

Module: Programming 282

Module name:	Programming 282
Code:	PRG282
NQF level:	6
Type:	Core – Bachelor of Computing (all streams)
Contact time:	34 hours
Structured time:	6 hours
Self-directed time:	40 hours
Notional hours:	80 hours
Credits:	8
Prerequisites:	DBD281, PRG281

Purpose

In this course the student is expected to integrate all knowledge concerning programming learnt in prerequisite courses and to demonstrate the analysis, design, planning, implementation, platforms, database development, and application of good programming principles in development work. Students will also be able to implement the basic concepts and technologies involved in working with files.

Outcomes

Upon successful completion of this module, the student will be able to demonstrate:

- Detailed knowledge of ADO.Net and file I/O, including an understanding of and the ability to apply the key terms, concepts, facts, principles, rules and theories within an Object Oriented Programming environment and how these concepts relate to the pre-requisites as well as other areas.
- The ability to evaluate, select and apply appropriate methods, procedures or techniques in investigation or application processes within an ADO.Net software solution.
- The ability to identify and analyse database driven problems found in real world implementations and situations and providing solutions for this based on evidence and procedure as they pertain to the ADO.Net environment while remaining cognisant of industry standard practices and procedures.
- The ability to make decisions and act suitably based on data demonstrating an understanding of the relationships between the software system and data; formulating ideas of how a software system impacts another when working with data.

Assessment

- Continuous evaluation of work through 1 assignment.
- Continuous evaluation of work through formative tests and a summative test which assess the theoretical knowledge.
- Continuous evaluation of one project whereby the student must evaluate and present results on given problems.

- Final assessment through a written examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.
- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.








Teaching and Learning

Learning materials

Lecturer hand-outs and samples

Online prescribed sources

Prescribed books (EBSCO)

-  Christy, V. (2015) Programming in C#. New Delhi, India: Laxmi Publications Pvt Ltd.
 -  Ringler, R. (2014) C# Multithreaded and Parallel Programming. Birmingham: Packt Publishing (Professional Expertise Distilled).
 -  Miller, R. (2012) C# Collections : A Detailed Presentation. Falls Church, Va: Pulp Free Press.
 -  Santacroce, F. (2015) Git Essentials. Birmingham, UK: Packt Publishing (Community Experience Distilled).
 -  Olsson, A. and Voss, R. (2014) Git Version Control Cookbook. Birmingham: Packt Publishing.
 -  Pidoux, E. (2014) Git Best Practices Guide. [N.p.]: Packt Publishing.
 -  Bill Evjen, Scott Hanselman and Devin Rader (2009) Professional ASP.NET 3.5 SP1 Edition: In C# and VB. Indianapolis, Ind: Wrox (Wrox Programmer to Programmer).
- Learning activities

Learning activities

The teaching and learning activities are a blend of formal instruction and practical implementation of learned concepts. Classroom discussion as well as student intervention is based on observations done during contact time. One mandatory assignment and one project must be completed during the course. As students progress on these practical components, further avenues for learning are opened and focused on.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		27.0		13.0
Formative feedback		3.5		
Project	1	3.5		9.0
Assignment	1			3.0
Test	2		4.0	8.0
Exam	1		2.0	7.0
		34.0	6.0	40.0

Syllabus

- Advanced File I/O
- Advanced ADO.NET application
 - Command builders
 - Working with stored procedures
- Version Control with Git