STATE universities are throwing their facilities into the array of helps now being given greenkeepers and green chairmen. Many state institutions have liberally and intelligently worked on turf problems with the greensmen of clubs within their territories and there is a growing tendency to send out S. O. S. cries to these authorities.

A vivid indication of the interest and value of state educational service to golf courses comes from Massachusetts. A special course of 10 weeks' duration is being conducted by the Massachusetts Agricultural college at Amherst with Lawrence S. Dickinson, assistant professor of horticulture in charge. There is a tuition fee of only $10 for this course, with a registration fee of $5. This course has been arranged in cooperation with the New England Greenskeepers club. There are only ten admitted to this course, which runs from Jan. 4 to Mar. 11. The students are limited to residents of Massachusetts and must have at least one year's experience on a golf course.

There are ten sections to the Massachusetts course. They cover motors, water systems, soil fertility, equipment, reference reading and record keeping, grasses and grass seed, cost keeping and analysis, individual problem, fundamentals of landscape arrangement and drainage. The description of the highlights of the course is given by Mr. Dickinson, who says:

"The course in motors covers all kinds of gasoline and internal combustion motors. It is an extremely practical course in which the men do a great deal of trouble hunting and overhauling of engines.

"The Water System course lays particular stress upon the flow of water through pipes. We find so many golf courses very poorly piped for their water supply, such inefficiency being due to improper connections, use of valves, and reducers. This course will also take up the flow of water through the sprinkler head and do actual work with water pumping. The class at the present time is designing an entire system for our model golf course which we have here at the college and an imaginary course for which they have been given topographical maps.

"Soils and Fertilizers' lays particular stress on the chemical properties of fertilizers, their reactions when mixed, their solubility, and their correct value according to analysis. Soils will be discussed extensively. The discussion will include the questionable value of feeding soil, and the proper test for acidity. The main effort will be to thoroughly discuss the proper method to seed and water the golf course.

"Equipment concerns the study of the major equipment used on course. I have something over two thousand dollars worth of equipment already loaned to me, and a considerable amount coming before the course is over. At present we are working on lawn mowers and we have been able to show the men a few unusual things that should govern the selection of a lawn mower.

"Reference Reading and Record Keeping is really an outlet for particular studies or questions that come up during the term. I am insisting upon the men keeping a very careful record and will give them a list of many references for future reading.

"Grasses and Grass Seeds lays particular stress upon the identification of the various grass seeds, comparative value in germination, the surprisingly great difference in grass seeds of the same species bought in the market, and the identification of grass growing in the turf. We have plots of these grasses growing in our green houses. The men already have some very valuable charts which we have worked out here, and they are at present working on some of their own.

"Fundamentals of Landscape Arrangement treats of trees, shrubs and walls. This particular course is divided into two parts. (1) Principles of Landscape Arrangement, particularly adapted to golf club houses. Desirable varieties of shrubs and trees and their adaptability to various soils and weather conditions. (2) Shrubbery pruning and fertilizing and road and walk maintenance.

"Individual problem. Each man is working on some particular problem of his own. They are obliged to report periodically and their report is listened to by
the members of the class. The work on this report is done under supervision and direction.

"Drainage is also quite well explained in the syllabus. We hope that they will have some practical work outside in this course. Weather permitting, they will have several thousand feet of drain to put in; that is, to lay the grade for.

"The course is filled to the limit and everybody seems to be happy. Personally I am more than gratified with the results, —cooperation of the greenskeepers, the manufacturers, and the seed houses is unusually good.

"We are having a number of outside speakers talk to the class and hold round-table discussions. For example, one week we have a landscape architect and two lawn mower specialists. We have booked a golf architect of country-wide fame, seedsmen (not seed salesmen), business managers and several other men."

Twelve Month Season Strains

THAT the humid nights, claimed by many to be responsible for brown patch, may not be the source of the evil after all, is the conclusion Edward B. Dearie, Jr., a prominent greenskeeper, says is being forced upon him by a comparison of the conditions in the eastern and central states with the conditions prevailing in California. Mr. Dearie, who is secretary of the Mid-West Greenskeepers' Association, is spending the winter in California and comments, "Bent seed has been sown on quite a number of courses, both new and old, and has given a beautiful turf, but I noticed our old foe, brown patch, on a number of these greens. At the San Pedro club greens showed brown spot right plain in January, in this land of sunshine and cold nights, so where is our Illinois humid night story going to stand?"

Other of Mr. Dearie's observations made during an inspection of approximately 30 courses in the Los Angeles district and southward to San Diego, concern the way in which the Californians are handling the difficult problem of maintaining courses in first class condition for 12 months a year play. He states:

"The 12 months' play makes the upkeep of the southern California clubs an unending job, that is being constantly studied by an earnest and able group of greenskeepers and chairmen. Probably the best tests of golf around Los Angeles are, in my opinion, afforded by the courses at the Lakeside Country club at Culver City and at El Caballero, the scene of the $10,000 open event. El Caballero is in splendid condition. All fairways have a beautiful stand of blue grass and the putting greens have a wonderful putting surface for a course two years old. These greens were sowed to bent.

"Greenskeeping in California has made remarkable strides in the last few years considering the soil conditions. No other state in the Union, I believe, presents such a variety of soil conditions. A wide diversity of geological formations are found in the state. The soils themselves range from those at the foot of glaciers to those in the midst of deserts. There are courses on meadows 6,000 feet above sea level, and some that border the burning sands of the sub-level plains. Naturally this wide range of soil conditions gives the California greensmen problems that often call for solutions greatly different from those that fit the cases of other courses in the not distant neighborhood. This has been one of the factors that delayed the general introduction of all grass courses to California.

"Irrigation is one of the weighty problems, due to the demand that the long playing season makes on the water supply. This constant watering makes Bermuda grass most prevalent on all of the fairways in southern California. This grass turns very brown in the winter. The later built courses are comparatively free