

42  
Annual Reports

1912  
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The Army Service Schools  
Fort Leavenworth  
Kansas



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THE GENERAL SERVICE SCHOOLS  
Service Schools Press  
FORT LEAVENWORTH, KANSAS

THE GENERAL SERVICE SCHOOLS  
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# Army Service Schools

## Annual Reports, 1912



Fort Leavenworth, Kansas  
Army Service Schools Press

1912



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THE ARMY SERVICE SCHOOLS  
FORT LEAVENWORTH, KANSAS

*June 21, 1912.*

THE SECRETARY:

I have the honor to submit the following report for the school year of 1911-12:

Owing to the absence of Brigadier General R. D. Potts, Commandant, in temporary command of the Central Division from June 25, 1911, to date, I was acting commandant for this period.

I was regularly detailed as the senior instructor in the Department of Military Art, and have held that position for five years.

Expecting the early return of the commandant, I made no change in the assignment of work in the department, and for the year have performed the duties of both positions.

During the past year the following schools have composed The Army Service Schools:

- The Army School of the Line.
- The Army Staff College.
- The Army Signal School.
- The Army Field Engineer School.
- The Field Service School for Medical Officers.
- The Special Class for Field Officers.

The first two are the general courses, the others are the special or technical schools.

The instructors of each school give the required instruction in their subjects to all the other schools as well as the one to which specially detailed.

The list of instructors and student officers for the past year are found in the report of the secretary.

During the year the following instructors were relieved:

Major H. A. Smith, 28th Infantry, Department of Law.

Captain LeRoy Eltinge, 15th Cavalry, Department of Military Art.

First Lieutenant Walter Krueger, 3d Infantry, Department of Languages.

First Lieutenant E. K. Masee, Infantry, Department of Law.

Lieutenant Henry Hossfeld, 3d Infantry, was detailed to take the place of Lieutenant Krueger; no one was asked for to replace the others at that time.

The law course was nearly completed when Major Smith left and could be finished without additional help.

Captain Eltinge was a serious loss to the department. A new man to take up his work, that far along in the course, could not be found. The work was therefore carried by the other instructors in the department.

It is earnestly recommended that the relief of instructors in mid-course be avoided. It is much against the interests of the schools.

The number of instructors has been kept as small as practicable, and when so much extra work is placed on those remaining the work cannot be as well done.

During the past year the questions for the examination of candidates for appointment as second lieutenants in the mobile army were prepared here and the resulting papers marked by the instructors. The number of such papers to be marked was 253 and represents a great amount of labor.

I believe it is a good plan to have it done here, but it is done by very busy men, whose other work must be done on schedule and this marking of papers

must be done at such odd hours as they can find or the regular school work be temporarily suspended.

During the past year every effort was made to mark the papers as promptly as possible without interfering with the regular school work.

It is probable that this work could be done more promptly at West Point than here.

The Line Class this year numbered fifty-one, the largest since I have been here. In the Military Art course there were fifty-two, Captain W. L. Guthrie, Corps of Engineers, taking the course as prescribed in the regulations governing The Army Field Engineer School.

Two members of the class were officers of the U. S. Marine Corps and two were officers of the Cuban Army.

The size of the class does not materially increase the labor of instruction and preparation of problems and exercises, but does make a difference in the time required to review, mark, and criticize the solutions of the student officers of the seventy practical problems in the Department of Military Art solved during the year.

The same is true of the Engineering Department; while their problems and maps to be marked are somewhat less in number, the time required increases with the size of the class.

For the present at least the Line Class should be as large as the quarters here will accommodate. This year's class exceeded that limit and officers have been crowded in quarters not intended nor suitable for them.

There are quarters here for bachelor officers beyond the number coming. The classes could be kept up to nearly present size if more bachelors and less married men were sent.

The class this year was an excellent one, their work satisfactory in every way.

As all instruction in foreign languages has been transferred to the Staff Class, the course in Military Art and Engineering in the Line Class, was considerably extended this year. This resulted in making the Line Class course much better. The course in Tactics is now completed in the first year. It also allowed for the introduction of a short course in Historical Research, a course of great value to those who do not remain for the Staff Class, and a preparatory course for those who do.

The Staff Class this year numbered 24. This is larger than it will be in future, as by the present regulations the number selected for next year is only 18.

For a large Line Class I believe the selection of 18 for the Staff Class about correct. But the number selected should vary with the size of the Line Class from which taken. This change is believed for the best interests of the service.

While the quarters are so limited it is better to have more officers get the one year's course and less the two years' course than the reverse. The Line Class course is the more valuable to the officer himself and to the service.

By the rearrangement of the courses in Line and Staff Classes as given in my last report, a decided improvement was made. The work that belonged in the Line Class year has been taken from the Staff Class and placed in the former and the Staff Class now is almost entirely devoted to preparation for the higher staff duties, and the time devoted to that work increased.

This year's class was an excellent one in every way.

The Signal Class this year numbered 13. It was a good class.

The course is excellent, thoroly practical and up to date.

Major Russel, the Director for the past year, is especially well qualified for the position temperamentally as well as by thoro knowledge of all the work.

The field company, Signal Corps, which forms part of the school command is deserving of special mention. It is well organized and equipped and most efficient in every way.

The Army Field Engineer School started with a class of two Captains of Engineers but one had to be relieved on account of physical disability early in the course, practically before the work began.

While this class was small the teaching force of this school was fully occupied. The main part of their work was the instruction in Engineering and Topography given in all the other schools. This work was extensive and well done. The course in Field Fortification was especially valuable. The principles taught were sound and their practical application thoroly taught.

The course in Topography, I think, has been improved by changes recently made.

The Director of this school also has charge of the map work. The reproduction of maps has become a very extensive work here. It is invaluable to the other departments and schools and much has been done in this line to help the army at large.

The relief of Lieutenant Colonel Kuhn, the Director, is unfortunate for the schools. He is exceptionally well qualified for this work.

The Field Service School for Medical Officers was established last year but due to the concentration of troops in Texas the class did not meet. This year's class numbered 13, eight from the regular service

and five from the National Guard. It was an enthusiastic and hard-working class. The work done was of a high order.

I believe that the establishment of this school will be found of great benefit to the service. In war our higher staffs must be a team not a group of individual players knowing nothing of the rest of the group. The Chief Surgeon plays no unimportant part in this team and to play it properly he needs training on the lines laid down for this school.

I followed the work of this class very closely. The course as laid down and carried out was excellent.

Major Munson, the Director, is entitled to the highest praise for his work. The course was prepared by him and most of the labor of instruction fell to him.

I doubt if the full value of this school will be fully appreciated for some time to come. It is a long step in the right direction, in the direction of combined training. Experience may show that the time given this course should be slightly increased.

The recommendation as to an assistant to the director of this school who should also be the attending surgeon at the schools, made April 17, 1912, is necessary and should be carried out.

The Special Class for Field Officers this year numbered 21 and was here for a course in Tactics lasting eleven weeks.

The class was composed of three colonels, one lieutenant colonel and seventeen majors.

Their work was most satisfactory. The class worked hard and well. Their earnestness, enthusiasm and unvarying courtesy to the instructors, many of them their juniors in rank, made it a pleasure to work with them.

A uniform method of instruction throughout the army is of vital importance. In this country, scattered as is the army, it is difficult to attain. I know of nothing that will help more than this special class.

The influence of the colonel on a regiment toward producing this result is greater than that of several subordinate officers. Besides it creates a strong sympathy between these older officers and the younger men, graduates of the regular course.

I would again earnestly recommend that this special class be reserved to field officers only and to the seniors desiring to come. No captain should be allowed to take this course. The higher in rank the more benefit to the service will an officer's taking the course be. The idea that it is a shorter and easier way than the regular courses for officers still young enough to take the latter should be strongly discouraged.

The Line Class is, of course, the better, the competition is severe. It is not desirable that field officers take it. This special course was designed for the benefit of officers too old for the Line School and who had no opportunity to take the course earlier.

Two more classes I believe are necessary to the completion of this group of schools. Both have been previously recommended by me.

This Special Class for Field Officers reports about January 1 and the Medical School the next week after the former leaves. There is then no special class here during the fall months.

I believe at that time there should be here a class of National Guard officers of the line not to exceed 30 in number. The course to extend from six to ten weeks. The longer the better but the length should be fixed after consultation with National Guard officers. The length of the course must be such that a

sufficient number of such officers can spare the time to attend.

With the large number of officers to draw from I believe the class could be formed each year.

In case of war the army and national guard must work together, to do this successfully requires that our training be uniform. This is in part brought about by the detail of regular officers as inspector-instructors. If this can be supplemented by gradually training a few officers of each state at this school who will be additional instructors and who will better understand the regulars and their methods, much, I believe, will be done toward bringing about a cordial understanding between the two and tend toward team play in war.

If bachelor quarters for the special class of field officers are provided, these rooms will be used for the class of medical officers later. In the fall they will be vacant and could be used for this class of national guard officers.

I do not believe the corps of instructors need be increased to handle this class. The administrative work certainly would call for no additional expense. For the cost I do not see how we could get a better return.

We have here a first class plant and it would be economy to get all the benefit possible therefrom.

There should be one other class or school here as previously recommended. The School for the Supply Service. I again recommend such a school and pursuant to instructions contained in 5th indorsement on letter of the Commissary General, U. S. A., dated War Department, A. G. O., January 22, 1912, submit the following plan for such a school:

### PROPOSED SUPPLY SCHOOL

Whether the departments are consolidated or not would have but one course for supply officers covering the work of both in the field.

The course should be open, except as noted later, only to graduates of The School of the Line.

The Staff Class and Supply Class combined should have a strength determined by the available accommodations here. The members to be selected as at present for the Staff Class, a fixed proportion being assigned to the Supply School. Officers to choose the course they will take according to their class standing in the Line Class.

Until the course is worked out in detail and has been gone over at least once the exact division of time for Part II of the proposed course cannot be determined.

Some subjects may require more half-days and others less; this can be easily adjusted. I believe it should be about as given below:

#### PART II—*Taken with the Staff Class*

	Number of half-days.
Duties of General Staff .....	10
Historical Research with Special Reference to Supply .....	30
Staff Administration and Supply and Problems...	50
Staff Ride .....	10
Map Maneuvers .....	5
Laws of War .....	29
Languages .....	120
(Sixteen lectures, Care of Troops.)	254

#### PART II—*Not Taken by Staff Class*

- (a) Staff Administration and Supply, additional, going more into detail as to the lines of communication and base, their organization, etc., with reference to supply work ..... 10

(b) Mechanical traction, including study of gasoline engines and practice with motor trucks, etc. . . . .	20
(c) Movements by railroad and over sea . . . . .	10
(d) Law of Contracts, laws relative to seizure, impressment, and requisition . . . . .	30
(e) The Military and Commercial Geography of Adjacent Countries . . . . .	20
(f) Purchase, inspection, training and conservation of green animals. Animal endurance in saddle, draft and pack. Vehicles, traction and packing. Forage and feeding. Transportation of animals by rail and sea. Organization and management of horse depots. Veterinary hygiene . . . . .	40
(g) Supplies furnished, their purchase, inspection, care and issue. Returns and accountability . . . . .	30
(h) The Bakery Column, its organization, management and movements in the field . . . . .	4
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Instruction under (b) can be given by the Signal School, under (d) by the Law Department, under (f) by the veterinary officer now stationed here and the instructor in equitation; the others except (g) by the instructors in the Military Art Department. Under (g) it should be given by a supply officer.

For supply officers of the rank of captain and who have had but little or no experience in the line, a modification should be made in the above.

If it is deemed advisable to send them here, I would recommend that a special course be arranged and only such officers be sent; that there be no attempt to carry on a mixed class—part line graduates and part permanent supply officers.

At least some knowledge of organization and tactics is absolutely necessary as a preliminary to the course. It should be equal to the Line Class course, but this would be impracticable for such supply officers.

For the officers above mentioned I would recommend a course about as follows:

A preliminary course of twelve weeks devoted to a study of military organization and tactics. The

tactical work with a view to giving the class a clear idea of how troops are marched, camped, deployed, etc. Spaces occupied, places of different parts of a command, how orders are issued, trains convoyed, etc. Most of the time to be devoted to the division.

A short course in map reading, and sketching should be included in this part.

The second part of the course should include laws of war of Part I and all of Part II, but devoting more time to the latter to make up for parts included in the Staff Class course.

The complete course as recommended above for graduates of the Line School in conjunction with the Staff Class should not be undertaken until through with the others if deemed advisable to send them.

The Line Class course is, at the present time, the important one to our service and should not be reduced in size to make room for anything else. As a preliminary, then, to the establishment of such a school or class as referred to, additional quarters should be built here to accommodate them or the school established elsewhere. For many reasons I believe it should be here and complete the group of schools already established.

Nothing is lacking here in the way of equipment for such a school except officers' quarters and a motor truck or two.

The library has been most efficiently handled during the year by Lieutenant Colonel E. B. Fuller, U. S. A., retired.

It is steadily growing in size and value and is a necessary part of our equipment.

The instruction in riding and horsemanship has continued as in the previous years and is very valuable. The improvement on the part of the student officers in this essential has been very marked. As riding instruction is taken as the required exercise

it does not in the slightest degree reduce the amount of other work of student officers. Not only was instruction in riding given the regular classes, but a large part of the Special Class for Field Officers also received such instruction. Lieutenant Eben Swift, jr., 11th Cavalry, the instructor in equitation, also has command of the College detachment and stables. While he has done this work most satisfactory, it is more than should be required of one officer.

During the year, the Secretary, Captain A. E. Saxton, 8th Cavalry, was relieved from duty here and joined his regiment. He was a most efficient officer and his relief in the midst of the school year a hardship to the schools. As with instructors, the change in mid-course should be avoided where possible.

First Lieutenant D. W. Strong, 7th Infantry, was detailed in Captain Saxton's place. Notwithstanding the handicap of having to take up the work in mid-year he has handled the office most efficiently. He is thoroly competent and temperamentally adapted to what is sometimes a trying position.

The most urgent need of the schools at the present time is more officer's quarters.

During the past year, in the School section of Fort Leavenworth, part of the captains with families have had to live in bachelor rooms. This I believe is inadvisable as it is certainly unjust.

The cost of running the schools, the number of instructors required, and the administrative force does not change whether the Line Class be thirty-five or fifty. If the schools confer any good on the army, and I certainly believe they do, then true economy would dictate utilizing them to nearer their capacity.

The quarters available are in undue proportion apartments for bachelor 2d lieutenants, that is two rooms and a bath. With the exception of a part of the Signal School Class, by the regulations, the student officers must be captains or field officers.

The garrison of the post is equally crowded.

The third floors of the bachelor halls are not full story rooms and in this climate are not habitable in summer.

These half story rooms are useable for special classes who are only here for short periods and should be reserved for that purpose. There are 36 bachelor sets in the school section, 12 of them third story rooms. Enough of these 36 sets should be assigned for the use of the special classes and other quarters built for the regular classes.

There are barracks and stables in the post for one regiment of infantry, one squadron of cavalry, one battalion of field artillery, one battalion of engineers, one ambulance company, and in addition the necessary gun sheds, shops, etc.

It is highly desirable for the schools that the original plan of keeping here troops of all arms be maintained. It is also very desirable, for the same reason, that the garrison be increased. If no new barracks can be constructed at least the infantry and cavalry should be given a greatly increased strength. The infantry barracks are constructed for companies of 128 men, the cavalry for troops of 100 men each. Light and heat for these barracks costs as much for these 65 men as for a full quota. The number of men for extra and special duty is about the same.

This post is now so scattered and the demands for administration and care so great, that with the present size of organizations there is too few left for

military work. Maneuvers are scarcely practicable. Companies become platoons; battalions, companies.

Not only should the companies of infantry and troops of cavalry be increased in size but another regiment of infantry should be stationed here.

In building barracks and quarters for additional troops, and officers quarters for the schools the area occupied by buildings should not be increased. There is ample room in the area now occupied for the increase in size of the command. If increased in this way there would be no more streets, water and sewer mains than now. No more lawn to care for. The actual strength more than double and the effectives for military duty quadrupled.

The Fort Leavenworth reservation since its recent increase is of sufficient size for even the increased garrison recommended, if only made available. A slight addition on the west would, however, improve it.

Much of the reservation is timbered with dense undergrowth. If this could be cleared by thinning the large trees and cutting out the brush and getting it in grass, as has been done on part of the reservation, it would be excellent terrain for maneuver purposes and sufficient in extent for the garrison proposed.

The eastern portion of the part now fenced in by the Federal Penitentiary as a farm should be again put in grass and the fence removed. Troops can be formed and marched off the reservation and room for development of tactical situations for a command of the size contemplated is available if care be taken to have the contact take place on the reservation. The southeast portion of the reservation should be open for use from the river as far west as necessary for a deployment, otherwise movement is too restricted. The Penitentiary has fenced in the

land from Grant Avenue west along the southern portion of the reservation as a corn field. This seriously decreases the value of the reservation for military purposes. The fence should be moved west to the house of the Chaplain of the Penitentiary.

The government owns a tract of timber land in the river bottom on the east bank of the Missouri River opposite the post. This is of no value to the schools or post for military purposes. On the west of the reservation lies some rough land that if added would improve the reservation for maneuver purposes.

I recommend that the land in Missouri be sold and the proceeds used to buy additional land on the west but only to the amount received on the timber land, and that the timbered portion of the present reservation be cleared and made available.

The schools have grown and developed in the past five years. It is the work of no one man but the combined efforts of all, instructors and student officers. All have worked hard and earnestly for the success of the schools and the good of the army. The command has been marked by a lack of friction and discord, by a spirit of earnestness and helpfulness.

The class of officers sent here as students has been of the best. It is their work, their cheerful effort that has made success possible. I have never seen officers anywhere work as hard as they have here, both students and instructors.

The schools have been particularly fortunate in the instructors sent here. They have been able, earnest, hard-working men and their help and loyal support has made my position a pleasant one.

J. F. MORRISON,  
*Lieutenant Colonel, 21st Infantry,*  
*Assistant Commandant*

# THE ARMY SERVICE SCHOOLS

FORT LEAVENWORTH, KANSAS

August 31, 1912

## THE SECRETARY:

I have the honor to submit the following report pertaining to the office of the Secretary and Disbursing officer for the fiscal year ending June 30, 1912:

During the period July 1, 1911 to June 30, 1912, the sum of \$15,000.00 was allotted for the support of the Army Service Schools and expended as follows:

Furniture and stationery, office and library, apparatus and supplies, Department of Engineering, Drafting Room and Map Making Department, .....	\$ 8576.55
The Library (Books periodicals) .....	3089.02
Bookbindery .....	775.00
Printing Office .....	1089.65
Army Signal School .....	955.98
Rental of telephones .....	233.30
Expressage .....	26.48
Transportation of persons and freight .....	254.02
	<u>\$15000.00</u>

The following is a list of officers who, during the period covered by this report, have been on duty at The Army Service Schools as commandant, assistant commandant, staff, directors, senior instructors and instructors, The Army School of the Line, The Army Staff College, The Army Signal School, The Army Field Engineer School and The Army Field Service and Correspondence School for Medical Officers:

### COMMANDANT

Brigadier General R. D. Potts, U. S. A., absent during past school year, temporarily in command of Central Division.

### ASSISTANT COMMANDANT

Lieutenant Colonel J. F. Morrison, 21st Infantry  
Acting Commandant.

DIRECTORS

Lieutenant Colonel J. F. Morrison, 21st Infantry, The Army School of the Line and The Army Staff College.

Major Edgar Russel, Signal Corps, The Army Signal School.

Lieutenant Colonel J. E. Kuhn, Corps of Engineers, The Army Field Engineer School.

Major E. L. Munson, Medical Corps, The Army Field Service and Correspondence School for Medical Officers.

SECRETARIES

Captain A. E. Saxton, 8th Cavalry.

1st Lieutenant Donald W. Strong, 7th Infantry.

LIBRARIAN

Lieutenant Colonel Ezra B. Fuller, U. S. Army, retired.

DEPARTMENT OF MILITARY ART

*Senior Instructor*

Lieutenant Colonel J. F. Morrison, 21st Infantry.

*Instructors*

Major Farrand Sayre, Cavalry.

Major S. H. Elliott, 12th Cavalry.

Major J. W. McAndrew, 8th Infantry.

Major P. E. Pierce, 15th Infantry.

Captain LeRoy Eltinge 15th Cavalry.

Captain R. H. McMaster, 5th Field Artillery.

Captain H. B. Fiske, 28th Infantry.

Captain Stuart Heintzelman, 6th Cavalry.

Veterinarian G. E. Griffin, 3d Field Artillery.

DEPARTMENT OF ENGINEERING

*Senior Instructor*

Lieutenant Colonel J. E. Kuhn, Corps of Engineers.

*Instructors*

Major M. L. Walker, Corps of Engineers.

Captain G. R. Spalding, Corps of Engineers.

1st Lieutenant R. E. Beebe, 14th Infantry.

DEPARTMENT OF LAW

*Senior Instructor*

Major H. A. Smith, 28th Infantry.

*Instructors*

Captain Laurence Halstead, 6th Infantry.  
Captain E. K. Masee, J. A. G. Dept., (Inf.)

DEPARTMENT OF LANGUAGES

*Senior Instructor*

Major T. G. Hanson, 8th Infantry.

*Instructors*

Captain William Kelly, jr., 9th Cavalry.  
Captain Oliver Edwards, 5th Infantry.  
Captain C. F. Martin, 3d Cavalry.  
1st Lieutenant Walter Krueger, 3d Infantry.  
1st Lieutenant Henry Hossfeld, 3d Infantry.  
1st Lieutenant G. V. Strong, 6th Cavalry.

DEPARTMENT CARE OF TROOPS

*Senior Instructor*

Major E. L. Munson, Medical Corps.

THE ARMY SIGNAL SCHOOL

*Director*

Major Edgar Russel, Signal Corps.

*Instructors*

Captain G. E. Mitchell, 14th Cavalry.  
1st Lieutenant J. O. Mauborgne, 3d Infantry.

ON DUTY AT THE ARMY SERVICE SCHOOLS

Captain G. S. Gibbs, Signal Corps, commanding Field Co. D, Signal Corps.

1st Lieutenant O. P. Robinson, 21st Infantry, duty with Field Co. D, Signal Corps.

1st Lieutenant Eben Swift, jr., 11th Cavalry, commanding Army Service Schools Det. and instructor in equitation.

1st Lieutenant G. L. McEntee, Signal Corps, duty with Field Co. D, Signal Corps.

1st Lieutenant G. V. Strong, 6th Cavalry, assistant to officer commanding Army Service Schools Det. and assistant to officer in charge of officers' mess.

Of the above named officers the following were relieved during the year by War Department orders:

Lieutenant Colonel J. F. Morrison, 21st Infantry, June 23, 1912.

Lieutenant Colonel J. F. Kuhn, Corps of Engineers, August 1, 1912.

Major Edgar Russel, Signal Corps, April 30, 1912.

Major E. L. Munson, Medical Corps, August 13, 1912.

Captain A. E. Saxton, 8th Cavalry, October 11, 1911.

Major S. H. Elliott, 12th Cavalry, August 15, 1912.

Major J. W. Andrew, 8th Infantry, August 15, 1912.

Major P. E. Pierce, 15th Infantry, July 13, 1912.

Captain LeRoy Eltinge, 15th Cavalry, January 1, 1912.

Major H. A. Smith, 28th Infantry, March 8, 1912.

Captain E. K. Masseur, J. A. D., (Inf.) March 19, 1912.

Major T. G. Hanson, 8th Infantry, August 15, 1912.

Captain Oliver Edwards, 5th Infantry, August 9, 1912.

1st Lieutenant Walter Krueger, 3d Infantry, April 5, 1912.

Captain G. E. Mitchell, 14th Cavalry, June 30, 1912.

1st Lieutenant O. P. Robinson, 21st Infantry, July 1, 1912.

Captain Stuart Heintzelman, 6th Cavalry, and 1st Lieut. G. V. Strong, 6th Cavalry, have also been relieved from duty at the schools.

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The following constituted the Staff Class for the year, all of them completing the course and graduating:

1st Lieutenant A. B. Barber, Corps of Engineers.

Captain F. A. Barton, 3d Cavalry.

Captain J. E. Bell, 2d Infantry.

Captain H. G. Bishop, 3d Field Artillery.

Captain W. B. Burt, 20th Infantry.

Captain C. R. Day, 5th Cavalry.

Captain H. A. Drum, 23d Infantry.

1st Lieut T. H. Emerson, Corps of Engineers.

Captain O. S. Eskridge, 11th Infantry.

Captain C. W. Exton, 20th Infantry.

Captain J. L. Gilbreth, 27th Infantry.

Major E. B. Gose, 25th Infantry.

Captain E. E. Haskell, 22d Infantry.

Captain H. S. Hawkins, 4th Cavalry.

Major T. N. Horn, 4th Field Artillery.  
Major W. O. Johnson, 8th Infantry.  
Captain A. G. Lott, 6th Cavalry.  
Captain G. W. Moses, 15th Cavalry.  
Captain L. T. Richardson, 22d Infantry.  
Captain G. W. Stuart, 7th Infantry.  
Captain R. O. Van Horn, 17th Infantry.  
Captain C. W. Weeks, 28th Infantry.  
Captain H. C. Whitehead, 10th Cavalry.  
Captain W. S. Woodruff, Porto Rico Regt.

The following named officers constituted the Line Class at the beginning of the school year:

Captain L. R. Ball, 6th Cavalry.  
Captain C. F. Bates, 25th Infantry.  
Captain H. B. Black, 2d Infantry.  
Captain C. T. Boyd, 10th Cavalry.  
Captain J. J. Bradley, 14th Infantry.  
Major R. L. Bush, 26th Infantry.  
Captain T. G. Carson, 10th Cavalry.  
Captain W. P. Coleman, 4th Infantry.  
Captain D. F. Craig, 4th Field Artillery.  
Captain H. A. Eaton, 23d Infantry.  
Captain Isaac Erwin, 30th Infantry.  
Captain A. U. Faulkner, 1st Field Artillery.  
Captain C. S. Fries, 27th Infantry.  
Captain J. W. Furlong, 6th Cavalry.  
Captain J. B. Gowen, 10th Infantry.  
Captain A. J. Greer, 16th Infantry.  
Captain G. A. Hadsell, 16th Infantry.  
Captain C. G. Hall, 5th Cavalry.  
Captain J. G. Hannah, 18th Infantry.  
Captain P. T. Hayne, jr., 12th Cavalry.  
Captain H. P. Hobbs, 17th Infantry.  
Captain A. H. Huguet, 17th Infantry.  
Captain W. A. Kent, 4th Infantry.  
Captain D. W. Kilburn, 26th Infantry.  
Captain J. C. Langdon, 1st Field Artillery.  
Captain I. W. Leonard, 26th Infantry.  
Captain W. T. Littebrant, 15th Cavalry.  
Captain C. R. Lloyd, 6th Field Artillery.  
Captain W. H. McCornack, 9th Cavalry.  
Captain M. L. McGrew, 11th Infantry.  
Captain F. J. Morrow, 12th Infantry.  
Major J. T. Nance, 2d Cavalry.  
Captain S. W. Noyes, 4th Infantry.  
Captain A. C. Read, 12th Infantry.  
Captain E. M. Reeve, 23d Infantry.

Captain C. D. Roberts, 7th Infantry.  
Captain John Robertson, 27th Infantry.  
Captain W. G. Sills, 1st Cavalry.  
Captain H. A. Smith, 3d Infantry.  
Captain M. C. Smith, 14th Cavalry.  
Captain J. E. Stephens, 2d Field Artillery.  
Captain W. C. Sweeney, 21st Infantry.  
Captain W. S. Valentine, 14th Cavalry.  
Captain Kirby Walker, 14th Cavalry.  
Captain F. B. Watson, 3d Infantry.  
Captain J. T. Watson, 7th Infantry.  
Captain A. E. Williams, 3d Cavalry.

Of the above, Captain T. G. Carson did not complete the course, being directed to proceed to Army and Navy Hospital for treatment per par. 19, Special Orders No. 112, War Department, May 11, 1912.

The remainder of the class graduated as follows:

#### HONOR GRADUATES

Captain C. D. Roberts, 7th Infantry.  
Captain J. B. Gowen, 10th Infantry.  
Captain A. J. Greer, 16th Infantry.  
Captain H. B. Black, 2d Infantry.  
Captain F. J. Morrow, 12th Infantry.

#### DISTINGUISHED GRADUATES

Captain C. T. Boyd, 10th Cavalry.  
Captain J. J. Bradley, 14th Infantry.  
Major R. L. Bush, 26th Infantry.  
Captain D. F. Craig, 4th Field Artillery.  
Captain H. A. Eaton, 23d Infantry.  
Captain C. S. Fries, 27th Infantry.  
Captain J. W. Furlong, 6th Cavalry.  
Captain J. G. Hannah, 18th Infantry.  
Captain P. T. Hayne, jr., 12th Cavalry.  
Captain W. A. Kent, 4th Infantry.  
Captain J. G. Langdon, 1st Field Artillery.  
Captain C. R. Lloyd, 6th Field Artillery.  
Captain W. H. McCornack, 9th Cavalry.  
Major J. T. Nance, 2d Cavalry.  
Captain W. G. Sills, 1st Cavalry.  
Captain H. A. Smith, 3d Infantry.  
Captain M. C. Smith, 14th Cavalry.  
Captain J. E. Stephens, 2d Field Artillery.  
Captain W. C. Sweeney, 21st Infantry.  
Captain Kirby Walker, 14th Cavalry.

GRADUATES

Captain L. R. Ball, 6th Cavalry.  
Captain C. F. Bates, 25th Infantry.  
Captain W. P. Coleman, 4th Infantry.  
Captain Isaac Irwin, 30th Infantry.  
Captain A. U. Faulkner, 1st Field Artillery.  
Captain G. A. Hadsell, 16th Infantry.  
Captain C. G. Hall, 5th Cavalry.  
Captain H. P. Hobbs, 17th Infantry.  
Captain A. H. Huguet, 17th Infantry.  
Captain D. W. Kilburn, 26th Infantry.  
Captain I. W. Leonard, 26th Infantry.  
Captain W. T. Littebrant, 15th Cavalry.  
Captain M. L. McGrew, 11th Infantry.  
Captain S. W. Noyes, 4th Infantry.  
Captain A. C. Read, 12th Infantry.  
Captain E. M. Reeve, 23d Infantry.  
Captain John Robertson, 27th Infantry.  
Captain W. S. Valentine, 14th Cavalry.  
Captain F. B. Watson, 3d Infantry.  
Captain J. T. Watson, 7th Infantry.  
Captain A. E. Williams, 3d Cavalry.

Captain George Van Orden and Captain J. C. Beaumont, U. S. Marine Corps, and Captain E. N. Tabio and Lieutenant Ramon O'Farrill, Cuban Army, also attended the School of the Line and graduated with the class. Captain Van Orden graduated in the honor class.

The following officers were recommended for and detailed to enter the Staff College for 1912-13:

Captain H. B. Black, 2d Infantry.  
Captain C. T. Boyd, 10th Cavalry.  
Captain J. J. Bradley, 14th Infantry.  
Major R. L. Bush, 26th Infantry.  
Captain D. F. Craig, 4th Field Artillery.  
Captain H. A. Eaton, 23d Infantry.  
Captain C. S. Fries, 27th Infantry.  
Captain J. W. Furlong, 6th Cavalry.  
Captain J. B. Gowen, 10th Infantry.  
Captain A. J. Greer, 16th Infantry.  
Captain J. G. Hannah, 18th Infantry.  
Captain P. T. Hayne, jr., 12th Cavalry.  
Captain W. A. Kent, 4th Infantry.  
Captain J. G. Langdon, 4th Field Artillery.

Captain C. R. Lloyd, 6th Field Artillery.  
Captain W. H. McCornack, 9th Cavalry.  
Captain F. J. Morrow, 12th Infantry.  
Captain C. D. Roberts, 7th Infantry.  
Captain W. G. Sills, 1st Cavalry.  
Captasn H. A. Smith, 3d Infantry.  
Captain M. C. Smith, 14th Cavalry.  
Captain J. E. Stephens, 2d Field Artillery.  
Captain W. C. Sweeney, 21st Infantry.  
Captain Kirby Walker, 14th Cavalry.

The following officers constituted the class at The Army Signal School, all of them completing the course and graduating:

2d Lieut. E. R. Andrews, 17th Infantry.  
1st Lieut. F. S. Bowen, 20th Infantry.  
1st Lieut. C. A. Dravo, 21st Infantry.  
Captain Parker Hitt, Signal Corps.  
1st Lieut. G. L. McEntee, Signal Corps.  
1st Lieut. B. W. Phillips, 27th Infantry.  
1st Lieut. D. L. Roscoe, 1st Cavalry.  
1st Lieut. H. R. Smalley, 2d Cavalry.  
1st Lieut. J. G. Taylor, 18th Infantry.  
1st Lieut. Karl Truesdell, Signal Corps.  
Captain A. C. Voris, Signal Corps.

Captain G. S. Gibbs, Signal Corps, reported for duty as student officer, Signal School, June 1, 1912, for the purpose of completing the course which was interrupted by his relief from duty at the schools in March, 1911, and graduated with the class.

The Army Field Engineer School class consisted of Captains F. A. Pope and W. L. Guthrie, Corps of Engineers, at the beginning of the school year. Captain Guthrie completed the course and graduated. Captain Pope did not complete the course, being directed to proceed to the Army and Navy General Hospital for treatment per par. 27, Special Orders No. 234, War Department, October 6, 1911.

Besides the above named regular classes, there was also detailed a special class of field officers who took a course specially prepared for them beginning January 8, 1912, and ending March 22, 1912.

The following named officers constituted this special class:

Colonel J. L. Chamberlain, Inspector General's Department.  
Colonel A. L. Smith, Subsistence Department.  
Colonel S. M. Foote, Coast Artillery Corps.  
Lieut. Colonel Omar Bundy, 11th Infantry.  
Major B. W. Atkinson, 4th Infantry.  
Major DeR. C. Cabell, 11th Cavalry.  
Major F. W. Coe, Coast Artillery Corps.  
Major F. R. Day, 30th Infantry.  
Major T. B. Dugan, 4th Cavalry.  
Major A. S. Fleming, Adjt. Gen. Dept.  
Major Herman Hall, 12th Infantry.  
Major W. H. Hay, 10th Cavalry.  
Major J. W. Heavey, 14th Infantry.  
Major C. A. Hedekin, 15th Cavalry.  
Major H. R. Lee, 11th Infantry.  
Major C. H. McNeil, Coast Artillery Corps.  
Major W. F. Martin, 5th Infantry.  
Major A. L. Parmeter, Infantry.  
Major M. J. Shaw, U. S. Marine Corps.  
Major T. C. Treadwell, U. S. Marine Corps.  
Major F. D. Webster, 20th Infantry.

No marks, certificates, or diplomas were given to these officers.

The following-named medical officers were detailed to take the course in the Army Field Service School for Medical Officers which commenced April 1, 1912, and terminated May 11, 1912:

REGULAR ARMY	NATIONAL GUARD
Major W. F. Lewis.	Lient. Col. J. A. Hall—Ohio.
Major J. B. Clayton.	Lieut. Col. C. B. Cooper—Hawaii.
Major E. A. Dean.	Major B. F. Bradbury—Maine.
Major W. N. Bispham.	Major Frederick Schavoir—Conn.
Major G. M. Ekwurzel.	Major W. S. Terriberry—New York.
Major R. U. Patterson.	Major J. H. McCall—Tennessee.
Major E. E. Persons.	Captain E. S. Green—Indiana.
Captain J. L. Bevans.	

All of the above completed the course and were given certificates, with the exception of Major J. H. McCall and Captain E. S. Green, who did not report.

The following named medical officers of the regular army were detailed to take the Correspondence Course for Medical Officers:

Major J. M. Kennedy.	Major E. R. Shreiner.
Major D. C. Howard.	Major F. M. Hartsock.
Major W. H. Wilson.	Major D. F. Duval.
Major W. F. Lewis.	Major C. J. Manley.
Major T. J. Kirkpatrick.	Major David Baker.
Major I. W. Rand.	Major J. R. Church.
Major P. C. Fauntleroy.	Major E. A. Dean.
Major J. S. Wilson.	Major F. M. C. Usher.
Major B. H. Dutcher.	Major W. F. Truby.
Major L. A. Fuller.	Major H. S. Greenleaf.
Major G. A. Skinner.	Major L. T. Hess.
Major C. R. Darnall.	Major C. C. Collins.
Major Henry Page.	Major B. J. Edger, jr.
Major H. A. Webber.	Major G. M. Ekwurzel.
Major J. B. Clayton.	Major E. E. Persons.

Problems were sent to the above named officers, all of whom submitted solutions with the exception of Major Manley, who stated that he had failed to receive the problems sent him.

The civil service and detachment personnel of employees under my direction have all rendered most arduous and satisfactory service. Each man has seemingly made the good interests of the schools his own special interest with splendid results for promptness and efficiency in the dispatch of business.

About 1700 officers of the regular army are at present on the mailing list. These officers, besides many others not on the mailing list, have secured many military books and maps, by both American and foreign authors, through the Secretary's office.

The Chief Clerk's office, the Book Department, bookbindery, printing office, lithographic and map making offices, college detachments, and college mess have met every demand made upon them in the business spirit of prompt and efficient service.

DONALD W. STRONG,  
*1st Lieut., 7th Infantry,*  
*Secretary and Disbursing Officer.*

THE ARMY SERVICE SCHOOLS  
FORT LEAVENWORTH, KANSAS

*August 16, 1912.*

THE SECRETARY:

1. The total number of volumes on hand in the Library at the close of the year ended June 30, 1912, was 23,974, accounted for as follows:

On hand July 1, 1911	-	-	-	-	22,122
Accessions:					
Public Documents	-	-	-	-	316
General Staff Translations	-	-	-	-	114
From War College Division, General Staff	-	-	-	-	35
From Bindery (Service Periodicals)	-	-	-	-	146
By Purchase	-	-	-	-	1,574
By Donation	-	-	-	-	52
					2,237
Total	-	-	-	-	24,359
Dropped (Obsolete regulations and manuals):					385
On hand June 30, 1912-	-	-	-	-	24,974

Donations:

Adjutant General, State of New York	-	-	-	-	1
Lieutenant R. E. Beebe, U. S. Army	-	-	-	-	7
Major F. W. Coe, U. S. Army	-	-	-	-	1
Captain C. W. Exton, U. S. Army	-	-	-	-	16
Captain L. Halstead, U. S. Army	-	-	-	-	1
Captain S. Heintzelman, U. S. Army	-	-	-	-	1
Major W. O. Johnson, U. S. Army	-	-	-	-	1
Henry Shindler, M. S. E., U. S. Army	-	-	-	-	2
Lieutenant G. V. Strong, U. S. Army	-	-	-	-	1
Mr. Slason Thompson, Chicago, Ill.	-	-	-	-	1
U. S. Cavalry Association	-	-	-	-	19
Captain C. W. Weeks, U. S. Army	-	-	-	-	1
					52
Total	-	-	-	-	52

Total number of books issued during year was - 3,655

The number of books reported as loaned during the year does not include those that are kept permanently in the offices of the instructors, used in the Library or in the Officers' Study.

2. The assistants in the Library have not been changed during the year. As reported heretofore,

these assistants, Master Signal Electrician Harry Bell and Squadron Sergeant Major Karl Unthank, have performed their respective duties well and faithfully.

3. Attention is again called to the urgent necessity for more room for this now-over-crowded Library, which condition is increasing each year and which cannot be further relieved by the assignment of other rooms, even were that desirable or practicable. This, however, is of minor importance compared with the necessity of having this valuable collection of books housed in a fire-proof structure, which the present structure is the very reverse.

EZRA B. FULLER,  
*Lieut.-Col., U. S. Army, Retired,*  
*Librarian.*

## ARMY FIELD ENGINEER SCHOOL

FORT LEAVENWORTH, KANSAS

*June 30, 1912*

### THE SECRETARY:

I have the honor to submit the following report of the work of The Army Field Engineer School for the year ending June 30, 1912.

The purposes of this school, as defined in General Orders No. 128, War Department, September 19, 1911, are the instruction of officers of the Corps of Engineers and of engineer officers of the organized Militia in their military duties and to furnish such instruction in military engineering as the schedules of the other schools comprising The Army Service Schools may call for. In addition, this school has also given a short course of instruction in military engineering to the special class of field officers which attended The Army Service Schools for a ten weeks course beginning in January, 1912.

### THE ARMY FIELD ENGINEER SCHOOL

This school was organized two years ago for the instruction of officers of the Corps of Engineers and of engineer officers of the Organized Militia in their military duties. The course of instruction in the latter subject being identical with that of student officers in The Army School of the Line and furnished by the Director of Military Art.

The course of instruction in Military Engineering comprises 159 half days and is devoted to instruction, both theoretical and practical, in all matters pertaining to the duties of engineer officers with field troops in time of war. The principal subjects treated are military sketching and surveying; organi-

zation, duties and equipment of engineer troops; field fortifications; military roads and bridges; cast-ramentation, and transportation.

Owing to the want of suitable text books in the English language, bearing upon the various subjects, considerable research and labor has been found necessary to acquire material satisfactory for the purpose. Translations from foreign books and periodicals, with assigned notes and drawings, have formed a considerable part of the material for study by the student officers.

The new addition to Sheridan Hall, especially built for the accommodation of The Army Field Engineer School has been occupied for over a year and is now well equipped and arranged for its purpose. Thus far, however, the two classes of student officers detailed for instruction here have consisted, each, of but two officers, and the present class consists of but one graduate, the other officer detailed to take the course of instruction, having been compelled to give up his work owing to physical infirmities with which he was afflicted before his arrival.

The plant of the Engineer School and the expenditure of energy involved in maintaining a special course in military engineering for its student officers are out of all proportion to the size of the classes. Having in mind the strenuous requirements imposed on the Director and instructors of The Army Field Engineer School in connection with the courses in military engineering for the other schools, it is recommended that special efforts be made to secure larger classes of engineer student officers for the future, and if this is, for any reason, impracticable, that then The Army Field Engineer School be suspended until such time as to justify the efforts necessary for its maintenance.

### THE ARMY SCHOOL OF THE LINE

The course of instruction in military engineering for The Army School of the Line comprised 114 half days, devoted to military sketching and surveying and to field fortifications. The instruction in sketching and surveying was practically unchanged from that of the previous year, experience having pretty well established that this instruction has reached a satisfactory basis. The instruction in field fortification, however, was conducted on somewhat different lines from heretofore in an effort to bring this important subject more in harmony with the most modern views as well as to establish its functions as a part of tactics in field operations. To this end, a new pamphlet text book entitled "Notes on Field Fortifications" was prepared by the Director and Instructors of The Army Field Engineer School and, after due authorization, was used for instruction in the conferences. The theoretical instruction was supplemented by a series of sixteen practical problems solved in the field and based upon natural and logical military situations.

The importance of field fortifications was further recognized by assigning to it an increased weight so that it now counts 100 units out of a total of 250 allotted to the subject of military engineering as a whole.

Experience has indicated that the subject of field fortifications as presented for the past year is an improvement on past methods and that still further improvements along the same lines can be made.

### THE ARMY STAFF COLLEGE

The course in Military Engineering of The Army Staff College comprised 81 half days devoted to military sketching, reconnaissances and field fortifica-

tions. In addition, the Staff Class was used, as in past years, in assisting in the instruction of The Army School of the Line in military sketching and surveying in the early part of the school year.

The instruction in sketching and field fortifications was essentially all practical in its nature, the problems given being of a character suited to test the ability of an officer fitted for general staff work.

#### THE ARMY SIGNAL SCHOOL

The course of instruction for this school comprised 20 half days and was devoted mainly to teaching the use and reading of maps, study of ground forms, with a limited amount of practical sketching. The work was mainly practical throughout and considering the short time available gave satisfactory results.

#### FIELD SERVICE SCHOOL FOR MEDICAL OFFICERS

This, the newest of the service schools, was also given a brief course of instruction, comprising 10 half days, in map reading and the principles of military sketching.

Besides caring for the instruction in Military Engineering of the several service schools, the Director of the Army Field Engineer School is charged with general supervision over the drafting, lithographic, photographic and instrument work for all the service schools as well as for that from outside sources such as the army at large and the militia. This work attained a magnitude during the year which taxed the resources of the plant to its utmost. Not only has the volume of work turned out increased enormously but its quality has improved and it is no boast to say that this work compares favorably with that of the best commercial establishments.

As conveying some idea of the magnitude of the work of the several mechanical departments of The

Army Field Engineer School, the following summary of the principal items of work turned out is instructive:

DRAFTING ROOM			
Drawings and tracings, various	-	-	151
Blue and brown prints, various	-	-	6470
LITHOGRAPHIC ROOM			
War game sheets, black impressions	-	-	42710
War game sheets, blue impressions	-	-	40282
Illustrations for Army Signal School, impressions	-	-	2410
General work for Service Schools, black impr'ns	-	-	11361
General work for Service Schools, blue impr'ns	-	-	5548
Total impressions	-	-	<u>102311</u>
Etched brass war game scales	-	-	305
PHOTOGRAPHIC ROOM			
Wet plates, various	-	-	322
Dry plates, various	-	-	446
Lantern slides	-	-	480
Prints	-	-	2330
INSTRUMENT ROOM			
Wooden alidade scales	-	-	1222
Brass war game scales	-	-	210
Sketching boards for Book Department	-	-	40
Sketching boards for Schools	-	-	27

The satisfactory year's work of The Army Field Engineer School was due in no small measure to the faithful and loyal support of the instructors and the enlisted men detailed for duty therein. The Director takes this opportunity for recording his appreciation of and gratitude for their efficient services.

JOSEPH E. KUHN,  
*Lieut. Colonel, Corps of Engineers,*  
*Director, Army Field Engineer School.*

THE ARMY FIELD SERVICE SCHOOL FOR  
MEDICAL OFFICERS

FORT LEAVENWORTH, KANSAS

*July 29, 1912.*

THE SECRETARY:

I have the honor to make the following report relative to the operations of this School during the year ending June 30, 1912:

As this year marks the conclusion of the four years' tour of duty of the undersigned, the report is in the nature of a valedictory. So many changes have been made in these four years, and so much accomplished in the way of expansion and betterment of the work, that these may be briefly mentioned in connection with further improvement which seems desirable.

On being detailed to take charge of the work of instruction under the then "Department Care of Troops," it was found that the immediate previous instruction had amounted to about a dozen recitations in elementary hygiene per annum by the student officers of the School of the Line.

The undersigned was the first instructor to be relieved from all post medical duty, and therefore was free from the great disability under which his predecessors had labored. It was thus possible to plan and carry out a logical development of the course. The result has been that during the past year the undersigned has given a total of about 200 hours of instruction, all of an original nature. These hours of instruction did not include the preparation and marking of many problems or the conduction of the Medical Officers' Correspondence School, which were in addition. Further, as the courses broadened

a large amount of correspondence grew up, particularly with medical officers of the Army and organized militia, but also abroad. Nearly a thousand well selected lantern slides were collected which illustrated sanitary matters and materially assisted in and gave interest to the lecture work.

All instruction in matters of military hygiene and sanitation, and in the organization and tactical use of the sanitary service in war, now falls on this office; and such instruction is now given in five distinct schools, each requiring its own separate line of procedure and subjects.

The courses have now reached a degree of development requiring the sole attention and best efforts of a well qualified medical officer for their efficient conduction.

## I

### THE ARMY SCHOOL OF THE LINE

The sanitary work in this School has been co-ordinated with that of the Department of Military Art in the management of military organizations. Every phase of the tactical handling of troops has had its sanitary side, or its relation to the work of the Medical Department, touched upon. Field hygiene and the employment of the Medical Department in the field have been especially handled.

Illustrated lectures have been given as follows:

1. Organization of the sanitary service in war.
  2. Management of the sanitary service of the front.
  3. Management of the sanitary service of the line of communications and base.
  4. The sanitation of the battlefield.
  5. The hygienic conduction of marches.
  6. Camp sites and camps.
  7. Camp sanitation.
  8. Water supplies in the field.
  9. The ration in the field.
  10. (a)
  11. (b)
  12. (c)
  13. (d)
- } The infectious diseases of camps.

There were also two (2) problems in sanitary tactics given the class.

A ruling was also obtained that no map problem, war game or terrain exercise implying contact of troops was to be regarded as fully solved until arrangements had been made by the student officers for the proper removal of the wounded. There were many of these problems given out by the Department of Military Art during the year, the great majority of which were referred to this office for consideration.

A very great and gratifying interest has been exhibited by the student line officers in the utilization of medical officers, and sanitary detachments and units, in the better achievement of military ends.

It is not thought that this course needs modification at present.

## II

### THE ARMY STAFF COLLEGE

In this School, as its name implies, the line officer is trained for staff duty. The work of sanitary instruction accordingly gave special attention to the functions of medical officers as staff officers and their best utilization in such positions. The schedule of lectures given, many of which were illustrated, was as follows:

1. The influence of military epidemics upon the geographical expansion, political history and military policy of the United States.
2. The responsibility for sanitation and health in the military service, and the relation between the line of the Army and Medical Department dependent thereon.
3. The civil sanitary function of the Army Medical Department in territory under military control.
4. Army medical statistics, in relation to epidemiology and geography of diseases and their bearing on military purposes.
5. The selection of soldiers.

6. Exercise, training and work in relation to the military service.
7. Water and food supplies in garrison.
8. Military equipment and clothing, with special consideration of foot wear.
9. Barrack construction and ventilation.
10. The principles of plumbing, sewerage, conservancy and sewage disposal.
11. The habits of the soldier in relation to his efficiency.
12. Climatology in relation to military health and efficiency.
13. Sanitary inspection in the military service.
14. The prevention of camp diseases in newly raised commands.
15. Military absenteeism in war, with special reference to the part played by the Medical Department therein.
16. Map problem: Use of the sanitary service in campaign.
17. Map problem: Use of the sanitary service in campaign.
18. The duties of Chief Surgeons of Divisions and Field Armies.
19. The duties of Chief Surgeons, Lines of Communications and the Base.

The various duties of the Medical Department under Section 288, Field Service Regulations, were discussed in detail.

Certain subjects in military hygiene and sanitation, intended to round out the course given these officers in their Line Class year, were also covered.

It is believed that the student officers of the Staff College finished their course with a very complete knowledge of the purposes, methods, and uses of the Medical Department.

No change in the course is recommended.

### III

#### THE SPECIAL COURSE FOR FIELD OFFICERS

This is a ten weeks course in tactics annually given to field officers of the line. The schedule of lectures given this class by the Field Service School for Medical Officers is as follows:

1. The general purposes and organization of the Medical Department for War.

2. Road positions of sanitary detachments and units, with sanitary service on and near the firing line.
3. The use of Ambulance Companies, Field Hospitals and stations for slightly wounded.
4. Sanitary service of evacuation, supply and of the Line of Communications.
5. The influence of military epidemics upon the geographical expansion, political history and military policy of the United States.
6. The prevention of camp diseases in newly raised commands.

A number of the problems in Military Art given this class contained sanitary situations for which solutions were required.

Many of the officers of this class expressed their great interest in the above subjects, to which the majority had previously given little attention.

#### IV

##### THE MEDICAL OFFICERS' CORRESPONDENCE SCHOOL

This course is intended to give some preparation for medical officers at their posts who may later be sent in personal attendance at the Field Service School for Medical Officers.

During the year, thirty (30) designated medical officers of the regular army were required to submit solutions of the sanitary problems sent them. There were six (6) problems sent out, including the following phases of sanitary work in war:

1. Problem in disposal of sick and wounded.
2. Problem in location of sanitary resources and establishment of routes of evacuation.
3. Problem in sanitary preparation for attack and retreat.
4. Problem in concentration of sanitary organizations.
5. Problem in preparation of a map problem in sanitary tactics.
6. Problem in preparation of a problem for a sanitary field maneuver.

The answer to the problems were furnished anonymously to this office by the Secretary, Army Service Schools, for review and comment.

A few of the solutions thus received were excellent, most were only fair, and a certain number distinctly poor. As a whole, they gave evidence that many medical officers should pay more attention to this branch of their training for sanitary service in war.

A number of medical officers of the militia applied to be allowed to participate in the work of the Correspondence School, but were informed that such was not authorized. It is impossible for this office to handle a larger number of papers or problems in this correspondence course without increase in the teaching staff.

#### THE ARMY FIELD SERVICE SCHOOL FOR MEDICAL OFFICERS

This school is intended to give medical officers, in a six weeks course attended in person, some insight into their duties as medical staff officers in war. The first session of the school was held this year. There were eight (8) regular officers and five (5) militia officers in attendance — two (2) medical officers of militia who were authorized to come failed to present themselves. Much credit must especially be given these militia medical officers in attendance, who gave up their practices and came, literally, from Maine to Hawaii, and at much financial loss, to improve themselves for the benefit of their states.

It is believed that medical officers of militia should draw the full pay of their grade while in attendance. At present they only draw travel allowances, commutation of quarters, and a dollar a day as subsistence.

The schedule of the course given was as follows:

*Monday, April 1*

- 9 a. m. Remarks to class by the Commandant, The Army Service Schools.

- 9:30 a. m. Major Munson, M. C.—Conference: The Training of Medical Officers for Field Service.  
1 p. m. Lieut. Col. Morrison, Inf.—Conference Organization.  
3 p. m. Maj. Munson, M. C.—Conference: General Sanitary Organization for War.

*Tuesday, April 2*

- 9 a. m. Maj. Walker, C. E.—Conference: Maps and their Varieties; Scales and their Uses; Conditions Making for Accuracy and Otherwise; Scales and Distances in Relation to Solution of Problems.  
10:45 a. m. Maj. Munson—Conference: Sanitary Dispositions in Marching columns.  
1 p. m. Lieut. Col. Morrison, Inf.—Conference: Marches

*Wednesday, April 3*

- 8 a. m. Maj. Walker, C. E.—Conference, followed by map reading on the terrain.  
1 p. m. Lieut. Col. Morrison, Inf.—Conference: Battles.  
3 p. m. Maj. Munson, M. C.—Conference: The Sanitary Service On and Near the Firing Line.

*Thursday, April 4*

- 8 a. m. Maj. Walker, C. E.—Conference, followed by exercises in pacing, use of instruments and preliminary work in sketching.  
1 p. m. Captain Pierce, 13th Inf.—Conference: Modern Firearms, and Their Influence on the Field Work of the Medical Department.  
3 p. m. Maj. Munson, M. C.—Conference: Stations for Slightly Wounded; Ambulance Companies.

*Friday, April 5*

- 8 a. m. Maj. Walker, C. E.—Continuation of work of April 4. Prob. No. 1: Visibility of Points.  
1 p. m. Lieut. Col. Morrison, Inf.—Conference: Administration and Supply.  
3 p. m. Maj. Munson, M. C.—Conference: Field Hospitals; Reserve Sanitary Supplies.

*Saturday, April 6*

- 8 a. m. Maj. Walker, C. E.—Continuation of work of April 5. Problem No. 2: Zones of Probable Casualty.

*Monday, April 8*

- 8 a. m. Maj. Walker, C. E.—Continuation of work of April 6. Problem No. 3: Security of Relief Stations.

- 1 p.m. Lt. Col. Morrison, Inf.—Conference: Staff Duty.  
3 p.m. Maj. Sayre, 9th Cav.—Lecture: War Games;  
Tactical Walks and Rides.

*Tuesday, April 9*

- 9 a.m. Maj. Walker, C.E.—Preliminary Road Sketch.  
1 p.m. Lieut. Col. Morrison, Inf.—Conference: Supply;  
Lines of Communication and the Base.  
3 p.m. Maj. Munson, M.C.—Conference: The Sanitary  
Formations of the Line of Communications  
and the Base.

*Wednesday, April 10*

- 9 a.m. Maj. Munson, M.C.—Conference: The Solution  
and Preparation of Sanitary Map and Field  
Problems.  
10:45 a.m. Capt. Eltinge—Lecture: The Tactical Use of  
Cavalry.  
1 p.m. Maj. Sayre, 9th Cav.—Conduction of War Game:  
Reinforced Brigade. Class as observers.

*Thursday, April 11*

- 8 a.m. Maj. Walker, C.E.—Record Road Sketch.  
1 p.m. Continuation of morning's work.

*Friday, April 12*

- 8 a.m. Maj. Walker, C.E.—Prelimin'y Position Sketch.  
1 p.m. Maj. Munson, M.C.—Problem No. 4. Solution of  
a field problem with a detached battalion. En-  
listed personnel drawn from Amb. Co. No. 3.

*Saturday, April 13*

- 8 a.m. Maj. Walker, C. E.—Record Position Sketch.  
1 p.m. Continuation of morning's work.

*Monday, April 15*

- 9 a.m. Maj. Russel, S. C.—Conference: Field Lines of  
Information.  
10:45 a.m. Capt. Eltinge, 15th Cav.—Lecture: Panic in War,  
with special relation to the work of the Medi-  
cal Department.  
1 p.m. Maj. Munson, M. C.—Problem No. 5. Field prob-  
lem with two detached battalions. Enlisted  
personnel drawn from Ambulance Company  
No. 3 and Post Hospital.

*Tuesday, April 16*

- 8 a.m. Capt. Edwards, 5th Inf., and Maj. Munson, M. C.  
—Terrain Exercise: The Regiment in Retreat  
and in Defensive Action.

- 2 p.m. Maj. Persons, M.C.—Paper and Conference: The Organization, Management, Duties, Training, etc., of the Sanitary Service with a Newly Raised Regiment.

*Wednesday, April 17*

- 9 a.m. Lieut. Col. Hall, O.N.G. — Paper and Conference: The Management, Difficulties and Special Methods of the Sanitary Service on Riot Duty.
- 1 p.m. Maj. Munson, M.C.—Problem No. 6. Field problem with a detached regiment. Enlisted personnel drawn from Ambulance Co. No. 3 and Post Hospital.

*Thursday, April 18*

- 8 a.m. Maj. Sayre, 9th Cav.—Direction of War Game: The Reinforced Brigade. Class participates with student officers of School of the Line in solution of problem.
- 1 p.m. Capt. Bevans, M.C.—Paper and Conference: The Personnel, Transportation, Organization, Duties, Training, Supplies, etc., of Ambulance Companies. Discussion opened by Captain Jones, M. C.

*Friday, April 19*

- 9 a.m. Maj. Bispham, M.C.— Paper and Conference: The Organization, Personnel, Supplies, Transportation, Training and Use of Field Hospitals. Discussion opened by Maj. Patterson, M. C.
- 1 p.m. Maj. Munson, M.C.— Problem No. 7. The preparation of a practical field problem.

*Saturday, April 20*

- 8 a.m. Maj. McAndrew, 9th Inf., and Maj. Munson, M. C.—Terrain Exercise: The Reinforced Brigade in the Attack.

*Monday, April 22*

- 8 a.m. Maj. Munson, M.C.—Problem No. 8. Field problem with the reinforced Brigade. Enlisted personnel drawn from Amb. Co. No. 3 and Post Hospital.
- 2 p.m. Maj. Munson, M.C.— Conference: The Solution of Map Problem No. 7.
- 3 p.m. Capt. McMaster, 5th F.A. —Lecture: The Tactical Use of Artillery.

*Tuesday, April 23*

- 9 a.m. Maj. Dean, M.C.—Paper and Conference: The Sanitary Service with Independent Cavalry. Discussion opened by Capt. Eltinge, 15th Cav.

- 1 p.m. Maj. Munson, M.C., and Capt. McMaster, 5th F. A.—Problem N. 9. Field problem with the reinforced brigade. Enlisted personnel drawn from Amb. Co. No. 3 and Post Hospital.

*Wednesday, April 24*

- 8 a.m. Maj. Sayre, 9th Cav.—Direction of War Game: The Reinforced Brigade. Class participates with student officers School of the Line in solution of problem.

- 1 p.m. Maj. Clayton, M.C.—Paper and Conference: The Organization, Function, Management, Personnel, Supplies, etc., of Evacuation Hospitals. Discussion opened by Maj. Ekwurzel, M. C.

*Thursday, April 25*

- 8 a.m. Capt. Eltinge, 15th Cav., and Maj. Munson, M.C.—Terrain Exercise: The Infantry Division on the Retreat and in the Defense.

- 2 p.m. Maj. Patterson, M.C.—Paper and Conference: The Sanitary Service of the Line of Communications. Disc. opened by Maj. Lewis, M.C.

*Friday, April 26*

- 9 a.m. Maj. Lewis, M.C.—Paper and Conference: The Sanitary Service of the Base. Discussion opened by Lieut. Col. Hall.

- 1 p.m. Maj. Munson, M.C.—Problem No. 10. Map problem: The Infantry Division on the Defense.

*Saturday, April 27*

- 8 a.m. Lieut. Col. Morrison, Inf. — Direction of War Game: The Infantry Division. One side. Class participates.

*Monday, April 29*

- 8 a.m. Capt. Eltinge, 15th Cav., and Maj. Munson, M.C.—Terrain Exercise: The Infantry Division in the Attack.

- 2 p.m. Maj. Munson, M.C.—Problem No. 11: Disposition of Sick and Wounded in Large Commands.

*Tuesday, April 30*

- 9 a.m. Lieut. Col. Kuhn, C.E.—Lecture: Impressions of a Combatant Officer Concerning the Sanitary Service of the Japanese Army.

- 10:30 a.m. Maj. Munson, M. C.—Conference: Solution of Map Problems Nos. 10 and 11.

- 1 p.m. Maj. Munson, M.C., and Capt. Fiske, 28th Inf. — Problem No. 12. Field problem with the division. Enlisted personnel drawn from Amb. Co. No. 3, Post Hospital and combatant organizations of post.

*Wednesday, May 1*

- 9 a.m. Maj. Ekwurzel, M.C.—Paper and Conference: Hospital Ships; General Hospitals. Discussion opened by Maj. Clayton, M.C.
- 1 p.m. Capt. Halstead, 6th Inf.—Lecture: The Laws of War on Land, in Relation to Sick and Wounded, and the Sanitary Personnel, Matériel and Formations.
- 3 p.m. Maj. Munson, M.C.—Problem No. 13. Transportation problem with the division.

*Thursday, May 2*

- 8 a.m. Major Sayre, 9th Cav.—Direction of War Game: The Field Army. One side. Entire class participates.
- 1 p.m. Capt. Halstead, 6th Inf.—Problem No. 14. Application of subject of May 1st.
- 2 p.m. Maj. Munson, M.C.—Conference: Solution of Problem No. 13.
- 3 p.m. Maj. Munson, M.C.—Conference: Medical Statistics in Relation to Epidemiology and Geography of Diseases and Their Bearing on Military Purposes.

*Friday, May 3*

- 9 a.m. Maj. Munson, M.C.—Conference and assignments on Problem No. 15: The Planning of the Sanitary Organization, Equipment and Supply of an Expeditionary Field Force, with its Service of Evacuation.
- 8 p.m. Maj. Munson, M.C., and Capt. Halstead, 6th Inf.—Problem No. 16. Field problem in the policing of the battlefield at night. Enlisted personnel drawn from Amb. Co. No. 3, Post Hospital and combatant organizations of post.

*Monday, May 6*

- 9 a.m. Maj. Munson, M.C.—Conference: Solution of Problem No. 16.
- 10:30 a.m. Maj. Munson, M.C.—Conference: The Civil Sanitary Function of the Medical Department in Occupied Territory; with assignments to Problem No. 17, relating to the same subject.

(Afternoon occupied in solution of Problems 15 and 17.)

*Tuesday, May 7*

- 9 a.m. Maj. Munson, M.C.—Lecture and Conference: The Effect of Certain Military Epidemics upon the Political History, Geographical Expansion and Military Policy of the United States.

10:30 a.m. Capt. Halstead, 6th Inf.—Conference: Solution of Problem No. 14.

(Afternoon occupied in solution of Problems 15 and 17.)

*Wednesday, May 8*

9 a.m. Maj. Munson, M.C.—Lecture and Conference: The Prevention of Camp Diseases in Newly Raised Commands, Considered from the Administrative Standpoint.

(Afternoon occupied in solution of Problems 15 and 17.)

*Thursday, May 9*

9 a.m. Maj. Munson, M.C.—Lecture and Conference: Military Absenteeism in War, with Special Reference to the Part Played by the Medical Department Therein.

(Afternoon occupied in solution of Problems 15 and 17.)

*Friday, May 10*

(Forenoon occupied in solution of Problems 15 and 17.)

2 p.m. Maj. Munson, M.C.—Conference: The solution of Problem No. 15.

*Saturday, May 11*

9 a.m. Maj. Munson, M.C.—Conference: The solution of Problem No. 17. (*Conclusion, of course.*)

The large number of line officers who, as instructors in these Schools, cheerfully gave much time and effort to make the above course a success is indicative of the interest it aroused, and the importance attached to it, by other than medical officers. To all, and especially to Lieutenant Colonel John F. Morrison, 21st Infantry, Acting Commandant, great thanks are due.

The medical officers in attendance were an exceptionally able and enthusiastic lot, who worked unremittingly. As this was the first session of the School, it may be proper to say that they uniformly regarded the course as highly profitable, and as clearly opening up a subject the scope and importance of which they had been largely unaware. It is safe to say that the efficiency of all in attendance has thereby been materially increased for field service.

It would seem that the course could be improved by lengthening it by two weeks. A certain number of additional subjects which should be taken up could then be handled. The conclusion of the course also should be so timed in relation to the staff ride of the Staff College that the medical officers should then be able to participate with the former therein. Attendance on this staff ride should be obligatory on regular medical officers and voluntary on the part of militia medical officers, some of whom would probably feel that they could not in justice to other interests neglect their practices longer. As time goes on, still further extension of the course may prove desirable.

It is believed, also, that ensuing classes, of both regular and militia, should be somewhat larger than that of this first year. At present ratio, it will take approximately fifteen (15) years to reach every major in the regular Medical Corps and to have two (2) graduates of this school in the Medical Departments of the militia of each State. It is not thought that States which have had one such representative here should be allowed to send others until other States have had a similar opportunity.

In conclusion, the undersigned believes that the establishment and operation of the Field Service School for Medical Officers has been a great step towards the betterment of the Medical Department for war, and that the good to accrue to the latter, and to the military service as a whole, will prove incalculable.

EDWARD L. MUNSON,  
*Major, Medical Corps,*  
*Director, Field Service School for Medical Officers.*

DEPARTMENT OF LAW  
THE ARMY SERVICE SCHOOLS

*Fort Leavenworth, Kansas, June 20, 1912.*

THE SECRETARY,

I have the honor to submit the following report of the Department of Law for the past school year:

LINE CLASS

The course consisted of:

Elements of Law . . . .	11 half days
Criminal Law . . . . .	9 half days
Law of Evidence . . . .	20 half days
Practical Exercises . . . .	5 half days

The work of the class was satisfactory during the year. Due to the fact that the number of half days allotted to this department has been reduced to forty-five there has resulted an elimination of all portions of former courses which do not bear directly on military law or which do not bear on some matter which a military officer should have knowledge of. In the practical exercises an effort was made to present cases or situations, to the members of the class, upon which any officer might at times be called to make a decision.

The text books used were:

Smith's Elementary Law  
Clark's Criminal Law  
McKelvey's Law of Evidence

STAFF CLASS

The course consisted of:

Military Government, Martial Law and The Laws of War, 29 half days.

The text book used was Birkhimer's Military Government and Martial Law.

A series of problems was presented the class involving questions of the Laws of War. In the solution of these problems reference was permitted to any text book.

The work of the class was very satisfactory.

The work of the Law Department was somewhat hampered by the relief from duty at the Army Service Schools, on March 8, 1912, of my predecessor, Major H. A. Smith, 28th Infantry, and later, on March 19, 1912, by the relief from duty at The Army Service Schools of 1st Lieutenant E. K. Masee, Infantry

LAURENCE HALSTEAD,  
*Captain, 6th Infantry,*  
*Senior Instructor.*

DEPARTMENT OF LANGUAGES  
THE ARMY STAFF COLLEGE

*Fort Leavenworth, Kansas, June 30, 1912.*

THE SECRETARY:

I have the honor to submit the following report of the work of this department, The Army Staff College, 1911-12:

Time allotted, 106 half days; began September 1, 1911; ended April 4, 1912.

Number of conferences, 106; length of conference per student, one hour and twenty-five minutes.

Number of officers instructed: German, six—two sections; French, eight—two sections; Spanish, eleven—two sections.

Daily lessons will be found in printed lists.

Each course consisted of instruction in grammatical principles, with copious illustrations and practical work, and the employment of the foreign language in conversation as much as possible.

GERMAN

*Instructor*—First Lieutenant Walter Kruger, Infantry.

*Text-books*—"Practical German Grammar," Thomas.

"Supplementary Exercises to Thomas' Grammar."

"Glück Auf," by Müller and Wenckeback.

"Das Deutsche Heer," by Gernaudt.

"Ein Neues Wörth," by Hoppenstedt.

The progress of this class was generally satisfactory. All student officers showed interest and zeal. All members acquired accuracy and facility in translating, and members of the First Section developed fair conversational fluency. Major W. O. Johnson's progress was remarkable. This

officer has unusual talent for acquiring foreign languages.

### FRENCH

*Instructor*—Captain C. F. Martin, 3d Cavalry.

*Text-books*—De Peiffer—"French Pronunciation,"

"The French Verb," Martin.

"The First Year in French," Syms.

"Le Petit Soldat," Kron.

"The Second Year in French," Syms.

"Le Petit Parisien," Kron.

"The Third Year in French," Syms.

"La Langue Française," Bercy.

Progress of class was satisfactory. Work was faithful and zealous, all members able to translate with fair facility and accuracy. Conversational fluency of all except two fair.

### SPANISH

*Instructor*—Captain Wm. Kelly, jr., 9th Cavalry.

*Text-books*—"Practical Course in Spanish," Monsanto and Languellier.

"The Spanish Verb," Traub.

"El Castellano Actual," Román y Salamero.

"Practical Spanish," Part I, De Arteaga.

The progress of this class was very satisfactory, due to the interest taken by the student officers and to their having had forty lessons in their Line Class year. Due to these forty lessons, the students began the course of instruction with a good pronunciation and a thorough knowledge of verb forms, which enabled them to begin conversation at once. By the end of the course, all were able to sustain a conversation on any ordinary subject and several acquired considerable fluency.

### REMARKS ON STAFF CLASS WORK

The time given to each language is to be increased next year to 151 lessons of one hour and twenty-five

minutes each, a course that should result in giving those capable of acquiring it a good conversational knowledge of the language.

The work of all the instructors has been most satisfactory.

THOMAS G. HANSON,  
*Major, U. S. Infantry,*  
*Senior Instructor.*

THE ARMY SIGNAL SCHOOL  
FORT LEAVENWORTH, KANSAS

*June 21, 1912*

THE SECRETARY:

I have the honor to submit the following report of the work of The Army Signal School for the school year 1911-12:

The following instructors were regularly assigned to duty with the School by proper authority:

Major Edgar Russel, Signal Corps, Director (relieved May 1, 1912, pursuant to paragraph 28, Special Orders, No. 88, War Department, current series.)

Captain George E. Mitchell, Signal Corps, Instructor.

1st Lieutenant Joseph O. Mauborgne, 3d Inf., Instructor.

1st Lieutenant Charles F. Leonard, Signal Corps, conducted the instruction in gasoline engine management, during April, 1912, pursuant to paragraph 2, Special Orders, No. 81, War Department, current series.

DEPARTMENT OF LANGUAGES

Instruction was given by the Department of Languages, Army School of the Line.

DEPARTMENT OF TOPOGRAPHY

Instruction was given by the Department of Engineering, Army School of the Line.

Captain Laurence Halstead, 6th Infantry, was specially assigned as instructor in topography, and conducted the sketching course for this year's class.

STUDENT OFFICERS

The following student officers were graduated on June 21, 1912:

Captain George S. Gibbs, Signal Corps.

Captain Parker Hitt, Signal Corps.

Captain Alvin C. Voris, Signal Corps.

First Lieutenant Frank S. Bowen, 20th Infantry.

First Lieutenant James G. Taylor, 18th Infantry.

First Lieutenant Girard L. McEntee, Jr., Signal Corps.  
First Lieutenant David L. Roscoe, 1st Cavalry.  
First Lieutenant Burt W. Phillips, 27th Infantry.  
First Lieutenant Howard R. Smalley, 8th Cavalry.  
First Lieutenant Charles A. Dravo, Signal Corps.  
First Lieutenant Karl Truesdell, Signal Corps.  
Second Lieutenant Edmund R. Andrews, 17th Infantry.

Captain George S. Gibbs, Signal Corps, was relieved from command of Field Company D, Signal Corps, on February 28, 1912, pursuant to paragraph 22, Special Orders, No. 34, War Department, series of 1912, in order to complete an unfinished course at this school undertaken last year.

Captain Holland Rubottom, Signal Corps, was detailed to take a special course at the Signal School for the period beginning March 18 and ending June 1, 1912, pursuant to paragraph 6, Special Orders, No. 54, and paragraph 11, Special Orders, No. 111, War Department, series of 1912.

The following officers were on duty with Field Company D, Signal Corps:

Captain George S. Gibbs, Signal Corps.  
First Lieutenant Oliver P. Robinson, Signal Corps.

#### DEPARTMENT OF SIGNAL ENGINEERING

The course included instruction in:

- (a) Practical Electricity
- (b) Signal Corps Manuals
- (c) Alternating Currents
- (d) Oil Engines
- (e) Fire Control Apparatus
- (f) Laboratory Work
- (g) Photography
- (h) Aeronautics
- (i) The Field Telephone
- (j) The Field Telegraph
- (k) The Field Buzzer
- (l) Radio Telegraphy
- (m) Visual Signaling
- (n) Codes and Ciphers

*Allotment of time:* Theoretical, 160 half-days;  
practical, 144 half-days.

*Theoretical.* The method of instruction is a combination of the conference method and of the quiz method. This is supplemented with frequent written problems and lectures, as scheduled in the list of lessons.

The standard text books which were used last year are as follows:

- Principles of Wireless Telegraphy—Pierce.
- Lessons in Practical Electricity—Swoope.
- Primary Batteries—I. C. S. Pamphlet.
- Storage Batteries— I. C. S. Pamphlet.
- Management of Military Telegraph Lines—Signal Corps Manual No. 2.
- Electrical Instruments and Telephones of the U. S Signal Corps—Signal Corps Manual No. 3.
- Visual Signaling— Signal Corps Manual.
- Property and Disbursing Regulations of the U. S. Signal Corps—Signal Corps Manual No. 7.
- Fire Control—Signal Corps Manual No. 8.
- Pamphlet on Static Electricity.
- Principles of Gas Engines - I. C. S. Pamphlet.
- Carbureters—I. C. S. Pamphlet.
- Electric Ignition Devices—I. C. S. Pamphlet.
- Troubles and Remedies - I. C. S. Pamphlet.
- Alternating Currents—I. C. S. Pamphlets.
- Alternators—I. C. S. Pamphlets.
- Alternating Current Apparatus—I. C. S. Pamphlets.
- Appliances for Electrical Measurements—Haskins.

The course included a special problem necessitating considerable research, in which the student officers were required to study the organization, equipment, transportation and assignment to duties of the signal troops accompanying an army of occupation assumed to be in a Central American state.

*Practical.* In visual signaling student officers were required to be able to send and receive five words per minute with either the flag, the heliograph, or acetylene lantern. In telegraphy they were required to be able to send or receive ten words per minute from the field buzzer. In both visual signal-

ing and telegraphy the sending was from messages filed with them, and count was taken including the usual office marks, numerals, etc., involved in the proper checking of message.

The laboratory work included the solution of problems which are made as practical as possible.

As soon as the student officers had become familiar with the elements, they were thrown almost entirely upon their own responsibility, the assumption being that each problem given them was a subject upon which a regular report was to be made, and it was necessary for them to provide themselves with the proper apparatus to return a complete and satisfactory report.

In preparing solutions they were permitted to consult any reference book or notes of their own.

*Photography.* This included working with both films and plates, developing, printing, enlarging and copying.

*Gas and oil engines.* Student officers were required to operate as many types as are available. By courtesy of Ambulance Company No. 3, a motor ambulance was placed at the disposal of the Signal School, and was used for practical instruction.

*Target range.* An attempt will be made to include in next year's laboratory course practical work with a miniature target range equipment of the buzzer-annunciator type. Such a course will be of value in that officers detailed in charge of such systems at posts after graduation from this school will be better able to preserve the system.

*Special work.* Student officers have engaged in testing many instruments and devices used by the Signal Corps. Among other work of this nature there should be mentioned:

The design of a device for testing dry cells, by Captain Hitt.

The design of an induction telegraph set, using a polarized sounder, by Captains Gibbs and Voris and Lieutenant Truesdell.

The design of a device for rapidly enciphering and deciphering messages, by Captain Hitt and Lieutenant Taylor.

The design of a portable field telephone switchboard by Captains Hitt, Gibbs and Voris and Lieutenant Truesdell.

The design of a portable field telephone by Captains Gibbs and Voris and Lieutenants Truesdell, Dravo and Bowen.

Lieutenant Mauborgne, in addition to his work as instructor in the laboratory, carried on much special work for the Signal Corps in radio telegraphy. A pamphlet on the uses of the wave meter, which was prepared by him, is worthy of note.

Lectures as follows were delivered by Lieutenant Colonel John F. Morrison, 21st Infantry, Assistant Commandant, The Army Service Schools:

April 12, Organization.

April 16, Marches.

April 18, Combat.

April 23, Staff Administration and Supply.

A list of graduation theses follows:

Captain Gibbs—Preparations of a Field Company of the Signal Corps to Take the Field.

Captain Hitt—Battery Testing.

Captain Voris—War Department Telegraph Field Code.

Lieutenant Bowen—Target Range Systems.

Lieutenant Taylor—Codes and Ciphers.

Lieutenant McEntee—Correspondence Course for Signal Officers.

Lieutenant Roscoe—Care of Horses in a Field Company.

Lieutenant Phillips—Photography in Connection with Topography.

Lieutenant Smalley—Pack Transportation.

Lieutenant Dravo—Aeroplane in War.

Lieutenant Truesdell—Study of the Lines of Communication of an Army of Occupation.

Lieutenant Andrews—Post Signal Officers.

## TECHNICAL CONFERENCES

There follows a list of subjects presented at this year's technical conferences:

### Conference No. 1.

The Aeroplane as an Aid to Artillery, translation from *L'Aerophile*, by First Lieutenant Charles A. Dravo, Signal Corps

Pack or Wheel Transport for Radio Sets with Cavalry, by First Lieutenant Oliver P. Robinson, Signal Corps.

The Effect of Aeroplanes upon Cavalry Tactics, by First Lieutenant David L. Roscoe, 1st Cavalry.

Special Pack Saddle Equipment for the Kit Mule of the Radio Section, by Captain George S. Gibbs, Signal Corps.

### Conference No. 2.

Cavalry Exploration in Co-operation with the Aeroplane, translation from *Revista Militar*, by First Lieutenant Karl Truesdell, Signal Corps.

Portable Radio Set Capable of being Carried by a Mounted Man, by Captain William N. Michel and First Lieutenant William S. Barriger, Signal Corps.

### Conference No. 3.

Post Signal Officers Detailed from the Line of the Army, by Second Lieutenant Edmund R. Andrews, 17th Infantry.

Scheme for Instruction in Signaling for 1910, translation from the French, by First Lieutenant Frank S. Bowen, 20th Infantry.

### Conference No. 4.

Field Lines of Information, by Captain George E. Mitchell, Signal Corps.

Military Cryptography, by First Lieutenant Karl Truesdell, Signal Corps.

### Conference No. 5.

A Proposed Shelter for Radio Pack Sets in the Field, by First Lieutenant Oliver P. Robinson, Signal Corps.

The Progress of Aviation during the year 1911, translation from *L'Aerophile*, by First Lieutenant Girard L. McEntee, jr., Signal Corps.

### Conference No. 6.

Poles, by First Lieutenant Burt W. Phillips, 20th Inf.

Alphabetic Frequencies of Several Modern Languages, by First Lieutenant Karl Truesdell, Signal Corps.

A Study of the Field Lines of Information by a Division Acting Alone, by First Lieutenant Oliver P. Robinson, Signal Corps.

Conference No. 7.

Reflex Movement in Aviation, translation from *L'Aéroplane*, by First Lieutenant Charles A. Dravo, Signal Corps.

Why Not One Code? by Captain W. H. Nelson, National Guard of Washington.

Conference No. 8.

How a Field Company Gets Away When Orders Come to Take the Field, by Captain George S. Gibbs, Signal Corps.

Some Experiences with Pack Transportation of Machine Guns with Cavalry, as Bearing on the Transportation of Wireless Pack Sets with Cavalry, by First Lieut. Howard R. Smalley, 8th Cavalry.

The Use of Motorcycles in a Mobile Army, by First Lieutenant Ira F. Fravel, 24th Infantry.

Conference No. 9.

Recommendations Prescribing Complete Organization, Equipment and Duties of a Signal Corps Telegraph Company, by Captains George S. Gibbs, George E. Mitchell, Parker Hitt, and Alvin C. Voris, Signal Corps.

Conference No. 10.

Some Experiences in "Wired Wireless" Telegraphy for Field Lines of Information for Military Purposes, by Major George O. Squier, Signal Corps.

Solution of a Communication Problem by a Signal Field Company, by First Lieut. Everett N. Bowman, 4th Inf.

Conference No. 11.

Discussion by Captain Basil O. Lenoir, Signal Corps, of the paper "Why Not One Code?" by Captain W. H. Nelson, Washington National Guard, submitted in Conference No. 7.

A Proposed Amendment to the War Department Telegraph Code for Use in the Field, by Captain Alvin C. Voris, Signal Corps.

Conference No. 12.

Practical Uses of the Wave Meter in Wireless Telegraphy, by First Lieutenant Joseph O. Mauborgne, 3d Inf.

Correspondence Study as an Aid for the Training of Officers of the Army and Organized Militia for the Signal

Corps, by First Lieutenant Girard L. McEntee, jr., Signal Corps.

Conference No. 13.

Aerostation and Aviation, translation from *Revue d' Artillerie*, by Colonel George P. Scriven, Signal Corps.

Systems of Communication for Target Ranges, by First Lieutenant Frank S. Bowen, 20th Infantry.

The Care and Management of Horses in a Field Company, by First Lieutenant David L. Roscoe, 1st Cavalry.

Conference No. 14.

Testing of Dry Cells, by Captain Parker Hitt, Signal Corps.

Cavalry Reconnaissance and Transmission of Information by Modern Methods, by Captain Holland Rubottom, Signal Corps.

Military Cryptography, further discussion of papers presented in Conferences Nos. 4 and 6, by First Lieutenant Karl Truesdell, Signal Corps.

An Outline of the Theory of Ballooning, by Major Samuel Reber, Signal Corps.

#### AERONAUTICS

The fourth annual visit to Fort Omaha by the student officers of The Army Signal School took place May 27 to 30, inclusive. Major Samuel Reber, Signal Corps, was in charge of this instruction. The knowledge gained by the student officers is valuable, and these visits should be continued. The course of instruction was as follows:

Lecture: Theory of ballooning.

Practical Instruction: Laying out and inflating balloons; Work with a captive balloon; Flight with a free balloon; Deflating and packing balloons.

Mr. W. T. Assman, of St. Louis, Mo., a licensed pilot of the Aero Club of America, volunteered to assist Major Reber, and acted as pilot in the flight of the free balloon. It is desired to express here appreciation of Mr. Assman's valuable services and the spirit in which they were rendered.

### RADIO-TELEGRAPH STATION

Communication with Forts Riley and Omaha, where similar stations have been erected by the Signal Corps, is practically as regular as if telegraph lines extended to those places. Communication with the 10-kw. radio station at Fort Sam Houston has been carried on intermittently at night, and regular messages exchanged, under favorable weather conditions. The Fort Sam Houston station can be heard at Fort Leavenworth in the day time, but, due to the small power and low generator frequency of the radio station at Fort Leavenworth, Fort Sam Houston cannot read Fort Leavenworth clearly except at night, and then only under good atmospheric conditions.

GEO. E. MITCHELL,  
*Captain, Signal Corps,*  
*Acting Director.*

DEPARTMENT OF LANGUAGES  
THE ARMY SIGNAL SCHOOL  
FORT LEAVENWORTH, KANSAS,

*June 30, 1912.*

THE SECRETARY:

I have the honor to submit the following report of the work of this department—Army Signal School, 1911-12:

Time allotted, 64 half days began September 1st, ended December 18, 1911.

Number of conferences, 64; length of conference per student, one hour and twenty-five minutes.

Number of officers instructed, 11.

Number of sections, 2.

Instructor:—Captain Oliver Edwards, 5th Infantry.

*Text-books:* "A Practical Course in Spanish", Monsanto and Languellier.

"The Spanish Verb", Traub.

"El Castellano Actual", Román y Salamero.

Course, as shown by printed list of lessons.

Satisfactory results can not be obtained from a course of 64 lessons, unless the student officers of the Signal School come to the school with a thorough knowledge of the verbs, regular and irregular. In this connection, attention is invited to Memorandum for Student Officers, Army Signal School, 1911-12, a copy of which is appended. It is recommended that copies of this circular be sent to officers as soon as they are detailed to the Signal School.

The work of this class was faithful and zealous, and all attained a good knowledge of the rudiments.

Conversational fluency was not acquired, and could not be expected in so short a course.

The work of Captain Edwards, Instructor, was most careful and painstaking.

THOMAS G. HANSON,  
*Major, Infantry,*  
*Senior Instructor.*

DEPARTMENT OF LANGUAGES  
THE ARMY SIGNAL SCHOOL

*Fort Leavenworth, Kansas, May 22, 1911.*

MEMORANDUM FOR STUDENT OFFICERS, ARMY SIGNAL SCHOOL,  
1911-12.

Referring to paragraph 31, III, General Orders 69, War Department, April 20, 1910, attention is invited to the fact that for the year 1911-12, the course in Spanish will consist of sixty-four lessons taken from the following text-books:

“A Practical Course in Spanish”, Monsanto and Langueulier.

“The Spanish Verb”, Traub.

“El Castellano Actual”, Román y Salamero.

This course is prepared upon the assumption that the students while not possessing a good conversational knowledge of Spanish, have nevertheless devoted some careful study to the rudiments of the language, and that they enter upon the course with a knowledge of the main essentials.

Experience shows that the principal defect of officers in possession of some knowledge of Spanish is their inaccurate handling of verb forms. This defect constitutes the main obstacle to accuracy in conversation.

To student officers desirous of pursuing in a limited time the preparatory course of study in Spanish that will be of the greatest future value, the following is suggested:

An accurate knowledge of the verb should be acquired by careful study of the text-book, THE SPANISH VERB. No effort should be made to master the principles of pronunciation, accent or grammar therein set forth. Attention should be concentrated on acquiring readiness and facility in recognizing and selecting the proper forms of the verbs, regular and irregular. Without such precise and ready knowledge, the course in Spanish will prove to be difficult, and the degree of conversational fluency attained will be small. With the mechanism of the verb in possession of the student before the beginning of the course, the mastery of the grammatical principles and the acquisition of some accuracy and fluency in conversation may be hoped for in the short course of sixty-four conferences.

THOMAS G. HANSON,  
*Major, Infantry,*  
*Senior Instructor.*

APPROVED:

R. D. POTTS,  
*Brigadier General, U. S. A.*  
*Commandant.*