AERONAUTICS AT THE UNIVERSITY OF ILLINOIS

THE University of Illinois announces that funds will be sought to create an airport adequate for instructional and research purposes.

The university has completed a free summer course for high-school instructors in aeronautics. The seventy men who took this course now are back at their schools giving secondary school pupils basic information about air power and its importance in war and peace.

Research at Illinois into air transportation problems will include study not only of the machines and the airports necessary for their use, but also of the men who operate and use them. Already allocated is a sum of $190,200 for initial building changes, equipment and installations to further a research and educational program on the influence of atmospheric environment, including the problems of aviation, submarine and military medicine.

The program of the College of Medicine in Chicago, in cooperation with the College of Engineering at Urbana, follows research projects under way since 1937 by the Colleges of Medicine, Agriculture and Engineering which concerned the influence of atmospheric environment on humans and animals.

To provide for actual "in-the-air" educational and research activities, President Arthur Cutts Willard has announced that his next budget request to the State Legislature will include an item of $200,000 for the purchase of a square mile of land at Urbana-Champaign for a university Class 3 airport capable of handling planes up to 50,000 pounds gross weight. Among the uses of the airport will be the Civilian Pilot Training program in which the university has taken part for several years, and probably the establishment after the war of an aviation unit in the university R.O.T.C.

In expanding its activities to education and research for air transportation, Illinois is continuing the service policy under which it was established and under which it has made important contributions to the two leading forms of land transportation—railways and highways.

As the state university of the nation's railway center and leading railway state, it established the first department of railway engineering, and its researches into roadbeds, rails, brakes, wheels, fuel and other railway subjects has contributed much to safe and fast trains.

Likewise, the university was a pioneer in the study and development of reinforced concrete. Its research contributions on the relative merits of butt welds and rivet stresses have proved important in ship building. Highway research has included not only the roadway and its problems, such as materials and joints, but also intensive study of bridges of all kinds both of steel and of concrete.

MICROFILM PHOTOGRAPHY

AIR conditioning is serving a useful role in helping to preserve and protect priceless documents against the hazard of bombing raids. Experience with microfilm photography in the Photographic Laboratory at Brown University shows that air conditioning is essential to this process, now in increasing use, as a means to guarantee against the loss of valuable records and documents.

"Microfilm requires precise control in processing if the results are to be reliable and permanent," according to Edward C. Roosen-Runge, in charge of the Brown laboratory. He states:

> In our laboratory the dark room, enlarging room and camera room are all air conditioned and kept summers and winters at 68° F. and 50 per cent. humidity.
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> The air conditioning serves three purposes: First, the air is kept dust free, which is of the greatest importance because of the smallness of the printed matter on the film. One dust particle on the film or one scratch caused by dust may obscure a whole word completely.
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> Second, the temperature control is a very essential help in obtaining even results in processing, quite apart from the convenience and comfort of the operators.
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> Third, the humidity control serves to keep a perfect storage condition for the film. In addition, it again helps toward a precise control of the processing and drying.

The Brown University Photographic Laboratory, employing Carrier refrigeration and air-conditioning equipment, is working on several microfilm projects. One of these involves microfilming for the expansion of the Brown Mathematics Library, already well-known throughout the country. About 1,000,000 pages have so far been photographed in this project. Another is concerned with the microfilm service for *Mathematical Reviews,* an abstract journal. In connection with the publication of this journal, the mathematical articles to be abstracted are photographed on microfilm. The subscribers to the journal may order at special rates copies of the complete articles either as photoprints or as microfilm. The photographic laboratory has made so-called master negatives of about 6,500 articles on film which are stored in the laboratory in a special file.

A project to film books on South American history and Hispanic culture at South American libraries forms another use for microfilm. The films are processed in South America and sent to the laboratory where copies are made. One complete copy is destined for the Library of Congress. More than 100 reels containing about 1,150 items have been photographed so far.