bad housing, etc. Effects of communicable diseases of childhood, physical defects, child labor, bad sanitary conditions at school and lack of medical inspection and nursing. (Specific examples of these conditions.)

XIV. *How Adverse Social and Economic Conditions Operate in Adult Life*

Effects of poverty and insufficient wages, communicable diseases (especially tuberculosis), bad housing, overcrowding, unemployment, bad working conditions resulting in industrial diseases and accidents, insufficient opportunity for recreation, etc. Special difficulties in the case of immigrant families. Problems of mental defectives.

XV. *Local Social and Economic Conditions*

Make a broad general survey of the community or section of the city in which the hospital is located, noting its history, population (number, characteristics, nationalities, etc.), health activities (state and local milk supply, institutions for the sick, preventive work, housing); industries (kinds, legal regulations, dangerous occupations, etc.), opportunities for recreation; social institutions (churches, schools, settlements, clubs, etc.). Show how the character of the community and its problems affect the work done in the hospital and how the hospital affects the community. Show how pupil nurses can assist in making the hospital work most effective socially as well as medically.

Method of Teaching

1. In such a short course it is impossible and unnecessary to take up many detailed historical facts. If the pupils get a good general picture of the progress of nursing and the interesting personalities and events which have helped to mould it, if they catch the spirit of the great leaders, and their interest is aroused in the literature of nursing, the greatest result will have been achieved. The class and discussion method is to be preferred to the lecture for most of this course.

2. It is essential that some view of the general historical background should be given before taking up the nursing history. A rough tabulated chart of the chief historical epochs and events of European history according to centuries will help to place the general scheme before the pupil's mind and will enable her to correlate her nursing and general history better.

3. Every means should be taken to make the events and the personalities vivid and concrete. Pictures are invaluable and fortunately there are many excellent ones available. A collection of historical books adds greatly to the interest.

4. In the social topics the first effort should be to arouse interest in people rather than in abstract principles and problems. Specific cases should be studied as types—preferably patients the pupils have met in the wards or out-patients department. Only the essential elements in each case should be pointed out and anything like a mere curious or sentimental interest should be discouraged. Hopelessly tragic cases should not be selected, and the opportunities and methods of helpful constructive work along very simple lines should be suggested. There should be no attempt to teach methods of social work at this stage—but pupils can be assigned to help in running messages, amusing children, dressing and undressing them, etc., so getting an insight into the problems of the dispensary.

5. In addition to selected readings and class reports, the pupils should visit some of the social institutions and agencies in the community, and each individual should accompany the social service worker or visiting nurse in her home visits for a few afternoons to get a good picture of home conditions.

Illustrative Material

Photographs of pictures illustrating care of the sick in ancient and modern times, nursing saints, medical and nursing leaders, historic institutions, etc. Pictures, exhibits and charts illustrating social conditions and the work of social agencies. Bulletins and pamphlets published by various social organizations.

TEXT AND REFERENCE BOOKS

I. *History of Nursing*

History of Nursing: Nutting and Dock, 4 vols.
Cooke: Life of Florence Nightingale, 2 vols.
Tooley: History of Nursing in the British Empire.
Robinson and Breasted: Outlines of European History.
Berdoe: Origin and Growth of the Healing Art.
Withington: Medical History from the Earliest Times.
Tuker and Malleson: Handbook to Christian and Ecclesiastical Rome.
Putnam: The Lady.
Mozans: Women in Science.
Loch: Charity and Social Life.
Saleeby: Surgery and Society.
Richards: Reminiscences of Linda Richards.
Tiffany: Life of Dorothea Dix.
Dickens: Martin Chuzzlewitt.
Epler: Life of Clara Barton.
Boardman: Under the Red Cross Flag.
Articles in Encyclopedia Britannica under Medicine, Monasticism, Chivalry, Church History, Mendicant Orders, St. Francis, etc.
Paget: Confessio Medici.
Richer: L'Art et la Medicene.
Lacroix: Military and Religious Life of the Middle Ages.
Mullerheim: Die wochenstube in der Kunst.
(The last three especially interesting for their illustrations.)
(See also under Nursing Ethics, Professional Problems, etc.)

II. *Social Aspects of Nursing*

Wald: The House on Henry Street.
Hunter: Poverty (especially chapters I and IV).
Devine: Misery and Its Causes (especially chapters I and II).
Devine: The Normal Life.
Reports of the Federal Children's Bureau (especially Infant Mortality Series, no. 3, Johnstown Report).
Kelley: Modern Industry (especially chapters I and II).
Elwood: Sociology and Modern Social Problems—Chap. IV–VIII inclusive.
Addams: Twenty Years in Hull House.
Addams: The Spirit of Youth and the City Streets.
Addams: Democracy and Social Ethics.
Commons: Races and Immigrant in America.
Steiner: On the Trail of the Immigrant.
Osler: An Alabama Student and Other Essays.
Ross: Social Psychology.
Lee: Social work with Families and Individuals, published by the New York School of Philanthropy and other pamphlets.
Byington: What Social Workers should know about their own

Communities (Pamphlet published by Russell Sage Foundation, New York).

The Survey: (Journal of Social Work).

Elements of Psychology

TIME: 10 hours. Lectures and class discussions. Taught by a psychologist or a qualified nurse or social worker. Given in the latter part of the first year.

OBJECTS OF COURSE

1. To attempt to state the fundamental principles underlying human conduct.
2. To give the student practice in considering people's actions with impersonal understanding and sympathy.
3. To develop certain principles for dealing wisely with patients and others in professional relations.
4. To help the student toward self-mastery and good sense in the relationships of private life.
5. To provide a basis for subsequent courses in psychiatry or ethics.

OUTLINE OF CLASSES

I. *Psychology the Science of Behavior*

Behavior considered as responses to "stimuli." People considered as organisms adjusting to changing environment, natural and social, by acting upon the environment. Behavior such adjustment.

II. *Adjustment made by the Nervous System*

Its structure—brain, cord, fibres, sympathetic system; neurones. Functions. Nervous pathways. Readiness.

III. *Pathways Due to Original Nature*

Reflexes. *Instincts*, their nature. Typical instincts. Readiness and the original satisfiers. Modifying instincts.

IV. *Individual Differences in Behavior*

Central tendencies—the "curve of distribution." Causes of differences. Heredity—race and family, variations. Age, sex, and past experience.

V. *Effect of Past Experience on Behavior*

Learning. Habits. The "laws of learning." Practice. Specific nature of habits.

VI. *Variety of Responses to Same Stimulus*

Influence of accompanying circumstances. "Mind set," mood, temperament. Influence of weather, health, fatigue, drugs, emotional state, purpose, etc., on responses.

VII. *Thinking*

Physiological basis. Attention and interest. Memorizing. Association and analysis. Studying, "apperceptive mass." Reasoning.

VIII. *Feeling*

Pleasantness. "Satisfiers and annoyers." Associative shifts of satisfaction. *Emotions*, their dependence on organic action. Control and use of feeling.

IX. *Doing*

Will and habit. Selection and attention in willing. Individual differences in will. Morality, social basis, psychological elements. "Character."

X. *Suggestion*

Presenting the stimulus that calls forth the desired act. Tact. Use of principles already discussed. Understanding people. Self-mastery.

METHODS OF TEACHING

Class discussion based on simple text-book if possible. Lecture on points for which text-book is not available. Reference reading. Written and oral reports of actual experiences, and questions from pupils relating to individual problems.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Anatomical charts and models of brain and nervous system.

REFERENCE BOOKS

Thorndike: Elements of Psychology.
Thorndike: Educational Psychology. (Briefer course,—1914.)
Thorndike: Individuality.
Colvin and Bagley: Human Behavior.
James: Psychology. (Briefer course.)
James: Talks to Teachers on Psychology.
Pillsbury: Essentials of Psychology.
Miller: Psychology of Thinking.
Ribot: Diseases of the Personality.
Ribot: Diseases of the Will.
Kirkpatrick: Fundamentals of Child Study.
Tyler: Growth and Education.

Principles of Ethics

TIME: 10 hours. Classes and conferences conducted by the superintendent of nurses or a special lecturer. Given in the second year.

OBJECTS OF THE COURSE

1. To follow up the work of the first year in the historical and social aspects of nursing by a fuller discussion of the principles of behavior, their origin, meaning and practical bearings on the common experiences and problems of life.

2. To try to lead the pupil to formulate more clearly and definitely her philosophy of life, to stimulate her in the formation of the right kind of personal habits, to help her in building up

a strong and an attractive personality, and to give her a vision of what a full, happy, useful, and well-ordered life may be.

3. The effort is made here to build up broad general principles which apply equally well to all phases of life and all types of people, rather than to emphasize a special code which is restricted to one group and one type of occupation.

Outline of Classes

I. *Introduction—Customary Morality*

Meaning and derivation of ethics, morals, customs. Distinguish from etiquette, manners, religion. Kind of problems considered in a study of ethics (give concrete examples). Basis of all behavior found in the original nature of man with its equipment of instincts and tendencies. These neither good nor bad in themselves, but become good or bad according to their effect on other human beings. Repetition and resulting satisfaction the conditions of development. Four levels of stages of conduct: (1) Instincts, controlled and influenced only by *physical pains and pleasures;* (2) modified by *rewards and punishments;* (3) controlled by the thought of *praise or blame;* (4) Conduct regulated by a *personal ideal* which enables one to do right even when it entails personal suffering and the condemnation of society. First stage non-moral, represented by infants and mental defectives. Most people in second and third stages—where *custom* and *tradition* are principal guides to conduct (group or customary morality). Customs and laws gradually built up by the social group for its own welfare and protection, and habits enforced through ritual and ceremony, force of public opinion or physical force. Weakness and limitations in this kind of morality.

II. *Personal or Reflective Morality*

Personal as opposed to group or customary morality involves free choice and independent moral judgment, instead of unreasoning acceptance of custom and slavish imitation of others. Social habits and customs still determine conduct to a large extent but the individual is responsible and accountable for his own actions. His conduct becomes purposeful, voluntary, and spontaneous, as opposed to impulsive or forced conduct. Laws which he first obeyed mechanically, he learns to obey rationally. In this stage of conduct, morals are differentiated from manners, conscience substituted for custom, and principles for rules of conduct. Personal or reflective morality has three aspects: (1) *right feeling* or a delicate sensitiveness to ethical ideals and an ardent desire to realize them; (2) *right thinking* or sound moral judgment; (3) *right doing* or the vigorous carrying out of one's purposes and ideals. This is conscientiousness or obedience to the inward law "where the person himself sets up the ideal standard, judges his conduct by it, holds him-

self responsible to himself and seeks to do justice." Conscience is not infallible—needs constant enlightenment and training, must be kept sensitive and responsive, and must be obeyed as the highest moral law which the individual knows.

III. *Ethical Ideals and Standards*

Ethical ideals are the product of all the preceding ages and of all one's experiences in life. The body of accepted moral and ethical principles have very slowly accumulated and are constantly undergoing changes and modifications. Each age works out a different conception of moral worth or goodness. Great moral leaders are those who break through traditions and customs, and establish new ideals of conduct. They are the prophets, saints, martyrs, and reformers. Moral ideals are embodied in art, literature, religion, law, etc. Earliest ethical principles of high value found in Hebrew and Greek literatures. The Roman law and the Christian Church, the main sources of later ethical standards and the great conservative forces in preserving old standards. Examples of early ethical teachings seen in the ten commandments, the golden rule, proverbs, fables, etc. Ethical influence of great characters in history, biography, fiction, and contemporary life.

IV. *Moral Judgment*

The second essential to reflective morality, is sound moral judgment or wisdom, "the parent or nurse of all the virtues." Element of choice and moral valuation implies capacity for reflection, discrimination and sound thinking as well as an adequate body of knowledge to guide one's decision. Imagination needed to forecast possible results of any given choice and to see the wider and more remote as well as the immediate results. Sympathetic insight into others' lives and a wide acquaintance with human nature necessary to insure just judgments. Wisdom needed in deciding *means* to be used as well as *ends* to be realized. Wisdom means insight, sagacity, sanity, and common sense; not to be confused with mere knowledge. Moral judgment not essentially different from judgments required in business or professional matters. Ability to judge wisely in some degree inherited, but may be developed by exercise and self-criticism. Impulsive, capricious, or "snap" judgments likely to be superficial and unreliable. Prejudice and strong emotion warp judgment. Dogmatism and intolerance usually based on narrow range of facts, and shallow thinking. Until facts can be obtained, judgment should be suspended.

V. *Conduct and Character*

The third essential—will power or moral energy to control vagrant or selfish impulses and carry out one's purpose and ideals. High ideals and thoughtful decisions are ineffective unless put into practice. Those who profess fine ideas and emotions without doing anything to carry them out are called sen-

timentalists or hypocrites. Motive power comes from the emotions and sentiments which are the springs of action as well as the key to character. What a person is, is shown by what he desires most, what annoys, pains, or grieves him, in what he finds satisfaction. Disposition and temperament are largely inherited, but character is made. It is the result of all one's choices and actions, of all one's physical, mental or moral habits. Important to make allies instead of enemies of one's habits. Rules for habit-formation (see James). Action must be vigorous and forceful as well as rightly directed—must be applied consistently in all the affairs of every-day life.

VI. *The Place of "the Self" in the Moral Life*

Virtues are habits of will or modes of conduct which tend to promote the welfare of both individual and collective life. Vices are abnormal developments of the will that tend to enslave and destroy life. The normal impulse of individuals is to satisfy the desires and claims of self. The higher welfare of self includes the welfare of the larger group. Involves struggle between egoism and altruism, between narrow selfishness and benevolence. Self-control the mainspring of character—mastery of the lower by the higher impulses. Suppression and eradication of natural impulses and emotions and extreme self-renunciation as advocated by ascetics tend to cripple and narrow life. Self-expression and self-development to be emphasized, as well as self-denial and self-sacrifice. Courage or persistent natural vigor needed to resist lower desires and give moral power to meet pain, danger, and public disapproval, when necessary. Strong character implies virility, vigor, and strong moral fibre, not negative, spineless "goodyness." Modesty (freedom from false pride and excessive desires), chastity, self-possession, perseverance, fortitude, patience, constancy—all aspects of self-control and courage. A high conception of individual honor, self-respect, and wholesome ambition, essential to complete development of the self. Vanity, servility, aggressiveness, etc. are perversions of the impulse to further self's welfare and development.

VII. *The Social Virtues*

The parental or "motherly" instinct—the main root of the social virtues. Tenderness, compassion, sympathy, pity, benevolence, and helpfulness, generally expressed in various forms of charity and philanthropy, such as caring for children, the sick, helpless, and dependent. Unless safeguarded by knowledge and good judgment, benevolence may be injurious to oneself and others. Good will, or love of one's neighbor, is incompatible with envy, malice, and all the subtle as well as active forms of cruelty and selfishness. Patriotism or love of one's country—another form of benevolence. Justice a fundamental social virtue, representing the idea of equity, rectitude,

fairness, impartiality, honesty as opposed to exploitation, oppression or injustice of all kinds. Veracity implies frankness, fidelity, and sincerity in all human relationships as opposedto lying, flattery, slander, and misrepresentation. Social virtues of coöperation, good-will, fair play, give and take, enter into every phase of human life and work.

VIII. *Ethical Principles as Applied to Community Life*

The growth of democracy in modern life. Result of growing belief in the worth and possibilities of the individual and his right to self-expression and development. Danger of overemphasis on individual *rights* and neglect of *obligations*. New emphasis on social ends or group welfare, not incompatible with individual development. Social efficiency the modern ideal—highest self-realization and self-expression through service for the common good Wide variation in types of service and ability needed for community service. Public-spiritedness and patriotism expressed in the faithful doing of inconspicuous and common tasks as well as heroic deeds. Importance of training and efficiency as well as good-will. Recent changes in the status of women and new possibilities of public service opened up. Local questions of family and community welfare discussed from the ethical point of view with practical suggestions for useful service.

IX. *Principles of Ethics as Applied to One's Work or Profession*

The relation of various forms of occupation to community welfare. Ideals and traditions of service developed by such professions as the church, the army, medicine, etc. The spirit of the craftsman or artist in relation to his art. Putting one's soul into one's work. The value of work as a means of happiness, personal satisfaction, and development. Growth in independence, integrity, industry, and self-respect through work. The "business-like" qualities and virtues—system, thoroughness, promptness, alertness, economy, reliability, and persistence. Qualities demanded in working with others—loyalty and intelligent coöperation with those in charge, trustworthiness, ability to do good team-work, spirit of courtesy and helpfulness, a sense of humor, discretion. Qualities necessary in leading and guiding others—good judgment, justice, dignity, generosity, initiative, enthusiasm, self-reliance, and the ability to take responsibility. Dangers of narrowness and stagnation in relation to one's occupation; of materialism, cynicism, and mechanical routine. Effects of over-fatigue, and over-work as well as idleness in breaking down moral resistance, decreasing moral sensitiveness, and sapping energy and spirit.

X. *Principles of Ethics as Applied to One's Personal Life*

The importance of having definite purposes to work towards, laws to obey, ideals to follow. Self-direction and self-mastery achieved through concentration and practice. The place of

religion in the building of character, and the development of one's spiritual life. Essentials of an attractive, wholesome, and strong personality. Its influence on others. Possibilities of strengthening weak moral fibre and cultivating hidden resources of personality and ability in others. The ability to meet moral crises in one's own life and the lives of others. Provision for growth. What we mean by self-government. Application of foregoing principles to special problems, especially those involved in recreation, amusements, and social life, dress and the expenditure of money, relations between men and women, friendships, etc.

METHODS OF TEACHING

1. The practice of ethics is a matter of attitude, spirit, and will more than knowledge. Teaching will never be effective in changing behavior unless it is backed up by the example and personality of the teacher and by the atmosphere and influences which surround the pupil every day. Every subject taught in the training school should be a medium for teaching ethics, and every problem which the pupil meets in her daily work should be an opportunity for practice in ethics. The social life of the pupil nurse is a particularly strong influence in shaping her ideals and developing her powers. Emphasis should be laid on the formation of habits of positive service and helpfulness rather than merely the correction of faults and the observation of rules and regulations; on the strengthening of character through complete development rather than the repression and elimination of the more undesirable traits. If the principles of student government are in force in the Nurses' Home, it will give a much better opportunity for exercising the qualities of self-direction and self-control in regard to the pupils' personal life.

2. In teaching ethics, concrete examples should be given to illustrate every point, or to lead up to the discussion. These examples will be found in history and standard literature, poetry, current fiction, newspaper items or personal experiences. It is better not to draw too many examples from hospital life but to give as broad a point of view as possible. Pupils should be asked to bring in examples and to contribute to the discussions in every possible way. The course should be tied up with the earlier course in the historical and social aspects of nursing and to psychology if this is given. It might follow the course in psychology or be combined with it if there is not time for both.

3. If possible personal conferences might supplement such a course. The teacher could thus get into closer touch with the pupils and could help them better in working out their individual problems.

TEXT AND REFERENCE BOOKS

Robb: Ethics of Nursing.
Parsons: Nursing Problems and Obligations.
Nightingale: Notes on Nursing.
Nightingale: Talks to Pupil Nurses.
Osler: Aequanimitas.
Dewey and Tufts: Ethics.
Mackenzie: Manual of Ethics.
McDougall: Social Psychology.
James: Talks to Teachers.
McCunn: Making of Character.
Emerson: Essays.
Cabot, (E. L.) Every-Day Ethics.
Cabot, (Richard) What Men Live By.

See also under Historical, Ethical and Social Aspects of Nursing, Psychology and Problems of Professional Life.

Survey of the Nursing Field

TIME: 10 hours,—lectures, classes and conferences conducted by the superintendent of nurses and special lecturers representing different fields. Given in the early part of the third year.

OBJECTS OF COURSE

1. To introduce the pupil nurse to all the varied branches of nursing work, so that she may be more able to choose the field in which she is likely to find the greatest interest and success.

2. To show pupils what is being done in all these important fields, what the main problems are and what their responsibilities are in connection with them.

OUTLINE OF CLASSES

I. *Introduction*

Brief survey of the historical development of nursing work showing the division into three main branches of hospital, visiting and private nursing. Later subdivision of each of these main branches into many distinct fields. Reasons why nurses should choose future work with care. Points to be considered in choice of vocation. Need of further training for special branches or positions of leadership. Kinds of training available. Points to be considered in regard to post-graduate training.

II. *Hospital or Institutional Nursing*

History of the origin and development of hospital nursing reviewed. Nature and general conditions of work, salaries, qualifications and preparation for executive positions, such as hospital superintendent, assistant superintendent, dietitian,

housekeeper, matron of nurses home, etc. Technical specialties such as operating-room work, administration of anesthetics, massage, hydrotherapy, electro-therapy, laboratory work, etc. Duties, opportunities, qualifications and training demanded.

III. *Educational Work in Hospitals*

The origin and development of training schools and the work of the training-school as distinguished from that of the hospital. The position and duties of the superintendent of nurses, assistant superintendents, instructors and head nurses. Qualities and training demanded. The scope of educational work in nursing schools. Number of training schools in U. S. (approximately 1570). Growing importance of this field.

IV. *Visiting Nursing (General)*

The origin of visiting nursing under deaconesses and older religious orders reviewed. Later secular orders, and rise of modern visiting nursing. Outline of modern expansion at home and abroad. Leaders in this field. Outstanding features of visiting nursing in urban and rural districts. Work of town and country nursing service. Visiting nursing in connection with insurance companies, etc. Duties of visiting nurse—qualifications and training demanded.

V. *Infant Welfare Work and School Nursing*

Origin of modern movements for conservation of children. Nurse's part in this movement at home and abroad. Baby-welfare work in hospitals, dispensaries, milk stations and homes. Pre-natal work. Origin of school nursing and rapid expansion of this field. The position and duties of such nurses including resident nurse in school or college dormitory. The qualifications and training demanded.

VI. *Tuberculosis and Industrial Nursing*

Place of the nurse in the tuberculosis movement. Kinds of positions open to nurses both in institutional and visiting work. The special needs of this field. The new industrial welfare work for nurses—its nature and possibilities. Duties, salaries, requirements and training of nurses for these branches.

VII. *Mental Hygiene and Medical Social Service*

History of the care of the insane reviewed. The place of the nurse in mental hygiene and mental nursing. Kinds of positions open in both institutional and visiting work. The unusual demands and opportunities in this field. The origin and development of medical social service. The nature of the work and the demands, requirements and special preparation of nurses for these fields.

VIII. *Red Cross, Army and Navy Nursing*

History of the Red Cross and army nursing. Organization of nursing service for war and other disasters in America and in other representative countries. Service in army and navy

hospitals. Nature and possibilities of such work. Requirements and special preparation of nurses for these fields.

IX. *Private, Hourly and Office Nursing*

Origin and development of these branches. The scope of the field. Duties and economic status of private nurse. Prospects for advancement. Newer specialties in private nursing. Qualifications required and preparation for each of these fields.

X. *Miscellaneous Branches*

Nursing in home and foreign mission fields, inspection of Training Schools, work of hospital consultant, work of secretary or organizer of philanthropic or public health organizations, almshouse and prison nursing, sanitary inspection, teaching of invalid occupations, etc. Nature and general conditions of work in all these fields. Salaries, qualifications and preparation demanded.

METHODS OF TEACHING

1. Class or lecture method, especially interesting if specialists in the representative branches could come in and tell of their work.

2. If at all possible, students should have an opportunity of observing something of the principal branches of work outside of the hospital and should have enough experience in each of the three main branches to enable them to test out their aptitudes and determine which field they want to enter.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Books, pamphlets, journals and pictures, lantern slides.

TEXT AND REFERENCE BOOKS

Nutting and Dock: History of Nursing, vols. I–IV.
Robb: Nursing Ethics.
Robb: Educational Standards
Wald: The House on Henry Street.
Opportunities in the Field of Nursing: (Pamphlet.)
Perkins: Vocations for the Trained Woman.
Kingsbury: Vocations for Trained Women.
Morley: Women Workers in Seven Professions.
Gulick and Ayres: Medical Inspection in Schools.
Boardman: Under the Red Cross Flag.
La Motte: Tuberculosis Nursing.
Crowell: Tuberculosis Dispensary Method and Procedure.
Waters: Visiting Nursing in the United States.
Cannon: Social Work in Hospitals.
De Witt: Private Duty Nursing.
Gardner: Public Health Nursing.
Struthers: School Nursing.
Parsons: Nursing Problems and Obligations.

Reports of League of Nursing Education.
American Journal of Nursing: (Complete Files).
Public Health Nurse Quarterly.

See also under Private Nursing, Public Health Nursing, Institutional Work and Professional Problems.

Professional Problems

TIME: 10 hours. Classes and conferences conducted by the superintendent of nurses, and special lectures. Given in the later part of the senior year.

OBJECTS OF COURSE

1. To anticipate some of the problems which will confront the pupils when they graduate, and to help them to meet their difficulties in a rational high-minded and effective way.
2. To awaken their interest in professional organizations, and to secure their enthusiastic coöperation in advancing the mutual interests of the public and their own profession.

(Special problems of the private nurse, the public health nurse, and the institutional nurse are considered in courses on these subjects.)

OUTLINE OF CLASSES

I. *The Social and Civic Status of Nurses*

Claims of nurses to professional status based largely on service rendered to the public and on controlling ethical, and educational principles. Responsibility of individual nurse in maintaining professional and social status. Qualities and conduct which make one acceptable in good society. The nurse as a citizen and public servant. What the community has a right to expect of her. Duties in times of crisis—war, epidemics, etc. Responsibility for community health and welfare. Relationship to civic, philanthropic, religious, educational and public health agencies and activities. Relations to women's clubs and organizations which aim to advance the welfare of women.

II. *Professional Ethics and Etiquette*

Origin of the ethical code of medicine. Accepted forms of professional courtesy. Relation of the nurse to the physician in all the various branches of nursing work. Relations of individual nurses to one another, and to the profession as a whole. The necessity of loyalty, harmony and coöperation. Primary rights of the patient and patient's family in case of doubt. Possible conflicts between the general good and professional solidarity. Nurses' attitude to incompetents, irregulars, and quacks in both nursing and medical professions. Professional courtesies toward representatives of related professions and occupations.

III and IV. *Nursing Economics*

The economic status of the nurse as compared with other professional women. The professional as opposed to the commercial spirit. The economic independence of the modern professional nurse compared with the comparative dependence of the religious orders. Provision for sickness and retirement. Business principles, as applied to bills, banking, investments, insurance, etc. The nurse's budget. Proportion of yearly income spent in rent, board, clothing, etc. Principles of economy. Loan and relief funds for nurses. The sliding scale of charges. Provision for maintenance of health and working capacity. Regulation of conditions of work in all branches of nursing—hours, vacations, living conditions, rest, sleep, food, etc. The social life of nurses. Provision for recreation and self-improvement. Nurses' clubs and hostels. Nurses' registries. Professional vs. commercial bureaus. The central registry—how it should be maintained and managed.

V. *Legal Problems* (given by a lawyer)

Laws which affect the nurse in her relations with patients, physicians, hospitals and the general public. Legal situations, in which a nurse may be involved—accidents, sudden death, poisoning, suicide, homicide, insanity, etc. Court procedures —especially those involving testimony by nurses. General advice to nurses in all cases where legal difficulties arise.

VI. *Nursing Education*

Educational status of nursing as compared with other professions. Economic difficulties in establishing a sound basis for nurses' education. Need of independent endowments for Training Schools, better applicants, higher standards of education, suppression of commercial and inferior schools. What constitutes a good school of nursing. Development of university affiliations. Work of Nursing and Health Department at Teachers College, Columbia University and other university courses, Nurse's responsibility for adding to her own efficiency and increasing the general fund of professional knowledge.

VII. *Nursing Legislation*

Registration of nurses through legislative enactments as a valuable means for controlling the practice of nursing and the education of nurses. History of the registration movement in America. Essentials of a good bill, and measures for its enactment. Present status of nursing legislation in different states.

VIII. *Nursing Organizations* (general and alumnae)

What organization has done for nurses. Essential elements in any organization. Types of nursing organizations. Aims and activities of the alumnae. Duties of nurses toward professional organizations. Elements of organization and parliamentary procedure for use in nursing organizations.

IX. *National Nursing Organizations and Publications*

Development, main activities and general plan of the American Nurses Association, League of Nursing Education and National Organization of Public Health Nursing. State and local branches. Publications and reports. The nursing press —American Journal of Nursing, Public Health Nursing Quarterly, and other publications. Dangers in commercialization of nursing publications.

X. *International Relationships*

Origin, aims, and activities of the International Council of Nurses. Brief survey of countries represented, noting general hospital and nursing situation, social, educational and economic status of nurses, leading women and publications. Attitude toward nurses of other countries. Means for the promotion of friendly and helpful relationships with other countries. Opportunities for assisting in the development of nursing in backward countries.

METHODS OF TEACHING

1. Use the discussion method as far as possible. Have pupils read short papers, prepare bibliographies, and bring problems to class for discussion. The case method can be used to advantage in many of these topics, basing the discussion on actual situations that have occurrred.

2. Personal conferences with pupils are found to be very helpful in this course. It is evident that more time is needed to deal with the subject in any adequate way. Many additional topics could be suggested for supplementary work—such as a short course on public speaking and parliamentary law. It would be very helpful also to have the nurses organize a journal club to run parallel with this and other courses in the senior year. A few important journals might be selected and one assigned to each member of a class for review. Probably a better plan is to assign a topic to each pupil and have her search for important articles on that topic. Brief reports on these articles are given, and filing cards with name, author, reference and annotations are filed for the use of the club members. Students should be encouraged to use discrimination in the selection of articles and to give the gist of the contents only in the report. Time should be left for discussion.

ILLUSTRATIVE MATERIAL

Journals, books, photographs, charts, etc.

REFERENCE BOOKS

Nutting and Dock: History of Nursing, vols. I–IV.
Nutting: Educational Status of Nursing (published by Bureau of Education, Washington).
Robb: Nursing Ethics.

Robb: Educational Standards.
Nightingale: Notes on Nursing.
Osler: An Alabama Student and other Essays.
Osler: Aequanimitas.
Paget: Confessio Medici.
Parsons: Nursing Problems and Obligations.
Reports of National League of Nursing Education.
Reports of International Council of Nurses.
American Journal of Nursing.
Public Health Nurse Quarterly.
Nurse's Journal of the Pacific Coast.
Canadian Nurse.
British Journal of Nursing.
Modern Hospital, etc.

See also books on History of Nursing, Nursing Ethics, Modern Social Problems, etc.

Modern Social Conditions

TIME: 10 hours, to be given by authorities on the various topics outlined, or by an expert in Social Economy or Social Science. Given in the latter part of the third year.

OBJECTS OF THE COURSE

1. To give the pupil a general understanding of the broad fundamental problems inherent in society today, showing the methods of approach and the agencies at work in attempting to solve these problems.

2. To make the nurses sufficiently familiar with the present emphasis in methods of social work so that they will have some basis for further reading and study, also to serve as a background for public health nursing and other forms of social work.

3. To further emphasize the close relationship between health and social problems.

OUTLINE OF LECTURES

I. *Poverty and Philanthropy*

Brief historical sketch of the development of society, showing how as the organization of society became more complicated the emphasis shifted from the individual to the group. In philanthropy this meant organized scientific treatment of social problems, rather than the spasmodic efforts of benevolent individuals. Present tendency toward governmental action—federal children's bureau, state, country and local public health agencies, state employment agencies, social legislation, etc. Change in conception of poverty—no longer considered distinct from other problems, but rather the result of them and must be attacked through them. Treatment of poverty inseparable from treatment of all the various social ills—unnecessary

sickness, dependency, feeble-mindedness, insanity, physical or mental degeneracy, physical handicaps, insufficient wages, unemployment, etc.

II. *Delinquency and Crime*

Causes of delinquency—hereditary and environmental. Defectives—diagnosis and treatment; psychological and mental clinics, tests; ungraded classes, segregation in institutions with special occupation training. Close relation between mental diseases and delinquency. Special problem of juvenile delinquency. Treatment—proper recreation, schools adapted to the needs of the individual, socializing court action, probation officers, prison reform, making correctional institutions stand for the highest development of the individual rather than the punishment of offense, the indeterminate sentence.

III. *Education and Recreation*

Modern conception of education and recreation. Schools to be the center and guide in all activities, mental, physical and social, assisting each child to develop his highest potentialities along these various lines. Vocational guidance through schools The industrial school. Recognition of the importance of play for normal development. Natural desire for play when misdirected may lead to delinquency and immorality—gangs, gambling, dance halls, etc. Boys and girls clubs—Boy Scouts, Girl Scouts, Junior Police, etc.

IV. *Social Hygiene*

The far reaching effects of the sex instinct. Individual and social ills that come through lack of understanding and misuse. Mental and physical diseases, immorality, prostitution and illegitimacy. Desirability of frank intelligent conception of the significance and proper place of the sex instinct. Sex education—how and by whom to be given. The problem of prostitution and agencies for its control and prevention.

V. *Alcohol and Drugs*

The problem of alcohol and drugs in relation to poverty, unemployment, crime, prostitution, insanity and other social and health problems. History of the movement for the control of alcoholism. Scientific investigations into effects of alcohol and their results. Causes and effects of the drug habit. Methods of handling cases and preventing sale of drugs.

VI. *Modern Industry*

Brief survey of some modern industrial problems. Unemployment. Women and children in industry. Labor organizations both for employer and employee. Use of the strike. The protocol and boards of arbitration. Tendency toward governmental control of industry in the interest of common welfare. Labor legislation—regulating hours, minimum wage, child labor, working men's compensation.

VII. *Immigration and Race Problems*

Causes of emigration from other countries. Dominant race traits and social backgrounds. Problems of assimilation. Influences which stimulate and retard adjustment and development. Direct efforts toward safe-guarding the immigrant. Relation of the immigrant to industrial problems.

VIII, IX and X. *Agencies and Methods for Relief and Prevention*

General principles of case work—family the unit. Social diagnosis and treatment with special factors to be considered. Relief agencies—use of relief as social treatment. Society for Organizing Charity, etc. Children's agencies—Children's Aid Society, Society for the Prevention of Cruelty to Children, etc. Specialized agencies—for wayward girls, for mental cases, for court cases, etc. Value of social records and social statistics—their interpretation. Methods of education and publicity. Mass methods—settlements, social centers, playgrounds, etc. Value of schools, churches, theaters, the press, etc., as social agencies. Social legislation. Work of the Consumer's League; Child Labor Committee, etc. Labor Legislation. Social Insurance. Old Age and Widow's Pensions.

METHODS OF TEACHING

1. Lectures and reference reading, followed by class discussion or conference, if possible, with the lecturer, or by the Head of the Social Service Department or someone actively engaged in social work.

2. The lectures must necessarily be sketchy in character, giving but a bird's eye view of the subject and should be given in simple non-technical terms.

3. Excursions should be made, if at all possible, to the institutions and agencies dealing with these particular problems in the community.

4. The assignment of reading is most important, as this should supplement the necessarily limited ground covered by the lectures. As the time usually available is very limited assignments should be brief and very carefully selected.

TEXT AND REFERENCE BOOKS

Ellis: Task of Social Hygiene.
Devine: The Normal Life.
Addams: Democracy and Social Ethics.
Streightoff: Standards of Living.
Hunter: Poverty.
Devine: Misery and its Causes.
Devine: Principles of Relief.
Henderson: Dependents, Defectives and Delinquents.
Healy: The Individual Delinquent.
Loch: Charity and Social Life.

Publications of the New York State Committee on Mental Hygiene.
Addams: The Spirit of Youth and the City Streets.
Lee: Play in Education.
Abbott: Women in Industry.
Richmond, Mary: Social Diagnosis. Russell Sage Foundation.
Schreiner: Woman and Labor.
Publications of the American Association for Labor Legislation.
Antin: The Promised Land.
Steiner: Ebb and Flow of the Immigrant Tide.
Zangwill: The Melting Pot.
Devine: The Spirit of Social Work.
Cabot: Social Service and the Art of Healing.
Addams: Twenty Years at Hull House.
Addams: A New Conscience and an Ancient Evil.
Wald: The House on Henry Street.
Seager: Social Insurance.
Proceedings of the National Conferences of Charities and Corrections.
The Survey.
See also under History of Nursing, Survey of the Nursing Field, etc.

NOTE—Lectures devoted to the social aspects of special classes of disease, will be found under such subjects as Obstetrical Nursing, Children's Diseases, Communicable Diseases, etc. If not covered in this way, such topics might be included under Modern Social Conditions.

G. SPECIAL BRANCHES OF NURSING

Introduction to Institutional Work (Elective)

TIME: 10 hours. Classes and conferences conducted by the principal of the training school. Course to be given in latter part of third year.

OBJECTS OF COURSE

To give the student a better understanding of some of the problems and responsibilities of the supervisors and head nurses in charge of various hospital departments. The course is intended for students who have shown special ability along executive lines, and who intend to continue in hospital work.

No attempt should be made to deal with the larger and more responsible duties which belong to hospital and training school administration.

OUTLINE OF CLASSES

I. *Hospital Organization*

Different types—municipal, state, private, semi-private. Study of general plan of organization in hospital. The ward as a hospital in miniature—needs of ward as sample of needs of hospital as a whole. Relation of ward to other departments of hospital—kitchen, laundry, linen and supply rooms, pharmacy, social service department, training school, admitting department, general office, etc.

II. *Ward Planning and Equipment*

The planning of wards and accessory rooms; size and arrangement for convenience in work; finish and structural equipment. Standard hospital furnishings. Average allowance of linen, utensils, etc., per patient. Standardization of equipment for different types of work. Consideration of use, cost, special advantages, durability, sanitary features, etc. Economy in use of equipment and supplies. Care and renewal of supplies. Methods of exchange. Responsibility for medical and surgical supplies on wards. Methods of purchase—contract, open market.

III. *Ward Personnel and its Organization*

Responsibility of head nurse for ethical atmosphere. Influence of her personality in developing esprit de corps of the ward. The head nurse as a judge of character. Especial responsibility toward the new probationers. Relation of head nurse to visiting staff, house staff and nurses, students and employees. Arrangement of ward services, hours of work for nurses, off-duty time, etc. Reasons for the eight-hour day and various systems of carrying on ward work on this basis. The night nurse and her special problems. Special nurses—hours of

work, relief, etc. Relation of head nurse to maids and orderlies—interest in their hours of work, living conditions, recreation, etc.

IV. *The Head Nurse and the Patients*

Purpose of hospital—care and comfort of patients. The rights and obligations of patients in a hospital. Reception of patients—first impressions. Hospital noises—how to minimize. Respect for religious and racial differences and peculiarities. Opportunities for social service. Some principles of psychology used in the handling of patients. Occupations for ward patients. Relation of head nurse to patients' friends. Attitude and support of community influenced largely by personal care and consideration of patients and attitude toward their friends and relatives. Care of patients' clothing and property.

V. *The Head Nurse as an Executive*

Some principles of good management—collectiveness and coöperation. Capacity for leadership—how developed. Dangers of arbitrary leadership. Staff and line functions. Relation of head nurse to other hospital departments. Assignment of work. Value of schedules. Delegation of responsibility. Discipline—its meaning and purpose. Test of ability for executive work. Opportunity for individual development.

VI. *The Head Nurse as a Teacher*

Teaching functions of the head nurse—what they involve. Value of bedside teaching. Supervision and constructive criticism of work, done by nurses. Perfection of technique, standardization of work, motion study. Need of keeping in touch with theoretical teaching given to nurses. Coöperation with instructor of nurses. Head nurse as teacher of applied hygiene and sanitation to patients and public. Head nurse as teacher of ward maids and orderlies in methods of house work, care of cleaning utensils, cleaning process and agents, etc.

VII. *Ward Housekeeping*

Review of general principles of household economics. Establishment of standards. Inventories. Stock-taking. Repairs and renewals. Disposal of garbage and waste. Prevention of pests. Supervision of maids and orderlies. Schedules of work—daily and weekly cleaning. Care of diet kitchen, refrigerators, etc. Care of lavatories. Private rooms and their care. Surgical dressing rooms, service rooms, balconies, etc.

VIII. *The Patient's Food*

Food—its preservation, preparation and service. Dietaries for ward and private patients—need of personal supervision of head nurse. Special diets—caloric feeding, etc. Feeding helpless patients. Prevention of waste. Diet sheets and their importance. Care of food trucks. Question of allowing food to be brought to patients by their friends. Problems in

relation to racial and personal preferences in diet, religious observances, etc.

IX. *Records and Record Keeping*

Value of records and their functions—to hospital administration—to medical staff—for protection of nurse. Card index system. Hospital cost accounting. Ward inventory. Daily reports, charts, orders, etc. Necessity for scientific accuracy, judgment, neatness. Honesty in record-keeping as test of character.

X. *Special Problems in Ward Management*

Application of foregoing principles to work in various departments—medical, surgical, obstetrical, children's operating room, dispensary, etc. Opportunities for continued education and training of the nurse in the hospital. Dangers of too narrow specialization, and the institutional point-of-view. Importance of outside interests and diversions, and a wholesome and normal social life. Opportunities for advancement open to head nurses and supervisors. Importance of constant study and self-improvement through reading, journal clubs, visiting other institutions, etc.

NOTE: If not given as part of the regular nurses' training it is suggested that the above outline might serve as a suggestive basis for head nurses' conferences.

METHODS OF TEACHING

A course of this kind will usually take the form of a more or less informal class discussion. The idea is to have the students assisting head nurses in some of the departments of the hospital where they will be in close touch with many of the problems under discussion. Individual problems may be assigned for investigation and reported on in class.

TEXT AND REFERENCE BOOKS

Palmer: The Teacher.
James: Talks to Teachers.
Taylor: Shop Management.
Pillsbury: Essentials of Psychology.
Nutting: Educational Status of Nursing.
Robb: Nursing Ethics.
Robb: Educational Problems.
Parsons: Nursing Problems and Obligations.
Cannon: Hospital Social Service.
Standard Curriculum for Nursing Schools.
Articles in *The American Journal of Nursing, Journal of Home Economics, The Modern Hospital,* etc.

Introduction to Private Nursing (Elective)

TIME: 10 hours. Class work, discussions and demonstrations conducted by a member of the staff who has had experience in private

nursing, or by a specially qualified private nurse. To be given in the latter half of the third year.

OBJECTS OF THE COURSE

To discuss in detail the more important problems which confront the nurse in private duty, and to establish the underlying principles of successful private nursing and suggest modifications or adaptations of hospital technic which may be required in this work. The course is intended only for those students who expect to go into the private nursing field.

OUTLINE OF CLASSES

I. *Essentials to Success in Private Duty*

Considerations which would determine the choice of this branch of work. Demands on health—need of special attention to rest, exercise, food, etc. Requirements as to personality and character. Professional requirements—special kinds of skill, intelligence and efficiency required. Social requirements—knowledge of social customs and observances which make one at home in good society. Companionship—resourcefulness in providing diversion and entertainment for patients when necessary. Educational functions of the private nurse. Opportunities for teaching and influencing homes and communities.

II. *Establishing One's Self in Private Practice*

Where to locate? The relative advantages of larger and smaller centers. Special needs of the small town. Importance of joining a good registry. Rules of the registry. The responsibility of the private nurse for the care of sick patients of all types and conditions. The ethics of picking and choosing among cases. General nursing versus specialization in private nursing. How to get in touch with physicians and hospitals. Engagements and charges. Identification with local nursing interests. Relationship with nurses from different schools, practical nurses and attendants.

III. *Living Conditions and Expenditures*

The private nurse's income—proportion to be devoted to professional and personal expenses. Requirements in clothing. Recommendations as to uniforms, street clothes, clothes for night duty, shoes, etc. Equipment required for general, special, hospital and country cases. The contents and packing of the private nurse's suit case. Problems of living. Choice of a room and provision for meals when off duty. The relative advantages of the nurses' club, coöperative housekeeping and boarding. Importance of good telephone service. Laundry problems. Proportion of income to be spent on recreation and personal improvement. Importance of the savings fund and

insurance as investments. (Demonstrate proper costume for private nurse—out-door and in-door; also private nurse's suit-case with outfit.)

IV. *The Nurse in the Home*

The position of the nurse in the family. Relationship to the patient, the members of the family, servants and visitors. Looking at things from others' point of view. How to secure the assistance and coöperation of the patient and family. The choice, arrangement and care of the sick room. The ordering and serving of meals. Preparation of special diets in the home. Economy in sick-room supplies. How to improvise equipment. Adaptation of treatment with limited equipment. The importance of records. The daily routine in ordinary cases.

V. *Special Duty in the Hospital*

Conditions of special duty in various types of hospitals. Customary regulations concerning hours, relief, room, board, remuneration, etc. Relation of the special nurse to the officers of the hospital and training school, visiting and resident physicians, pupil nurses, ward-maids and orderlies, and other special nurses. Duties of the special nurse on ward or private cases. Reports and records. The use of hospital supplies. Night work in the hospital. Coöperation of nurses on the same case.

VI. *Hotel Life and Travelling*

Special difficulties presented by hotel life. Problems of uniform, meals, relief, etc. Relationship of the nurse to hotel management, staff and guests. Preparation for travelling at home and abroad. Requirements and conveniences for both patient and nurse. How to pack a trunk and attend to baggage. Management of the journey. Arrangements for meals, transportation at station, etc. What to do for train-sickness and sea-sickness. Special points in travelling with a baby, a male patient, a bed-patient, an insane or nervous patient, etc. (Demonstration of packing a trunk might be given by an expert.)

VII. *Private Duty in the County and under Pioneer Conditions*

Typical cases in camps, isolated districts and country communities. Conditions which have to be met in the country. Necessity of understanding people and their ways. Arrangements as to food, supplies, relief, etc. Responsibilities which rest on the nurse in the absence of the doctor. Disposal of excreta and other sanitary precautions in the country.

VIII. *Special Problems in Obstetrical and Surgical Cases*

Preparation for confinement in a private house, especially in an emergency case. The care and training of the baby. Preparing feedings in the home. The surgical case. Preparation for operations and surgical dressings in the home. Methods of sterilizing under home conditions.

IX and X. *Special Problems in Medical Cases and Emergencies*

The contagious case. Technic of isolation in private homes. Rules for the nurse after caring for different types of infection. The care of sick children of different ages—management during convalescence. The chronic case—special demands on the nurse in long continued cases, such as paralysis, tuberculosis, heart disease, etc. The care of the aged. Nursing mental and nervous patients. Special problems involved in caring for male patients—avoidance of compromising situations. What to do about special forms of treatment for male patients. What to do in case of death—in private house, hospital, or when travelling.

METHODS OF TEACHING

1. Class work should be conducted largely by means of discussion. Problems and cases should be suggested and pupils encouraged to work them out and report on them.

2. If possible each pupil who expects to do private nursing should spend a *limited* time in the care of special patients in the hospital, preferably in general wards. This should cover a variety of cases and should not be extended over a period of more than a few weeks. The class work should be connected as closely as possible with this practical work.

ILLUSTRATIVE MATERIAL AND EQUIPMENT

Articles and photographs illustrating the subject.

TEXT AND REFERENCE BOOKS

De Witt: Private Duty Nursing.
Lounsbury: Making Good on Private Duty.
Nightingale: Notes on Nursing.
Robb: Nursing Ethics.
Parsons: Nursing Problems and Obligations.
Back files of the *American Journal of Nursing*, and other periodicals.

Introduction to Public Health Nursing and Social Service (Elective)

TIME: 10 hours. Conducted by the head of the social service department, the superintendent of the visiting nurse society or special teacher of this subject. Given in the latter part of third year.

OBJECTS OF THE COURSE

1. To give the pupil nurse a theoretical background for the field work which she is receiving, so she may understand the significance and importance of the various problems met in practical work whether it is visiting nursing or hospital social service work.

2. To teach her something of the technique and procedure to be followed in this type of work, so that she may be ready

on leaving the training school to enter one of the commoner fields of public health nursing as a useful staff worker, with some general idea of case work and routine visiting in families, and with some vision of the ideals toward which she should aim in the further development of such work.

OUTLINE OF CLASSES

I and II. *Introduction*

Brief history of the development of visiting nursing. Define purpose and principles which underlie public health nursing organizations—by whom organized, how supported and governed, what elements the Board represents, committees and their functions, etc. Function and scope of work—care of the sick, prevention of disease, constructive social case work. Relation to the hospital, to doctors, to municipal, philanthropic, medical and social agencies, to the community and to the patient.

III. *Theory and Technique of Case Work*

Meaning of social diagnosis and social treatment. Emphasis on family treatment. Factors to be considered in all case work—mental and physical heredity, family influences, education and training, occupation, income, recreation. The relation of these factors to health. Importance of first interview and first home visit.

IV. *Source of Cases and Basis of Selection*

Cases sent by doctors, nurses, private individuals, organization (business, religious and philanthropic,) social service workers, and other patients. Methods of referring—details. Various bases of selection in hospital social service and visiting nursing.

V and VI. *Case Work in Visiting Nursing*

Freely illustrated from case histories, showing exact procedure and methods in treatment from the first step after case is referred to the last step when case is terminated. Home nursing technique in various diseases. The nurse's bag—its equipment and care. Special nursing and social problems presented by acute, chronic and contagious cases when cared for in the the home. Care of children in home vs. hospital care.

VII. *Case Work in Hospital Social Service*

Types of cases especially requiring medico-social treatment. Enlarge upon social causes and social results in each instance. Medical—tuberculosis, cardiac, stomach, diabetes. Obstetrical—prenatal and sex problems. Pediatrics—feeding cases, instruction in care of children. Orthopedic. Mental and nervous. Venereal diseases. Illustrate from case histories.

VIII. *Office Methods*

Records—importance and purpose. Study of record sheets and history taking. Resource catalogue and other devices making for greater efficiency and time saving.

IX and X. *Modern Tendencies and Special Problems*

Hospital social service—shall relief be given by social service department? Limitation of intake of work, preventive work, community work. Use of voluntary workers. Visiting nursing—hourly nursing, generalization versus specialization, relief-giving, the visiting housekeeper and attendant service in connection with Visiting Nurse Association. Possibilities of dietary work, surveys, focusing on new problem each year, research. Specialization vs. centralization in Public Health Nursing. Community Centers.

METHODS OF TEACHING

1. The course should be conducted as a conference rather than a lecture course, the person conducting the course presenting her material first but allowing questions during presentation and always leaving time for free discussion afterwards.

2. There should be constant use of cases seen in the ward and Social Service Department or Visiting Nurse Society. Each nurse might be assigned a particular type of case to present to the group from her own experience either in the hospital or Social Service Department.

3. While of necessity the local situation must figure largely in the material considered, each nurse should be required to describe the work done in some other city as discovered through annual reports, correspondence, etc., thus bringing out the variety of development possible in the work and enlarging the nurse's knowledge of other than the local situation.

4. The ground covered and the emphasis on different topics will necessarily vary widely. The above outline is suggestive merely.

ILLUSTRATIVE MATERIAL

Reports of various Social Service Departments and Visiting Nurse Societies. Photographs, posters, exhibits, etc.

TEXT AND REFERENCE BOOKS

Gardner: Public Health Nursing.
Foley: Visiting Nurse Manual.
Wald: The House on Henry Street.
Cabot: Social Service and the Art of Healing.
Cannon: Social Service in Hospitals.
Devine: The Normal Life, Misery and Its Causes.
Davis & Warner: Dispensaries.
The Proceedings of the National Conference of Charities and Corrections.
Public Health Nurse Quarterly.
Publications of the Russell Sage Foundation on Case Work.
Publications of the State and City Boards of Health.

See also under Modern Social Conditions, Survey of the Nursing Field, etc.

Introduction to Laboratory Work (Elective)

TIME: 10 hours. Classes, conferences and laboratory work conducted by a pathologist—an elective course given in the end of the Senior year.

OBJECTS OF COURSE

1. One of the newer branches of work into which nurses are going, is that of assistants to pathologists in hospital and Board of Health laboratories, and routine pathological work in physicians' offices. The short course here outlined would not fit a nurse to assume any responsible position in this field, but should give her an introduction to this form of work, and if she shows unusual ability and interest in it, would probably lead to further specialization after graduation.

2. Such a course would aim to give a greater facility in such tests as may be required in any branch of nursing work (for example simple urinalysis), would make nurses more observant of abnormal conditions in their more responsible work with patients outside the hospital, and would make them more intelligent and efficient assistants in all forms of experimental and clinical work.

OUTLINE OF CLASSES

I. Introduction

Equipment, solutions, reagents. Laboratory rules and methods.

II, III, and IV. *Urinalysis*

Routine tests. Urinary sediments. Quantitative tests. Relation to diets. Charting.

V. *Feces*

Routine tests. Parasites and Ova. Charting. Diets.

VI. *Stomach Contents*

Macroscopic and microscopic examination. Qualitative and quantitative tests. Charting.

VII. *Sputum*

Macroscopic and microscopic examination. Carbol-fuchsin and Gram's stains. Charting.

VIII and IX. *Blood*

Hemoglobin; counting corpuscles; smears, differential counting. Blood cultures, blood pressure.

X. *Body fluids*

Transudates and exudates. Routine tests. Smears.

METHODS OF TEACHING

1. The greatest part of the course would be taught to small groups by the demonstration and laboratory method. Students who take this work should have a period of practical ex-

perience in the pathological laboratory, of from one to two months, where they would be under the direct supervision of the pathologist. Conferences and short papers will help in mastering the principles and readings should be assigned in current journals and reference books.

NOTE: In hospitals where special dietary investigation and experimentation is being carried on, selected senior pupils may be assigned to this form of laboratory service. In such a case the course of study would deal with nutritional principles and technic instead of the above. Nurses especially trained in this branch of work are beginning to be in some demand. In Board of Health work, the routine examination of water and milk would be an important part of an assistant's duties.

EQUIPMENT AND ILLUSTRATIVE MATERIAL

Laboratory equipment—slides, pathological specimens charts, etc.

TEXT AND REFERENCE BOOKS

Gibson: Chemical Laboratory Technic for Nurses.
Wells: Chemical Pathology.
Delafield and Prudden: Pathology.
Adami: Pathology.
Wood: Chemical and Microscopical Diagnosis.
See also under Pathology, Bacteriology, Medicine, etc.

APPENDIX I

Bibliography

The following list of books includes all those mentioned in the preceding pages, with publishers, prices and dates of publication. It is suggested that this list be used as a basis of selection for the Training School Library.

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MacPherson, Wm. and Henderson, W. E.: Elementary Study of Chemistry. Ginn & Co. 1917. $1.60.
Marshall, A. M.: Vertebrate Embryology. Putnam. 1893. $6.00.
Marshall, C. E.: Microbiology. Blakiston. 1917. $3.00.
Martin, H. N.: Human Body. Holt. 1917. $3.00.
Maxwell, Anna C. and Pope, Amy E.: Practical Nursing. Putnam. 1914. $2.00.
May, C. H., M.D.: Diseases of the Eye. Wood. 1917. $2.50.
McCollum, E. V.: The Newer Knowledge of Nutrition. Macmillan. 1918. $1.50.
McCombs, R. S., M.D.: Diseases of Children for Nurses. Saunders. 1916. $2.00.
McCunn, John: Making of Character. Macmillan. 1910. $1.25.
McDougall, Wm. Social Psychology. Luce & Co. 1909. $1.50.
McIsaac, Isabel: Primary Nursing Technique. Macmillan. 1907. $1.25.
McKenzie, R. T., M.D.: Exercise in Education and Medicine. Saunders. 1915. $4.00.
McNutt. J. S.: Manual for Health Officers. Wiley & Sons. 1915. $3.00.
McMurry, F. M.: How to Study. Houghton-Mifflin. 1909. $1.50.
Meachen, G. Norman: Diseases of the Skin for Nurses. (English Importation). Chicago Med. Book Co. $1.25.
Miller, Irving, E.: Psychology of Thinking. Macmillan. 1909. $1.25.
Mitchell, J. L., M.D., and Gulick, Luther, M.D.: Mechano Therapy and Physical Education. Blakiston. $3.00.
Morley, Edith J. (Editor): Women Workers in Seven Professions. Dutton. 1914. $2.50.

Morse, J. L., M.D.: Care and Feeding of Children. Harvard University Press. 1914. $.50.

Morse, J. L., M.D., and Talbot, F. B., M.D.: Diseases of Nutrition and Infant Feeding. Macmillan. 1915. $3.00.

Morrow, A. S., M.D.: Immediate Care of the Injured. Saunders. 1917. $2.75.

Morrow, Prince A., M.D.: Social Diseases and Marriage. Lea Bros. 1904. $3.00.

Mozans, H. J.: Women in Science. Appleton. 1915. $2.50.

Mullerheim: Die Wochenstube in der Kunst. F. Enke, Stuttgart. 1904.

Munsterberg, Hugo: Psychotherapy. Moffatt, Yard & Co. 1909. $2.25.

Nearing, Scott: Financing the Wage Earner's Family. Huebsch. 1914. $1.25.

Nesbitt, Florence: Low Cost Cooking. American School of Home Economics, Chicago. 1915. $.50.

Newsholme, A., M.D.: The Prevention of Tuberculosis. Dutton. 1916. $3.50.

Nightingale, Florence: Notes on Nursing. Appleton. 1917. (Last printing). $.85.

Nightingale, Florence: Talks to Pupils. A selection of addresses to probationers and nurses. Macmillan. London. 1914.

Nutting, M. Adelaide: Educational Status of Nursing. Bureau of Education. Washington.

Nutting, M. Adelaide, and Dock, Lavinia L.: History of Nursing. 4 vols. Putnam. Vols. I–II, 1907, $5.00; Vols. III–IV, 1912, $5.00.

Oliver, Thomas, M.D.: Diseases of Occupation. Dutton. 1917. $4.00.

Osler, William, M.D.: Practice of Medicine. Appleton. 1916. $6.00.

Osler, William, M.D.: An Alabama Student and Other Essays. Oxford University Press. 1908. $2.00.

Osler, William. M.D.: Aequanimitas. Blakiston. 1906. $2.25.

Otis, E. D.: The Great White Plague. Crowell. 1909. $1.00.

Paget, Stephen: Confessio Medici. Macmillan. 1908. $1.25.

Palmer, Margaret D.: Lessons on Massage. Wood. 1908. $3.50.

Palmer, G. H.: The Teacher. Houghton-Mifflin. 1908. $1.75.

Parker, S. C.: Methods of Teaching in High Schools. Ginn & Co. 1915. $1.80.

Parker, Linette A.: Materia Medica. Lea & Febriger. 1916. $1.75.

Parker, E. M., M.D., and Breckinridge, S. D., M.D.: Surgical and Gynecological Nursing. Lippincott. 1916. $2.50.

Parker, W. H., M.D., and Williams, Anna, M.D.: Pathogenic Microorganisms. Lea & Febriger. 1918. $4.75.

Parker, T. J., and Haswell, W. A.: Text-book of Zoology. 2 vols. Macmillan. 1910. $9.00.

Parloa, Maria: Home Economics. Century Co. 1906. $1.50.

Parsons, Sara E.: Nursing Problems and Obligations. Whitcomb & Barrows. 1916. $1.00.

Pattee, Alida F.: Practical Dietetics. Whitcomb & Barrows. 1917. $1.75.

Paul, G. P., M.D.: Nursing in the Acute Infectious Fevers. Saunders. 1915. $1.00.
Perkins, Agnes F.: Vocations for Trained Women. Longmans, Green & Co. 1911. $1.20.
Piersol, G. A., M.D.: Normal Histology. Lippincott. 1916. $3.50.
Pillsbury, W. B.: Essentials of Psychology. Macmillan. 1911. $1.25.
Polak, J. O., M.D.: Manual of Obstetrics. Appleton. 1913. $3.00.
Pope, Amy E.: Anatomy and Physiology for Nurses. Putnam. 1917. $2.00.
Pope. Amy E.: Physics and Chemistry for Nurses. Putnam. 1918. $2.00.
Pope, A. E., and Carpenter, M. T.: Essential of Dietetics. Putnam. 1917. $1.25.
Potts, C. S., M.D.: Electricity in Medicine and Surgery. Lea & Febriger. 1911. $4.75.
Price, G. M.: Hygiene and Sanitation for Nurses. Lea & Febriger. 1917. $1.75.
Priestman, Mabel T.: Art and Economy in Home Decoration. John Lane & Co. 1908. $1.00.
Putnam, J. P.: Plumbing and Household Sanitation. Doubleday, Page & Co. 1913. $3.75.
Putnam, Mrs. Geo. Haven: The Lady. Sturgis & Wälton. $1.25.
Pyle, W. L., M.D.: Personal Hygiene. Saunders. 1918. $1.75.
Ramsey, W. R., M.D.: Care and Feeding of Infants and Children. Lippincott. 1916. $2.00.
Register, W. R., M.D : Practical Fever Nursing. Saunders. 1907. $2.50.
Ribot, T. A.: Diseases of the Personality. Boericke & Tafel. 1909. $1.00.
Ribot, T. A.: Diseases of the Will. Open Court Pub. Co. 1903. $.75.
Richards, Ellen H.: Home Sanitation in Daily Life. Whitcomb & Barrows. 1907. $.60.
Richards, Ellen H.: Euthenics. Whitcomb & Barrows. 1910. $1.00.
Richmond, Mary: Social Diagnosis. Russell Sage Foundation 1916. $1.75.
Richer: L'Art et la Medicene. Gaultier, Magnier et Cie. Paris. 1902.
Robb, Isabel Hampton: Nursing Principles and Practice. Koeckert. 1917. $1.75.
Robb, Isabel Hampton: Ethics of Nursing. Koeckert. 1917. $1.50.
Robb, Isabel Hampton: Educational Standards for Nurses. Koeckert. 1907. $1.25.
Robb, Hunter, M.D.: Aseptic Surgical Technic. Lippincott. 1916. $2.50.
Roberts, J. G.: Bacteriology and Pathology. Saunders. 1916. $1.50.
Robinson and Breasted: Outlines of European History. Ginn & Co. $1.75.
Roger, George E. H.: Principles of Medical Pathology. Appleton. 1905. (Out of print.)
Rosenau, M. J., M.D.: Preventive Medicine and Hygiene. Appleton. 1918. $6.50.
Rose, W. R., and Carless, Albert: Manual of Surgery. Wood. 1917. $7.00.
Rose, Mary S.: Feeding the Family. Macmillan. 1916. $2.10.
Rose, Mary S.: Food for School Boys and Girls. (Bulletin) Teachers College. Columbia Univ. Series No. 10.
Rose, Mary S.: Cost of Food. Cornell Bulletin. Food Series No. 7.

Rose, Mary S. Handbook of Laboratory Dietetics. Macmillan. 1912. $1.10.

Ross, Edward A.: Social Psychology. Macmillan. 1908. $1.50.

Sabotta-McMurrich: Atlas and Text-book of Human Anatomy. Saunders. (Out of print.)

Sainsbury, Harrington: Drugs and the Drug Habit. Dutton. 1909. $3.50.

Sanders, Georgina J.: Modern Methods in Nursing. 1916. $2.50.

Saleeby, C. W.: Surgery and Society. Moffatt, Yard & Co. 1912. $2.50.

Schreiner, Olive: Woman and Labor. Stokes. 1911. $1.25.

Seager, Henry: Social Insurance. Macmillan. 1910. $1.00.

Sedgwick, W. T.: Principles of Sanitary Science and Public Health. Macmillan. 1902. $3.00.

Senn, Nicholas, M.D.: Operating-Room Technic. Chicago Med. Book Co. 1905. $1.75.

Sherman, H. C.: Chemistry of Food and Nutrition. Macmillan. 1918. $2.00.

Snedden, F. H.: Problem of Vocational Education. Houghton, Mifflin. 1910. $.40.

Slemons, J. M., M.D.: Prospective Mother. Appleton. 1912. $1.75.

Smith, Richard M. and Mrs. H. Greene: Baby's First Two Years. Houghton-Mifflin. 1915. $.85.

Smith, Amy Armour: The Operating Room. Saunders. 1916. $1.50.

Sollmann, Torald, M.D.: Text-book of Pharmacology. Saunders. 1917. $1.50.

Starling, E. A.: Principles of Human Physiology. Lea & Febriger. 1915. $6.00.

Starr, Louis, M.D.: Hygiene of the Nursery. Blakiston. 1913. $1.00.

Stevens, A. A.: Practice of Medicine. Saunders. 1915. $3.00.

Stevens, A. A., M.D.: Materia Medica and Therapeutics. Saunders. 1909. $3.50.

Steiner, E. A.: Ebb and Flow of the Immigrant Tide. Revell. 1909. $1.50.

Steiner, G. A.: On the Trail of the Immigrant. Revell. 1909. $1.50.

Stelwagon, H. W., M.D.: Diseases of the Skin. Saunders. 1916. $6.50.

Stiles, P. G.: Nutritional Physiology. Saunders. 1918. $1.50.

Stimson, Julia: Nurses Handbook of Drugs and Solutions. Whitcomb & Barrows. 1915. $1.00.

Strayer, Geo. G., and Norsworthy, Naomi: How to Teach. Macmillan. 1917. $1.40.

Streightoff, F. H.: Standard of Living. Houghton-Mifflin. 1911. $1.25.

Struthers, Lina Rogers: School Nursing. Putnam. 1917. $1.75.

Taylor, F. W.: Shop Management. Harper Bros. 1911. $1.50.

Terrill, Bertha M.: Household Management. Am. School of Home Economics. 1910. $1.00.

Tiffany, Rev. Francis: Life of Dorothea Lynde Dix. Houghton-Mifflin. 1890. $1.75.

Tigerstedt, R. A., M.D.: Text Book of Physiology. Appleton. 1916. $4.50.

Thompson, W. Gilman, M.D.: Practical Dietetics. Appleton. 1909. $5.50.

Thompson, W. Gilman, M.D.: Occupational Diseases. Appleton. 1914. $6.50.

Thorndike, E. L.: Individuality. Houghton-Mifflin. 1917. $.40.

Thorndike, E. L.: Principles of Teaching, Based on Psychology. Seiler. 1906. $1.25.

Thorndike, E. L. Elements of Psychology. Seiler. 1907. $1.50.

Thorndike: Orthopedic Surgery. Blakiston. (Out of print.)

Tooley, Sarah: History of Nursing in the British Empire. Cassell. London.

Tracy, Susan E.: Invalid Occupations. Whitcomb & Barrows. 1910. $1.50.

Tracy, Susan E.: Rake Knitting. Whitcomb & Barrows. 1916. $ .25.

Tubby, A. H.: Deformities. 2 vols. Macmillan. 1912. (Imported to order only.) $16.00.

Tuker and Malleson: Handbook to Christian and Ecclesiastical Rome. Macmillan. 1897. $2.75.

Tyler, J. M.: Growth and Education. Houghton-Mifflin. 1907. $1.50.

Vulte, H. T.: Household Chemistry. Chemical Publishing Co. 1917. $1.50.

Veiller, Lawrence: Housing Reforms. Russell Sage Foundation. 1910. $2.00.

Waters, Yssabella: Visiting Nursing in the United States. Russell Sage Foundation. 1912. $1.25.

Wells, H. G.: Chemical Pathology. Saunders. 1918. $4.25.

West, (Mrs. Max): Care of Children. (Pamphlet) Children's Bureau. Washington, D. C.

West, (Mrs. Max): Prenatal Care. (Pamphlet) Children's Bureau. Washington.

Wharton, H. R.: Minor Surgery and Bandaging. Lea and Febiger. 1913. $2.00.

Wheeler, Mary C.: Nursing Technique. Lippincott. 1918. $1.50.

Whipple, G. M.: How to Study Effectually. Public School Pub. Co. 1916. $.50.

White, W. A., M.D.: Outlines of Psychiatry. Nervous and Mental Disease Pub. Co. Washington, D. C. $3.00.

White, W. A., M.D.: Principles of Mental Hygiene. Macmillan. 1917. $2.00.

Wiedersheim: Comparative Anatomy. Macmillan. (Out of print.)

Williams, J. W., M.D.: Obstetrics. Appleton. 1917. $2.00.

Wilcox, R. W., M.D.: A Manual of Fever Nursing. Blakiston. 1908. $1.00.

Wilson, J. C., M.D.: Fever Nursing. Lippincott. 1915. $1.50.

Withington, Edward T.: Medical History from the Earliest Times. London. 1894.

Wood, F. C., M.D.: Chemical and Microscopical Diagnosis. Appleton. 1917. $5.50.

Zinnser, Hans: Infection and Resistance. Macmillan. 1918. $4.25.

Zangwill, Israel: The Melting Pot. Macmillan. 1914. $1.50.

APPENDIX II

Inexpensive and Free Bulletins, Pamphlets and Reports for use in teaching nurses, may be secured by writing to the following organizations, bureaus and firms. By explaining the purpose for which it is to be used, much of this literature can be secured in quantities for distribution.

American Association for Conservation of Life, 1 Madison Avenue, New York City.

American Association for Labor Legislation, 131 E. 23d Street, New York City.

American Association of Societies for Organizing Charity, 105 East 22d Street, New York City.

American Association for Study and Prevention of Infant Mortality, 1211 Cathedral Street, Baltimore, Md.

American Home Economics Association, Roland Park, Baltimore, Md.

American Posture League, 1 Madison Avenue, New York City.

American Public Health Association, 126 Massachusetts Avenue, Boston, Mass.

American Red Cross, Washington, D. C.

American Social Hygiene Association, 105 West 40th Street, New York City.

American Society for Control of Cancer, 25 West 45th Street, New York City.

American Medical Association, 525 North Dearborn Street, Chicago, Ill.

Association for Improving the Condition of the Poor, 105 East 22d Street, New York City.

Association of Tuberculosis Clinics, 105 East 22d Street, New York City.

Cornell University, Ithaca, N. Y. (Bulletins for Farmers' Wives.)

Children's Bureau, Department of Labor, Washingon, D. C. (Pamphlets on Prenatal and Child Care, etc.)

Departments of Health—State and City. (Weekly, Monthly and Special Bulletins and Reports.)

Fairchild Foster and Bro., New York City. (Diet Slips.)

General Electric Company, Cleveland, Ohio. (Pamphlet on First Aid.)

Health Education League, 18 Beacon Street, Boston, Mass. (24 popular pamphlets on Hygiene and Sanitation.)

Housekeeping Experiment Station, 28 Hoyt Street, Stamford, Conn. (Pamphlets on Efficiency and Household Management.)

International Child Welfare League, 70 Fifth Avenue, New York City.

Joint Committee on Prison Reform, 105 West 40th Street, New York City.

Life Extension Institute, 25 West 45th Street, New York City.

Massachusetts Society for Mental Hygiene, 15 Ashburton Place, Boston, Mass.

Metropolitan Life Insurance Co., New York City. (Pamphlets on Hygiene, first aid, etc.)

National Association for Study and Prevention of Tuberculosis, 105 East 22d Street, New York City.

National Child Labor Committee, 105 East 22d Street, New York City.
National Child Welfare Exhibit Association, 70 Fifth Avenue, New York City.
National Civic Federation, 1 Madison Avenue, New York City.
National Committee on Mental Hygiene, 50 Union Square, New York City.
National Committee for Prevention of Blindness, 130 East 22d Street, New York City. (Pamphlets and posters.)
National Conference of Charities and Corrections, 315 Plymouth Court, Chicago, Ill.
National Consumers' League, 105 East 22d Street, New York City.
National Organization of Public Health Nursing, 156 Fifth Avenue, New York City.
National Housewives' League, 25 West 45th Street, New York City.
New York Committee on the Prevention of Blindness, 105 East 22d Street, New York City.
New York School of Philanthropy, 105 East 22d Street, New York City. (Pamphlets on Social Work.)
Russell Sage Foundation, 130 East 22d Street, New York City. (Bulletins on Education and Social Welfare.)
Rockefeller Foundation, 66th Street and Avenue A., New York City. (Bulletins on Medical Research.)
Teachers College, Columbia University, New York City, (Technical Education Bulletins on Nutrition, Diet, Clothing, Etc., including "Annotated list of text and reference books for Training Schools for Nurses," and "Opportunities in the Field of Nursing.")
U. S. Bureau of Education, Washington, D. C. (Bulletins on Education, Medical Inspection, Rural Problems, etc., including "Educational Status of Nursing.")
U. S. Department of Agriculture, Washington, D. C. (Bulletins on Foods, Food Adulteration, Food Preparation, Household Pests, Disinfectants, etc.)
U. S. Department of Labor, Washington, D. C. (Bulletins on Industrial Conditions, Safety, Industrial Poisons, Fatigue, etc.)
U. S. Public Health Service, Washington, D. C. (Bulletins on Sanitation, Preventive Medicine, Infectious Diseases, etc.)

See also list of firms supplying equipment and illustrative material.

APPENDIX III

Some Firms Supplying Equipment and Illustrative Material of Use in Schools of Nursing. Sample exhibits from commercial firms can sometimes be secured free if it is understood that they are to be used for educational purposes.

American Red Cross, First Aid Dept., Washington, D. C. (Charts and First Aid Outfits.)

American Social Hygiene Association. 105 W. 40th Street, New York City. (Series of colored posters on social hygiene. May be sent as loan exhibit on request.)

American Posture League. 1 Madison Avenue, New York. (Charts on Posture.)

Arnold, E. J. and Son, Leeds, England. (Food Charts.)

Baker and Company, 159 Franklin Street, New York. (Sample exhibit, cocoa and chocolate, crude materials and preparations.)

Bausch and Lomb. Rochester, N. Y. (Microscopes, Lanterns, etc.)

Berlin Photographic Company. New York. (Prints and Photographs.)

Betz, Frank S. and Company. Hammond, Ind. (Hospital and Laboratory Supplies.)

Bridgman, E. C. 86 Warren Street, New York. (Beef Chart.)

Burnett, Joseph and Company. Boston, Mass. (Samples of vanilla bean and pamphlet.)

Caxton School Supply Company, Chicago, Ill. (Blackboards, Erasers, etc.)

Chase, M. J. Pawtucket, R. I. (Hospital Doll or Model.)

Colgate and Company. New York. (Samples of Soaps, Talcum Powders, etc., with Pamphlets.)

Cosmos Picture Company. New York. (Inexpensive Prints.)

Curtis and Cameron. Boston, Mass. (Copley Prints.)

Educational Equipment Company, 70 Fifth Avenue, New York City. (School and College Outfitters.)

Educational Exhibition Company. Providence, R. I. (Material for graphic presentation of facts.)

Eimer and Amend. 205 3d Avenue, New York. (Laboratory Equipment.)

First Aid Equipment Company. New York. (First Aid Outfits.)

Goder, Heinman Company. Chicago, Ill. (Charts and Models.)

Hammond Attilliers. Chicago, Ill. (Specimens, Skeletons, Models, etc.)

Harvard Apparatus Company. Cambridge, Mass. (Scientific Laboratory Supplies.)

Hecker Milling Company. New York. (Educational Exhibit of Flour and Cereals.)

Huyler's. 64 Irving Place, New York. (Educational Exhibit Cocoa, Chocolate, etc., and Charts.)

Johnson and Johnson. New Brunswick, N. J. (Surgical Materials, First Aid Cabinets with booklets on First Aid.)

Knott Apparatus Company. Boston, Mass. (Bacteriological and Pathological Supplies.)

Kny Scheerer Company. New York. (Hospital Supplies, Models, Skeletons, Microscopes, Slides, and Laboratory Equipment.)

Lippincott Company. Philadelphia, Pa. (Piersol Anatomical Charts.)

Louis Company, O. T., 59th Street and 5th Avenue, New York. (Mannikins, Laboratory Equipment, etc.)

Lowney's. Boston, Mass. (Educational Exhibit, Chocolate, Cocoa, etc.)

McIntosh Stereoptican Company. Chicago, Ill. (Lantern Slides.)

Museum of Natural History. New York. (Slides, Cultures, etc.)

National Child Welfare Exhibit Association. 70 Fifth Avenue, New York City. (Series of 25 colored Posters on Baby Welfare.)

Nystrom and Company. 623 South Wabash Avenue. Chicago, Ill. (Charts, Skeletons, Models, etc. Agents for W. and A. K. Johnston's and the Frohse Charts.)

Parke, Davis and Company. Detroit, Mich. (Drugs, Cabinets of Crude Drugs, etc.)

Postum Cereal Company. Battle Creek, Mich. (Postum, Cereal Exhibit—Free.)

Proctor Gamble Company. Cincinnati, Ohio. (Laundry Materials. Samples of Soaps, Starches, etc., and pamphlet on Laundering.)

Royal Baking Powder Company. 135 William Street, New York. (Samples showing composition of Baking Powder, Free.)

Scientific Instrument Company. Chicago, Ill. (Laboratory Supplies.)

Sheldon, E. H., and Company. Muskegon, Mich. (Laboratory Tables for Cooking, Physics, Biology, Chemistry, etc.)

Spencer Lens Company. Buffalo, N. Y. (Microscopes, Delineascopes.)

Stickney and Poor Spice Company. Boston, Mass. (Sample Case of Spices.)

U. S. Depart. of Agriculture. Washington, D. C. (Charts on Metric System, Food Composition and Values and Measuring Systems.)

U. S. Public Health Service. Washington, D. C. (Stereopticon Loan Library on Public Health Subjects.)

Ward Natural Science Establishment. Rochester, N. Y. (Skeletons, Cultures, Slides, etc.)

Washburn and Crosby. Minneapolis, Minn. (Samples of Food Stuffs. Free.)

Whitcomb and Barrows. Huntington Chambers, Boston, Mass. (Food Charts.)

Women's Home Companion. 381 Fourth Avenue, New York. (Baby Charts and Bulletins from Better Babies Bureau.)

Worcester Salt Company. New York. (Salt Samples and booklet.)

APPENDIX IV

Physical Exercises

A few suggestions for simple exercises which are designed especially to meet the needs of nurses. May be given early in the course in connection with classes in Hygiene or independently.

General Exercise

1. Take good standing position. Hands to shoulders, elbows bent. Extend arms slowly sideways and bend knees. Bring arms to shoulders and straighten knees.

2. Standing erect. Hands on hips. Draw head slowly backward horizontally, keeping chin drawn in.

3. Standing erect. Place hands on top of head. Stretch body upward as far as possible keeping heels on the floor; extend arms upward, then press arms slowly sideways downward to side of the body (hands facing floor).

4. Standing erect. Hands on hips. Bend trunk forward from hips, keeping the back flat. Do not curve the back.

5. Standing erect. Arms extended sideways. Bend trunk to each side.

(Exercise to be done from 8–10 times each.)

Exercises for Posture and Walking

1. Practice standing erect, as tall as possible without strain and without hollowing the back. Abdomen drawn in, waist muscles firm; head easily poised, and arms hanging freely at sides. Relax body then take position time after time, till habit of correct posture is established.

2. Take posture as in 1. Raise arms slowly sideways to horizontal and raise heels. Chest high.

3. Position as in 1. Hands on hips. Place one foot forward—sway weight of body to forward foot, by lifting the backward heel.

4. Position as in 1. Hands on hips. Sway body backward, forward, and to each side, keeping good posture.

5. In walking let weight fall on the ball of the foot, turn toes straight ahead, and preserve spring.

Breathing Exercises

1. Standing. Arm raising sideways with deep inspiration. Return to first position with expiration (8–10 times.)

2. Standing. Raise arms slowly forward upward, allowing hands to droop, keeping them close to the body, till extended above the head. Deep inspiration. Return to first position sinking slowly sideways. Expiration. (5–8 times.)

3. Standing. Arms extended sideways. Rotate arms in large circles and breathe deeply. (8–10 times.)

4. Lie on the back—hands behind the neck—knees slightly bent—feet on floor. Practice taking long, deep breaths to establish a longer deeper rhythm.

Exercises for Arms

Sitting Erect.

1. Arms extended upward, hands clenched. Draw arms slowly and forcibly downward, as though pulling heavy weight. Extend upward without force.

2. Hands at shoulders. Push forcibly upward, as though lifting heavy weight. and return to first position without force.

3. Hands at shoulders. Extend arms slowly and forcibly sideways.

(Each exercise 5–10 times.)

Exercises for Legs and Feet

Position—standing erect.

1. Hands on hips. Heel raising.

2. Hands on hips. Alternate heel raising and toe raising.

3. Hands on hips. Bend knee upward to right angles with the body. Stand firmly on opposite foot.

(Each exercise 10–15 times.)

Position with feet parallel or slightly turned in.

1. Raise on toes; bring heels to floor again rolling slightly on outer borders of feet. (10–20 times.)

2. Roll feet on outer borders. (15–20 times.)

3. Walk on outer borders of feet with toes turned in.

4. Sitting. Raise arches by drawing toes toward heels, keeping both toes and heels on floor. (Valuable because it may be done indefinitely with shoes on.

Exercises for Constipation

1. Lie on back—knees bent—feet on floor. Draw knees to chest, making pressure on abdomen. Very slowly. (8–10 times.)

2. Lie on back—legs extended. Draw knees upward rolling toward right swing knees in circle across to left side, keeping the upper part of the body from turning, then extend legs slowly to first position. (5 times.)

3. Sitting—hands on hips. Bend body forward. Relax, then circle to each side. (8–10 times each side.)

APPENDIX V

Schemes of Practical Training for College Students Receiving Credit of Eight to Twelve Months for Satisfactory Previous Work in Science

Scheme Number 1

Credit of 9 months. Period of training covers 2 years and 3 months (27 months)

Service or Department.	*Month.*
Preparatory	4
Medical	5
Surgical	5
Children	3
Maternity	3
Operating room. Accident ward Dispensary and Social Service or Visiting Nursing — a choice of 3 months is given in any one of these services	3
Night duty	2
Vacation	2
	27

Scheme Number 2

Credit of 9 months. Period of training covers 27 months

Preparatory	4
Medical	4
Surgical	4
Children	4
Maternity	2
Contagious	3
Mental	3
Night Duty (to be included in above services)	
Operating room	1½
Vacation	1½
Dispensary (students to be sent to dispensary in last months of various services)	
	27

Scheme Number 3

Credit of 8 months. Period of training covers 28 months

Preparatory (including Diet School and surgical supply room)	4
Medical (including contagious services and 1 month's night duty)	6

Surgical (including operating room or accident ward, or surgical dispensary and 1 month's night duty)	5
Children	4
Maternity	3
Social service or visiting nursing	2
Mental	2
Vacation	2
	28

Scheme Number 4

Credit of full calendar year. Period of training covers 24 months

Preparatory	3
Medical	4
Surgical	4
Children	3
Maternity	3
Operating room or surgical dispensary, choice of 1½ months Social service or medical or children's dispensary, choice of 1½ months	3
Night duty	2
Vacation	2
	24

APPENDIX VI

Hour Schedules from Hospitals in which an Eight Hour Day is in Operation

No. 1 8 hour day
10 hour night
Day, 7.30 a.m. to 9.30 p.m..... 14 hours to cover
Night, 9.30 p.m. to 7.30 a.m..... 10 hours to cover

Hours on duty

a.m.	*p.m.*
7.30.....	4
7.30–10.30	4–9.30
7.30–1	4–7.30
7.30–2.30	6–7.30
7.30–12	4–8
7.30–10.30	12.30–6 (occasionally)

½ hour allowed for meals

No. 2 8 hour day
10 hour night
Day, 7 a.m. to 9 p.m..... 14 hours to cover
Night, 9 p.m. to 7 a.m..... 10 hours to cover

Hours on duty

a.m.	*p.m.*
7–9	1–7
7–1	7–9
7–1	5–7
7–11	3–7
7–12	1–4
7–12	5–6 off 7–9

1 hour allowed for meals.
½ day on Sunday and usually on holidays.

No. 3 8-hour system.
Day, 7 a.m. to 11 p.m..... 16 hours to cover
Night, 11 p.m. to 7 a.m..... 8 hours to cover

Large ward of 60 patients, some in private rooms.

Hours on duty	*a.m.*		*p.m.*
1 senior	7	to	3
1 intermediate	7	to	3
1 intermediate	7–12		3–7
1 Junior	7–11		4–7
1 junior	7–1		5–7
2 probationers	7–1		5–7

At *3 p.m.*. a senior head-nurse comes on with 2 junior assistants who work through until 11 p.m.

At *11 p.m.* a night head-nurse comes on with 2 juniors who take the floor until the day nurses report.

In operating rooms, diet kitchens and contagious wards the service is 10 hours with half-days.

Half-days also are given weekly and Sundays.

No. 4. 8-hour system three shifts

Day,	7 a.m.	to	3 p.m.....	8 hours to cover
	3.p.m.	to	11 p.m.....	8 hours to cover
	11.p.m.	to	7.a.m.....	8 hours to cover

Hours on duty

a.m..	*p.m.*
7–1	4.30–7
7–10.30	2–7
7–2	5–7
7	3.30 off for day.

At *3 p.m.* a night nurse comes on and stays until 11 p.m.

At *11 p.m..* another night nurse comes on and stays until 7 a.m.

From 7 a.m. a nurse may be on duty in accordance with needs and off from 12 midnight to 4 a.m.

½ days off on holidays and Sundays.

1 hour for meals.

No. 5 8 hour day

12 hour night.

Day, 7 a.m. to 7 p.m..... 12 hours to cover

Night, 7 p.m. to 7 a.m..... 12 hours to cover

Ward. 30 beds.

4 students

Hours on duty

a.m..	*p.m.*
7–11	1–5
7–12	4–7
7–1	2–4
7–1	5–7

APPENDIX VII

Suggested Basis of Credit for Nursing Schools

A number of nursing schools are already connected with universities, and many more are planning their work more or less on the credit basis of the higher technical schools and colleges. Such a system makes it more possible for other educational institutions to interpret and accredit the work done in nursing schools and also provides a basis of comparison between the work of one nursing school and another.

The system of credits used by most colleges and technical schools is on the basis of the term's work—a term representing a period of approximately 15 weeks. For 1 hour of lecture or class per week during one term (or 15 hours), the student would receive 1 point or 1 credit. (This would presuppose 2 hours of outside preparation for every hour of class or lecture work.) About 2 to 3 hours of laboratory or class-room practice is usually credited as equal to 1 hour of regular class or lecture work.

On this basis the theoretical work of the nursing school could be evaluated easily, the subjects covered in this curriculum amounting to about 36 points, or one college year of work. It is much more difficult to arrive at a satisfactory system of accrediting the practical work. Valuable as we feel this to be, we cannot claim that it is of such intensive educational value, hour for hour, as organized class or laboratory work which progresses steadily from one new project to another and which is under constant supervision and criticism by the teacher.

It must be understood that the work of vocational schools, such as music or art schools, is not usually allowed full academic credit even in the most liberal colleges. The maximum of academic credit which would probably be allowed for practical work of the type represented by nursing schools, would be at the rate of from 1 to 1½ points per month. There is no accepted basis however for accrediting practical work.

It is suggested that nursing schools with university affiliations should arrange all their theoretical work on the credit basis. This would mean some adjustment of the course of study as outlined here. All 10-hour courses should be raised to 15 hours, so that they may qualify as 1-point courses; all 20-hour courses should be raised to 30 hours (or where laboratory work is included, to 45 hours), to count as 2-point courses, etc. Examination periods would be included in the 15 or 30 hours. This increase would mean 6 hours of class and lecture work a week (after the first year), instead of 4 hours, which was considered the minimum for the average school. Several schools are already working on this basis.

Many universities refuse to credit any courses of less than 30 hours or 2 points, hence it would be well where possible to combine two or more closely related short courses into one which would represent at least two points of credit.

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