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Laboratory Manual for ABE 621

**DESIGN AND MANAGEMENT OF AB PROCESSING
SYSTEMS**

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LABORATORY MANUAL for ABE 621: DESIGN AND MANAGEMENT OF AB PROCESSING SYSTEMS



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PREFACE

This laboratory manual is developed to provide students with a comprehensive guide in the execution of laboratory activities outlined in the CHED Memorandum Order No. 94 Series of 2017 for the Agricultural and Biosystems Engineering program under the subject "Design and Management of AB Processing Systems".

This manual contains a series of activities that help students understand the basic concepts of chart symbols, the process of operation charts, flow process charts, as well as the evaluation and revision of these tools, and enhance their competencies in process development, analysis, planning, optimization, and analytical thinking skills in the context of their course discipline.

This manual begins with guidelines on laboratory safety to ensure that all activities are performed in a safe and controlled environment. It then proceeds to practical activities where students can apply their knowledge to real-life situations. Each activity was carefully structured to ensure that students understand and gain knowledge progressively, from simple chart development to more complex activities such as activity relationship diagrams and a case study of an agricultural and biosystems plant.

Through this manual, the students are expected to gain a greater appreciation of the importance of systematic process design and optimization. This will prepare them for professional practice by simulating actual engineering scenarios. Lastly, this manual serves as a guide to help students become competent, responsible, and innovative future engineers.

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Disclaimer Statement:

This laboratory manual is made for educational uses only. The authors have made every effort to acknowledge the sources and references used in the preparation of this manual; however, some citations may have been unintentionally omitted. Users of this manual are encouraged to seek additional resources for further study.

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