

PROGRAM OF INSTRUCTION AND COURSE OF STUDIES.

(Including changes effective September 1, 1984—June 4, 1985)

85. Program of the course of instruction:
 First term, September 1 to December 22; 95 periods with Saturday recitations and 80 periods without Saturday recitations.
 Second term, January 2 to June 4; 130 periods with Saturday recitations and 109 periods without Saturday recitations.
 Semi-annual examination, December 26 to 31.
 Annual examination, June 5 to 12.
 Academic day, 7.55 a. m. to 11.55 a. m. and 1.00 p. m. to 3.00 p. m.
 Military exercises, all classes, from 3.15 p. m. to 5.14 p. m.
 Supervised athletics, from 3.15 p. m. to 4.25 p. m.
 Voluntary study hour and additional instruction 5.10 to 6.10 p. m.

Class.	Subject.	Attendance.	Part.	Hours.
Fourth. (1st year)	Mathematics...	Whole class daily.....	Half..... Half..... Half..... Half.....	7.55 to 9.25 Sept 1 to Jan. 31 9.25 to 10.55 Sept. 1 to Jan. 31 7.55 to 9.15 Feb. 1 to June 4 10.35 to 11.55 Feb. 1 to June 4
	Gymnasium. ...	Whole class daily.....	Half..... Half.....	9.25 to 10.10 Sept. 1 to Jan. 31 10.55 to 11.40 Sept. 1 to Jan. 31
		Half class daily alternating in attendance with Drawing Feb. 1 to June 4...	Fourth.... Fourth....	8.30 to 9.15 Feb. 1 to June 4 9.15 to 10.00 Feb. 1 to June 4
	Drawing.....	Half class daily alternating in attendance with Gymnasium Feb. 1 to June 4.	Fourth.... Fourth....	7.55 to 9.15 Feb. 1 to June 4 9.55 to 11.15 Feb. 1 to June 4
	Laboratory....	When ordered, half class daily alternating in attendance with Gymnasium Feb. 1 to June 4.....	Fourth.... Fourth....	7.55 to 9.55 Feb. 1 to June 4 9.55 to 11.55 Feb. 1 to June 4
	French.....	Half class daily except Sat. alternating in attendance with English.....	Fourth....	1.00 to 2.00
			Fourth....	2.00 to 3.00
English.....	Half class daily except Sat. alternating in attendance with French.....	Fourth....	1.00 to 2.00	
		Fourth....	2.00 to 3.00	
Third. (2d year)	Mathematics...	Half class daily alternating in attendance with Physics.....	Fourth.... Fourth....	7.55 to 9.15 10.35 to 11.55
	Physics.....	Half class daily alternating in attendance with Mathematics.....	Fourth....	7.55 to 9.15
			Fourth....	10.35 to 11.55
	Laboratory....	When ordered, half class daily alternating in attendance with Mathematics.	Fourth.... Fourth....	7.55 to 9.55 9.55 to 11.55
	History.....	Half class daily alternating in attendance with French.....	Fourth....	7.55 to 9.05
			Fourth....	10.45 to 11.55
	French.....	Half class daily alternating in attendance with History.....	Fourth....	7.55 to 9.05
Fourth....			10.45 to 11.55	
English.....	Half class daily except Sat. alternating in attendance with Drawing.....	Fourth....	1.00 to 2.00	
		Fourth....	2.00 to 3.00	
Drawing.....	Half class daily except Sat. alternating in attendance with English.....	Half.....	1.00 to 3.00	
Second. (3d year)	Philosophy....	Whole class daily.....	Half..... Half.....	7.55 to 9.15 10.35 to 11.55
	Laboratory....	As ordered.....	As ordered.	7.55 to 9.50
			As ordered.	10.00 to 11.55
	Chemistry and Electricity...	Whole class daily.....	Half.....	7.55 to 9.15
			Half.....	10.35 to 11.55
	Laboratory....	As ordered.....	As ordered.	7.55 to 9.50
			As ordered.	10.00 to 11.55
Spanish.....	Half class daily except Sat. alternating in attendance with Drawing Sept. 1 to Jan. 31, and with Tactics Feb. 1 to June 4.....	Fourth....	1.00 to 2.00	
		Fourth....	2.00 to 3.00	
Drawing.....	Half class daily except Sat. till Jan. 31, alternating with Spanish.....	Half.....	1.00 to 3.00	
Tactics.....	Half class daily except Sat., Feb. 1 to June 4, alternating with Spanish.....	Fourth....	1.00 to 2.00	
		Fourth....	2.00 to 3.00	

Does math have Sat rec.?

Whole class

half

1st yr Math

1st sem
95 per
x 90 min

8550 → 142.5 hrs

2nd sem
130 per
x 90 min

10400 → 173.3 hrs

315.8

total in 1st yr

2nd yr Math

80 min
x 225
x 1/2

9000 min → 150 hrs

Total Math hrs for core 465.8

80/95
109/130

189/225

Typical 1st yr. Fall Sched

7:55-9:25 Math 90min
10:55-11:40 Gym 105

1-2 Fr/Eng 60
255

Typ. 1st yr. Spring

7:55-9:15 Math 90 min
9:15-11:55 Gym/Draw/Lab

1-2 Fr/Eng 60

45/80/120

60

195/230/270

1/2 195 + 1/4 230 + 1/4 270 = 222.5

W. Pocat

1935

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PROGRAM OF INSTRUCTION AND COURSE OF STUDIES. (Continued)

Class.	Subject.	Attendance.	Part.	Hours.
First (4th year)	Engineering....	Whole class daily.....	Half..... Half.....	7.55 to 9.15 10.35 to 11.55
	Ordnance and Gunnery.....	Half class daily alternating with Eco- nomics and Government.....	Fourth.... Fourth....	7.55 to 9.05 10.45 to 11.55
	Laboratory....	As ordered.....	As ordered.	7.55 to 9.50 10.00 to 11.55
	Economics and Government....	Half class daily except last 28 days of Spring term (See Hygiene).....	Fourth.... Fourth....	7.55 to 9.05 10.45 to 11.55
	Hygiene.....	Replaces Economics and Government for last 28 days of spring term.....	Fourth.... Fourth....	7.55 to 9.05 10.45 to 11.55
	Law.....	Half class daily except Sat. alternating in attendance with Tactics and Riding	Fourth.... Fourth....	1.00 to 2.00 2.00 to 3.00
	Tactics and ... Riding.....	Half class daily except Sat. alternating in attendance with Law..... (Riding periods are 27 minutes each. For lectures and practical exercises in the afternoon periods, replacing the assigned recitation periods, law has half class from 1:45 to 3:00. For applicatory instruction in section room without study preparation the class attends in halves in law or tactics from 1:00 to 3:00.)	Fourth.... Fourth....	1.00 to 2.00 2.00 to 3.00

(1st Ind., W. D., A. G. O., 6/27/33—A. G. 361.05 West Point, N. Y.)

I morning sched

7:55 - 9:15 Engin 80

according
to orders

10:45 - 11:55 O+G/Econ, Gov/Hyg 70 or 115

10 - 11:55 O+G lab

II PM sched

1-2 Law / Tact + Ric 60

210 or 255

mean 232.5

W. Point
1935

1935 Froment
of file in use
sent by Mauldin

(file has
> 1 doc.)

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Hydraulics and hydraulic machinery.—Approximately 35 days are devoted to this subject which follows immediately upon the completion of thermodynamics and prime movers. The scope of the work is that given in *Hydraulics*, Daugherty, or *Textbook on Hydraulics*, Russell, fourth edition. The textbook work is supplemented by a series of laboratory experiments in the hydraulic laboratory covering such subjects as orifices, tubes, nozzles, weirs, pipe friction, sudden contraction and sudden expansion, various water-measuring instruments, gages, pumps, et cetera.

Aerodynamics.—Approximately 25 periods. The scope and extent of this subject are indicated by the text used, *Simple Aerodynamics and the Airplane*, Carter, fourth edition. The entire text including approximately 100 original problems is taken. Various Air Corps Information Circulars, *Aeronautical Magazines*, and publications of the National Advisory Committee for Aeronautics are used for reference.

Astronomy.—Approximately 10 lecture periods are devoted to this subject. The text used for reading assignments is *Elements of Astronomy*, Fath, latest edition, latest printing.

As the advanced and partial review work in each subject is completed, a series of written general reviews covering the entire subject is presented. All members of the class take the written general reviews. Upon the completion of the work of each term a final written examination is given on the work of that term to those cadets who have failed to meet the requirements of the course during the term.

DEPARTMENT OF MATHEMATICS

THIRD AND FOURTH CLASSES

57. The course in mathematics begins with daily recitations throughout the fourth-class year. It continues through the third-class year, alternating with physics.

In the first term of the fourth-class year, solid geometry is completed in alternation with algebra. In the second term, algebra is completed, followed by trigonometry and analytic geometry.

The third-class year is devoted to the study of differential and integral calculus, followed by a brief course in the method of least squares for selected sections.

The courses in algebra and solid geometry cover the subjects as generally taught in college, but the student is assumed to have mastered, before entrance, elementary algebra to include the progressions and the solution of the quadratic equation. Trigonometry includes the complete solution of plane and spherical triangles. Analytic geometry includes the discussion of the general equation of the second degree in the plane and the particular forms of the equation of the second degree in space.

The course in differential and integral calculus covers the ground of the usual college textbook, including briefly the subject of ordinary differential equations. The method of least squares, given to selected sections, includes the deduction of the facility curve, the formulae for the error, and the distribution of error.

Textbooks

Elements of Geometry—Phillips and Fisher	Elements of Analytic Geometry (Solid)—Smith and Gale
Advanced Course in Algebra—Wells	Differential and Integral Calculus—Granville, Smith, Longley
Elements of Plane and Spherical Trigonometry—Crockett	Integral Calculus—D. A. Murray
Logarithmic Tables—Newcomb	Method of Least Squares—Bartlett
Analytic Geometry (Plane)—Ziwet and Hopkins	

Books of reference for mathematics, mechanics, engineering: *The Engineers' Manual*, Hudson.

DEPARTMENT OF CHEMISTRY AND ELECTRICITY

SECOND CLASS

58. This department embraces the subjects of chemistry and electrical engineering, the latter including a short course in telephone and radio communication.

The object of the course is to teach cadets to think scientifically, to prepare them for work given in their first-class year, and to impart to them information which is of cultural and professional value.

uncertainty
Lab when ordered"

1935 WPT

1st year

2nd yr

Math	$90'' \times 95$ = 8550	$80'' \times 130$ = 10,400	A' $\frac{1}{2} \times 225 \times 80 = 9000$
Gym	45×95 = 4275	$\frac{1}{2} \times 130 \times 45$ = 2925	
Draw		$\frac{1}{4} \times 130 \times 80$ = 2600	C $\frac{1}{2} \times 189 \times 120$ = 11340
Lab		$\frac{1}{4} \times 130 \times 120$ = 3900	
French	$\frac{1}{2} \times 80 \times 60$ = 2400	$\frac{1}{2} \times 109 \times 60$ = 3270	B (included total shown in final box labeled B)
Eng	$\frac{1}{2} \times 90 \times 60$ = 2700	$\frac{1}{2} \times 109 \times 60$ = 3270	C $\frac{1}{2} \times 189 \times 60 = 5670$
Physics			A $\frac{1}{2} \times 225 \times 80 - \text{lab} (= 80 \times \frac{1}{4} \times 225)$ = 11250
Lab			$120 \times \frac{1}{4} \times 225 = 6750$
Hist			B $225 \times 70 = 15750$
	$\Sigma = 17625$	$\Sigma = 26365$	$\Sigma = 50760$
		$\Sigma = 43990$	

2925

' Time for this box included in time show in final box with this label

Lab *
Uncont

1935 N Point

3rd yr

4th yr

Philos $225 \times 80 - lab (\frac{1}{2} \times 225 \times 80)$
 $= 18000 - 9000 = 9000$

Lab $\frac{1}{2} \times 225 \times 115$
 $= 12,937.5$

Chem + El $225 \times 80 - lab (\frac{1}{2} \times 225 \times 80)$
 $= 18,000 - 9000 = 9000$

Lab $\frac{1}{2} \times 225 \times 115$
 $= 12,937.5$

Span $\frac{1}{2} \times 189 \times 60$
 $= 5670$

Draw $\frac{1}{2} \times 80 \times 120$
 4800

Technics $\frac{1}{2} \times 109 \times 60 = 3270$

$\Sigma = 57615$

Engin

$225 \times 80 = 18000$

Ordn + Gunn

$\frac{1}{2} \times 225 \times 70 - lab (\frac{1}{4} \times 225 \times 70)$
 $= 3937.5$

Lab

$\Sigma = 4152.5$

$\frac{1}{4} \times 225 \times 115 = 6468.75$

Econ + Gov

$(\frac{1}{2} \times 225 - 28) \times 70 = 5915$

Hyg

$28 \times 70 = 1960$

Law

$189 \times 60 =$

Text + Rid

11340

(split equally between
2 subjects)

W. Point 1935

7875

- Typical 3rd yr sched.

80

1/2	7:55 - 9:15	Philo		97.5
1/2	7:55 - 9:50	lab alternative as ordered	80/115	97.5
1/2	10:35 - 11:55	chem + EI	80/	
1/2	10 - 11:55	lab alter n, as ordered	80/115	97.5
1/2	1 - 2	Spacn		
1/4	1 - 3	Draw		
1/4	1 - 2	Tactics	60/120/160	75
			<hr/>	
			100 270 min	

Total 4 yrs.

43990

50760

57615

41152.5

193,517 min = 3225 hrs.

109 hrs.

Gym 120 } 336
 Mil/Sci 216 }
 Other Acad 2889