

**A Knowledge-Based System for Recommending Program Plan
of Degree Programs in the Mindanao State University - Marawi**

**An Undergraduate Thesis
Presented to the
Faculty of Computer Studies Department
College of Information and Computing Sciences
Mindanao State University
Marawi City**

**In Partial Fulfillment of the
Requirements for the Degree of
Bachelor of Science in Computer Science
(Major in Software Engineering)**

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July 2023



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ABSTRACT

Academic advising is a critical component of the higher education experience, serving as a vital support system for students as they navigate their academic journey. The importance of effective advising in higher education cannot be overstated, as it directly impacts student retention, progression, and overall satisfaction with their educational experience. Adviser provides guidance to students on their academic, personal, and social matters. However, due to a large student population or a high student-to-advisor ratio, academic advisors face numerous challenges. One of these challenges is providing a quality advising experience under strict time constraints. Hence, the objective of this study is to design and implement a knowledge-based academic advising system that can recommend an academic program plan for the students specified in their enrolled curriculum.

This study highlights how knowledge-based systems can be useful in assisting humans in making decisions. A knowledge-based system is a computer program that uses a knowledge base with an inference engine to solve problems that usually require significant specialized human expertise. It embodies the problem-solving knowledge of a human expert in a narrowly defined domain, and it can extend that body of knowledge through its inference engine or query system.

The results obtained during the testing phase revealed that rules were meticulously executed, triggering an inference and producing outcomes based on the provided input data. Also, the evaluation of correctness and accuracy revealed the system's ability to generate the desired outcomes as it follows the designed rules in the knowledge base. Overall, the course recommendation system demonstrated its capability to adapt to various undergraduate degree programs and provide accurate and tailored recommendations. By streamlining the course selection process, it offers students a valuable tool to plan their academic journey efficiently and ensure timely completion of their degree requirements.

Keywords: *knowledge-based system, inference engine, domain expert*