Module Title **Experimental Molecular Biology for Nutrition** **Keywords** Cloning, DNA, Restriction Digestion, Southern blotting, PCR.	Reference AS3019 SCQF Level SCQF 9 SCQF Points 15 ECTS Points 7.5 Created February 2004 Approved September 2004 Amended August 2012 Version No. 4

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

Successful completion of Stage 2 of the course.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To provide students with the ability to carry out and evaluate laboratory work involving basic and advanced molecular biology techniques and procedures.

Learning Outcomes for Module

On completion of this module,

Indicative Student Workload

Contact Hours	Full Time
Contextual tutorials	3
Assessments	10
Computer-based Exercises	7
Directed Study	30
Laboratory Work	50
Private Study	
Private Study	50

Mode of Delivery

This module is laboratory based but will involve some computer based exercises and library work.

Assessment Plan

Learning Outcomes Assessed

students are expected to be able to:

1. Use safely and effectively, a range of molecular biology techniques and experimental procedures.
2. Evaluate experimental data, identifying sources of error and uncertainty.
3. Demonstrate initiative in problem solving.
4. Maintain a laboratory diary in which results and conclusions are recorded.
5. Write a detailed formal report, including references, demonstrating a full comprehension of experimental objectives.

Indicative Module Content

The laboratory programme will consist of a mixture of core and extended molecular biology experiments which may include restriction digestion, PCR, Southern blotting, gene cloning and DNA database searches. The core experiments are designed to introduce students to a range of advanced experimental techniques by introducing a variety of applications and secondly, allow students to develop time and task management skills. Students are expected to do background reading and conduct detailed literature searches on the

Component 1	1,2,3,4,5

Student performance is assessed through laboratory quizzes, lab conduct and formal written reports. Attendance at the laboratory sessions is compulsory.

Indicative Bibliography

1. WEYERS,J., REED,R.H., JONES,A. and HOLMES,D., 2012. *Practical Skills in Biomolecular Sciences.* 4th.ed.:Pearson Education.
2. MICKLOS, D.A. and FREYER, G.A. 2010. *DNA Science: A First Course.* 2nd ed. Cold Spring Harbor Laboratory Press
3. BROWN, T.A., 2016. *Gene Cloning and DNA Analysis: an Introduction.* 7th ed. Wiley-Blackwell.

experimental topics.