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Laboratory Manual for ENSC 601 – Surveying

COLLEGE OF ENGINEERING AND TECHNOLOGY (CCET)
Department of Agricultural and Biosystems Engineering (DABE)
Matti, Digos City

Bachelor of Science in Agricultural and Biosystems Engineering

LABORATORY MANUAL
For
ENSC 601: Surveying

2026

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PREFACE

The ENSC 601: Surveying lab manual has been created to aid students pursuing a Bachelor of Science in Agricultural and Biosystems Engineering, combining theory with hands-on practice. This manual aims to enrich what students learn in the classroom by offering practical activities that deepen their grasp of key surveying concepts and how they apply to agricultural and biosystems engineering.

When it comes to engineering, surveying plays a crucial role, especially in the planning, designing, and overseeing of agricultural infrastructures like irrigation systems, farm roads, drainage systems, and land development initiatives. This guide helps students learn how to properly use surveying tools, gather data, follow field protocols, and analyze information, all of which are essential for making accurate measurements and maps.

The exercises in this manual are designed to build skills in basic and advanced surveying techniques. These techniques include distance measurement, leveling, traversing, area determination, and contour mapping. We focus on accuracy, precision, proper documentation, and interpreting results. These skills are essential in real-world engineering practice.

This manual aims to foster teamwork, critical thinking, and problem-solving skills among students through group fieldwork and lab analysis. We also incorporate safety practices, ethical concerns, and professional standards into each activity to prepare students for their future roles as engineers.

We hope this laboratory manual will be a useful learning tool. It should guide students in achieving technical skills and a greater understanding of surveying as an important resource in agricultural and biosystems engineering.

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