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COURSE CONTENT FOR PRE-FLIGHT AERONAUTICS IN SECONDARY SCHOOLS

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ABSTRACT

On the basis of several years teaching the War Training Service courses in aviation for military pilots, suggestions are given to high school teachers on course content and teaching procedure.

Since aeronautics is applied physics and mathematics, students should be urged to obtain as much work as possible in these fields. Teachers of aeronautics have been encouraged to obtain a background in the field by attending seminar courses in colleges. At present, the government has set up such a course at the State Teachers College at Mankato where 64 hours of work is given.

If possible, students should be taken to an airport where a plane can be carefully examined and the nomenclature studied as well as the function of its parts.

To date the best textbook in the field is "Science of Preflight Aeronautics for High Schools".¹ The "Flight Preparation Series"² of texts should form part of any high school library on aeronautics.

Navigation, because of its paramount importance in flight, should probably receive more emphasis than any other phase of the aeronautics course.

¹ Columbia University, Teachers College. Aviation education research group. 1942. Published by the Macmillan Company.

² This series is published by the McGraw Hill Book Company.

THE RELATION OF SCIENCE BACKGROUNDS OF
ENTERING COLLEGE FRESHMEN AND THE
GRADES RECEIVED IN FRESHMEN
PHYSICAL SCIENCE COURSES

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ABSTRACT

During the past seven years the freshmen entering the State Teachers College at Mankato have been required to take a Survey Course in Physical Science as part of the General Education background.

The author has taught this course and has kept a record of the Science and Mathematics backgrounds of the students as well as a record of the grades received by the students at the end of the course. This was done in order to determine what relationship there was between the grade the student received, and his High School background in Science and Mathematics.

The results of this study are shown in Table I. This table shows that a total of 932 students were enrolled during this period. Of this total, 74 received "A" grades, 8% of the total number. Of these 74 students, 57 had taken Chemistry in High School, 46 Biology, 64 Physics, 67 Algebra, 39 both Biology and Physics, 50 both Chemistry and Physics. There were no students who received "A" grades who had taken no Science or Mathematics courses in High School, but there were 12 students who had taken all the Science and Mathematics courses listed.

There were 228 students who received "B" grades. In this group of "B" students none had taken no Science or Mathematics courses and none had taken all of the Science and Mathematics courses listed.

In the "C" grade group 32 had taken all the Science and Mathematics courses while 5 had taken no Science and Mathematics courses.

The "E" grade group is rather interesting because 2 of the students who failed, had taken all of the Science and Mathematics courses in High School. There were 3 in this group who had taken no Science and Mathematics courses.

It is apparent that the students who had taken all of the Science and Mathematics courses in High School did not receive the highest grades since 12 received "A" grades, 32 "C" grades and 2 "E" grades.

The subject matter content in a Physical Science Survey Course is primarily Physics and Chemistry and referring to our table it may be seen that 50 of the 74 students, or 67.6%, who received "A" grades had taken these courses. Similarly 108 of 228, or 47.4%, of

TABLE I

Grade	Chemistry	Biology	Physics	Algebra	Higher Algebra	Biology-Chemistry	Biology-Physics	Chemistry-Physics	Physics-Mathematics	Number of Students	Number who took none of courses listed	Number who took all of courses listed	Per cent of total number Receiving A, B, C, D, & E.	
A	57	46	64	67	21	40	39	50	58	74	0	12	8 %	
B	163	143	145	210	62	107	93	108	128	228	0	0	24.4%	
C	255	245	174	375	100	143	107	95	153	417	5	32	44.7%	
D	93	107	41	158	32	58	25	17	39	177	0	0	19 %	
E	14	16	7	29	6	7	2	6	7	36	3	2	3.9%	
Total Number of Students											932			100 %

those who received "B" grades, 95 of 417 or 22.8% of those who received "C" grades, and 17 of 177, or 9.6% who received "D" grades had taken both Chemistry and Physics. This shows that there was a larger percentage of students who had taken Chemistry and Physics within the higher grade groups.

It is hard to draw any definite conclusions from this study at this time, but it is quite evident (1) that the students who had taken all of the Science and Mathematics courses in High School did not receive the highest grades, and (2) that within the "A" grade group was found the highest percentage of those who had taken Physics and Chemistry, and (3) that the percentage of those who had taken Physics and Chemistry decreased proportionately in the lower grade groups.

Further study is being planned.