



Davao del Sur State College
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Data Structure and Algorithms





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**A Course Pack for
BSIT, BSIS and DIT Students**

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PREFACE

In today's rapidly changing digital world, programming has become an essential skill for students pursuing careers in information technology and related fields. It is not only about writing code, but also about developing logical thinking, solving problems systematically, and creating efficient solutions for real-world needs. A strong understanding of how data is stored, organized, and processed is fundamental to becoming a competent programmer. For this reason, the study of Data Structures and Algorithms plays a vital role in the academic formation of future IT professionals.

This course pack is intended for first-year students enrolled in the Bachelor of Science in Information Technology (BSIT), Bachelor of Science in Information Systems (BSIS), and Diploma in Information Technology (DIT) programs. It is designed to cover 18 weeks of study and to provide students with a clear, structured, and meaningful guide in understanding the essential concepts of data structures and algorithms. The lessons are arranged in a progressive manner, beginning with foundational ideas and moving toward more advanced topics. Each lesson includes not only theoretical discussions but also practical examples, activities, and programming exercises using Java to strengthen understanding and application.

More than a collection of learning materials, this course pack is prepared to serve as a reliable academic companion throughout the semester. It aims to help students build confidence in problem-solving, improve their analytical thinking, and develop discipline and persistence in program development. It is hoped that this material will not only enhance technical knowledge but also inspire learners to appreciate the value of careful thinking and continuous practice in the field of computer programming.

May this course pack serve as a useful companion as you explore, practice, and grow in the field of computer programming.

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