No time to attend college? – Learn Online

Russell Walsh explains the ins and outs of studying a foundation degree in sportsturf online.


Russell studying online.

I have been studying for a foundation degree qualification since September 2003 and will now try to give readers some insight into what is involved in trying to achieve this.

I am the Head Greenkeeper at Bacup Golf Club, in Lancashire. To study for a foundation degree on a full time basis would not have been feasible so when I saw the advert in the press about distance learning online I thought I'd give it a go.

I am now in my second year of study, with the course running for three years from September through to May. The learning material is put together by tutors based at Myerscough College although the students are registered at the University of Central Lancashire, based in Preston.

Students are given their own pass number to access the online learning material.

Once you have entered the site your home page informs you of the subjects of study on which you are enrolled. Last year's subjects were:

Soil science and land management.
Plant biology and physiology.
Golf course presentation and management.
Turfgrass establishment and maintenance.

On the soil science subject students were asked to take samples from a place of interest within their own golf course, or sports facility, as one of the projects. These samples were then sent to Myerscough College for analysis.

The results from hydrometer readings, sand fractions, content of organic matter present, soil potassium, soil magnesium, soil phosphorus and soil extract absorbance were then sent back to the students who would then enter their results in a logbook and various calculations and graphs were created to show the student what condition the soil was in and what classification their soil could be placed under, ie, clay loam, sandy loam, silty clay, etc.

Many calculations were performed to determine the characteristics of the soil from the site chosen by the student.

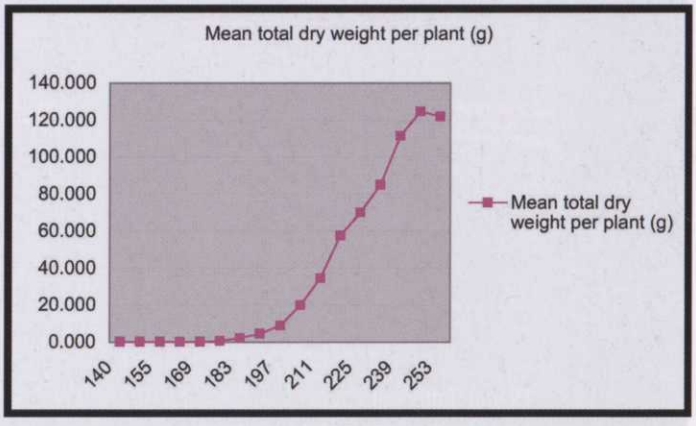
This was a very in depth study that lasted several months and it enabled the student to understand the soil type they were dealing with at their workplace and its condition.

A mock report on the chosen site's results was then written up under the headings of intended use, structural characteristics and textural associations, water characteristics and drainage, fertiliser regime and nutrient retention, liming programme and management considerations.

Plant biology and physiology was covered by the release of a series of session booklets that could be downloaded and printed for studying purposes, as was the case for each subject of study.

Assignments were set on the subjects of plant form and function, plant genetics, plant cells, plant chemistry and plant physiology. Each assignment was worth 20% of your final mark for the subject.

On the plant form and function subject we studied the external and internal structures of plants that included roots, stems, leaves, flowers and seeds and whether or not the plants were monocotyledons or dicotyledons.



We were asked to draw specimens of plant cells, with drawing definitely not being one of my strong points I managed to get by, after a little encouragement from the subject tutor.

In assignment two we were given a method of determining glucose and stored glucose (starch) levels in a leaf.

From the results that we were given we were asked to plot graphs and were also learnt how to calculate results using spreadsheets.

Some of the topics covered in golf course presentation and management were bunker development and design, facility types, mowing and manicuring and tournament preparation, to name but a few. The tournament preparation topic covered different levels of competition right from local club level through to national level.

I found this topic most interesting and learnt just how much

preparation goes into organising a top golfing event. The final section that was covered was turfgrass establishment and maintenance.

We learnt about turf quality, establishment of turf from seed, plant growth regulators, thatch development and management, soil compaction and aeration and fertilisation.

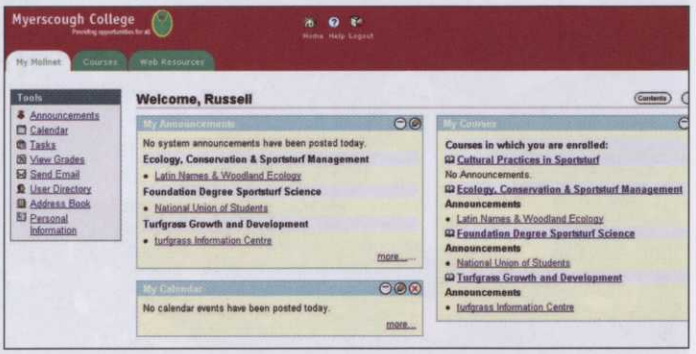
The fertilisation session booklet taught the students about the annual nutrient requirements of turfgrass, nitrogen release fertilisers, quick and slow release fertilisers and how they are released into the soil. The booklet explained, for example, that sulphur coated urea (slow release) is manufactured by spraying preheated granules with atomised molten sulphur. The majority of manufacturers seal the sulphur coating with a thin coating of wax.

A conditioner is also added to help the product absorb water, which will eventually break down the product over time after microbes have destroyed the wax coating. The thickness of the coating will determine the length of time the granules take to break down and release nitrogen.

Although I did enjoy the studies of the first year, the summer break was very welcome when the busy cutting season at work was in full swing.

This year's semester one consists of the following topics as shown on the sample homepage.

Cultural practices in Sportsturf.
Ecology, conservation and sportsturf management.
Turfgrass Growth and Development.



My homepage from the mollnet system showing this semester's subjects of study, on the right of the page.

The cultural practices in sportsturf session should prove quite interesting as we are at present studying engine types, fuel systems, lubricating systems, cooling systems, ignition systems and electrical systems of most engine types.

For the first assignment in this area of study we have been asked to carry out a critical appraisal of any item of groundcare machinery of our choice. This must include a minimum 2500 word document that can include photographs and drawings.

So far in the Ecology, conservation and sportsturf management section we have covered ecological principles, which includes scope of ecology and ecosystems - both land and aquatic.

It is intended that the students learn how to establish a conservation programme at their place of work. Sand dune ecology on links courses and grassland ecology have been studied as examples of a project that the students are expected to cover, as part of this section that must be in the form of a written document of a advisory brief that will inform the golf club committee to make decisions on conservation issues and an intended plan of action to help them carry these through.

Also, Health & Safety issues are to be covered in the brief.

In August of last year each student on the course was sent a package that contained many grass seed cultivars from several breeding companies.

These separate packets of seed were to be split into two and sown. One sample is to be kept cut at specified height and the other to be left to grow on.

These cool season grasses will then be used to help the students understand how turf grasses develop and grow and study morphological features that will help in identifying different sportsturf grasses.

At present we are studying warm season grasses that are best suited to temperatures of between 27 and 30°C. These grasses are widely used across North and South America, West Indies, Asia, Africa and some parts of Europe. We have learnt that the cool season grasses grow best at temperatures of between 16 and 24°C.

I do hope that this has covered the main delivery areas of the subjects and has been of interest to any persons considering studying for a foundation degree qualification as it has so far certainly helped me to understand a lot more about what is happening around me and under my feet at work!

A special mention must go to all the online tutors at Myerscough College who are always willing to help and Ransomes Jacobson for their continued financial support through BIGGA by helping students continue to learn more about our industry.

Part Six: Slow Release Fertilisers - Coated Slow-Release

The next stage of development in slow release 'technology' was the development of coating slow release granules or pellets of urea or other highly soluble sources of nitrogen (eg ammonium nitrate) with an impermeable coating. The coating prevents the wetting of the nitrogen source so that the release of nitrogen from the product is delayed even further, enhancing the longevity of the product.

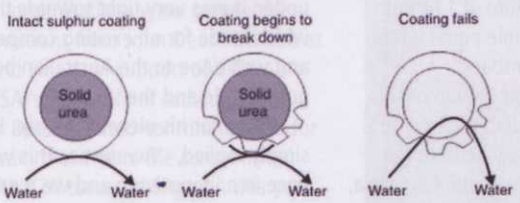
The most common types of coating are Sulphur Coated Urea (SCU) and Resin Coated Urea (RCU).

a) Sulphur Coated Urea (SCU)

This is manufactured by spraying atomised molten sulphur on preheated urea pellets or granules. The sulphur provides an insoluble barrier that prevents the immediate dissolution of urea. As the sulphur coating cools and solidifies, cracks, pinholes and imperfections develop. In most manufacturing processes, the sulphur coating is then sealed with a thin coating of wax, consisting of a combination of polyethylene and heavy weight oil. A conditioner, composed of diatomaceous earth (calcined diatomic silica material), is added to help reduce stickiness and to make the product hydrophilic (ready to absorb water). The final product contains 30-38% nitrogen, 13-22% sulphur, 2-3% sealant and approximately 2% conditioner.

Microbes will gradually destroy the wax coating of particles and expose the imperfections in the sulphur coating, allowing water to enter and enhance the speed of release of urea. SCU rapidly releases urea when water enters the particle through these cracks and imperfections.

SCU granules release urea into the soil when the sulphur coating finally fails, allowing water to dissolve the urea.



The thickness of sulphur coatings can vary amongst particles and in uniformity on individual particles. The thinness of the coating on any area of a particle will determine the release of nitrogen from it. Others will have a coating so thick and resistant that the urea remains locked in and unavailable for long periods of time.