

**AMITY GLOBAL INSTITUTE**  
**MODULE SYLLABUS**

Course	<b>Diploma in Computing</b>
Module Title	Problem Solving and Programming
Start Date	September 2018
End Date	September 2019
Syllabus / Content / Learning Outcomes	<p>On successful completion of the module students will be able to:</p> <p><b>Knowledge and Understanding</b></p> <ol style="list-style-type: none"> <li>a. Appreciate the principles and practice of analysis and design in the construction of robust, maintainable programs, which satisfy their specifications</li> <li>b. Design, write, compile, test and execute straightforward programs using a high level language; appreciate the principles of programming</li> <li>c. Appreciate the need for a professional approach to design and the importance of good documentation to the finished programs</li> </ol> <p><b>Subject specific skills</b></p> <p>On successful completion of the module students will have demonstrated their ability to:</p> <ol style="list-style-type: none"> <li>a. Use an appropriate programming language to construct robust, maintainable programs, which satisfy their specifications</li> <li>b. Design, write, compile, test and execute programs taking into consideration principles of programming</li> </ol> <p><b>Key Skills</b></p> <p>On successful completion of the module students will have had the opportunity to:</p> <ol style="list-style-type: none"> <li>a. Apply skills to enable the solution of problems with the construction of appropriate algorithms and a computer program</li> <li>b. Apply group-work skills to enable the solution of problems</li> </ol>
No. of Teaching Hours	<p>Teacher Managed Learning</p> <p>Eg : Lectures : 48 Hrs</p> <p>Student Managed Learning</p> <p>Eg : Tutorials, Seminars etc : 152 Hrs</p> <p>TOTAL = 200</p>
Teaching Methods	Lectures, tutorials, case-studies analysis, research journals and group discussion
Assessment Methods and Weightages	<p>Written Assessment 1 (1500 Words) – 50%</p> <p>Written Assessment 2 (1500 Words) – 50%</p>
Skills for Maximising Learning Outcomes	Reading and Research
Dates of Examination and Submission of Assignment	<p>Examination Period (not all modules have end-of-semester / year examinations)</p> <p>Indicative:</p> <p>January 2019</p> <p>September 2019</p>
Recommended Text & Reference	<ul style="list-style-type: none"> <li>• Anton Spraul - "Think Like a Programmer : An Introduction to Creative Problem Solving", No Starch Press</li> <li>• Nell Dale, Chip Weems and Mark Headington – "Programming and Problem Solving with Java", Jones and Bartlett Publishers</li> </ul>

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<b>Lesson No.</b>	<b>Learning Outcome</b>
1.	Understanding the Problem Solving Concepts and Planning Solutions
2.	Understanding and the Planning Solutions
3.	Problem Solving with Programming Structures
4.	Problem Solving employing Logic Structures
5.	Problem Solving Techniques by Decisions and Loops
6.	Arrays in Problem Solving
7.	Programming in Java
8.	Compilation, Testing and the Execution of Programs