

# Impact of instructional academic advising (AA) on student's cumulative grade point average (CGPA) in undergraduate education

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**ABSTRACT** – This paper discusses the strategies on improving undergraduate student's Cumulative Grade Point Average (CGPA) using an instructional guideline through an Academic Advising (AA) system for several different cohorts at the Faculty of Electrical Engineering, Universiti Teknikal Malaysia Melaka. The effectiveness of the instructional strategy was assessed from 2013 to 2021, for students with a conditional academic standing (KS). Based on Semester 1, 2014/2015 data, the total number of conditional academic standing (KS) was reduced from 58.70% to 17.39%, respectively. As a comparison, students achieving good academic standing (KB) from conditional academic standing (KS) increased by 56.52%. The similar instructional design was also applied to another cohort of students with conditional academic standing (KS) in 2019 for three consecutive semesters, whereby the results showed a significant improvement to good academic standing (KB) with CGPA above 3.00. As a summary, an earlier countermeasure was capable to increase students' Cumulative Grade Point Average (CGPA), and more effectively intervene at the beginning of their studies.

## 1. INTRODUCTION

Academic Advising (AA) is a system that is widely used in educational undergraduate education to coordinate the procedures of the academic advising and ensure it is implemented according to the teaching and learning needs in the university. Due to the learning system in the higher education is more flexible and intensive than school or colleges, therefore effective time management is crucial in undergraduate studies [1-3]. AA aims to aid students to excel and fulfil both aspects of soft skills and toward graduation with a good academic achievement. Each undergraduate student will be guided by an academic advisor who is an academician, who is appointed by the faculty administration. Because of the diverse educational systems among institutions of higher education, undergraduate students have the freedom to determine the number of credit hours to be taken based on their Cumulative Grade Point Average (CGPA), with the proper advice from their academic advisor. In the case where the student obtained a Conditional Academic Standing (KS) in the previous semester, he or she will then need to carefully plan the courses in the following semester. Such students must be fully aware on their CGPA implication to their study period in the university. Thus, AA is a useful program that supports student in the

institutions of higher education, and it will be able to assist students to make judgments in line with their program educational outcome. Therefore, in this paper the impacts of an instructional academic advising on a student's Cumulative Grade Point Average (CGPA) are discussed particularly for an undergraduate student with a Conditional Academic Standing (KS).

## 2. METHODOLOGY

In this paper, an instructional strategy was assessed from 2013 to 2021, for students with a conditional academic standing (KS). Figure 1 shows the statistic of two academic standing, i.e. (a) conditional academic standing (KS) and (b) fail academic standing (KG), for three (3) semesters as follows:

- Semester 1, 2013/2014
- Semester 2, 2013/2014
- Semester 1, 2014/2015

From Figure 1, the graph shows the increasing numbers of students for three (3) consecutive semesters which was a challenging issue. Therefore, an instructional strategy to improves student CGPA as shown in Figure 2 was established and implemented in Semester 2, 2014/2015. The instructional strategy comprises of five (5) steps, which must be advised step-by-step by their academic advisors. The most crucial steps for students with a conditional academic standing (KS) with a CGPA between 1.70 to 1.99 is that they need to retake the course that they obtained a failure status (grade E) and/ or courses that they received a repeat status (grade  $\leq$  C-), immediately once it is available for them to register. The instructional strategy shown in Figure 2 is a procedure for students to improve their CGPA in a systematic approach.

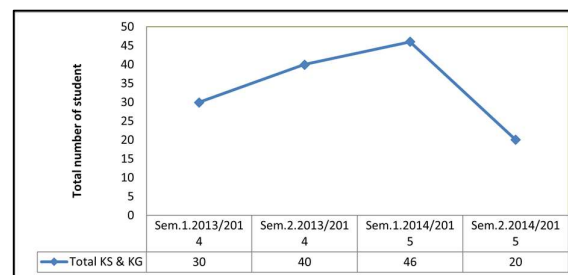


Figure 1 Statistic of academic standing KS & KG for four (4) consecutive semesters from 2013 to 2015.

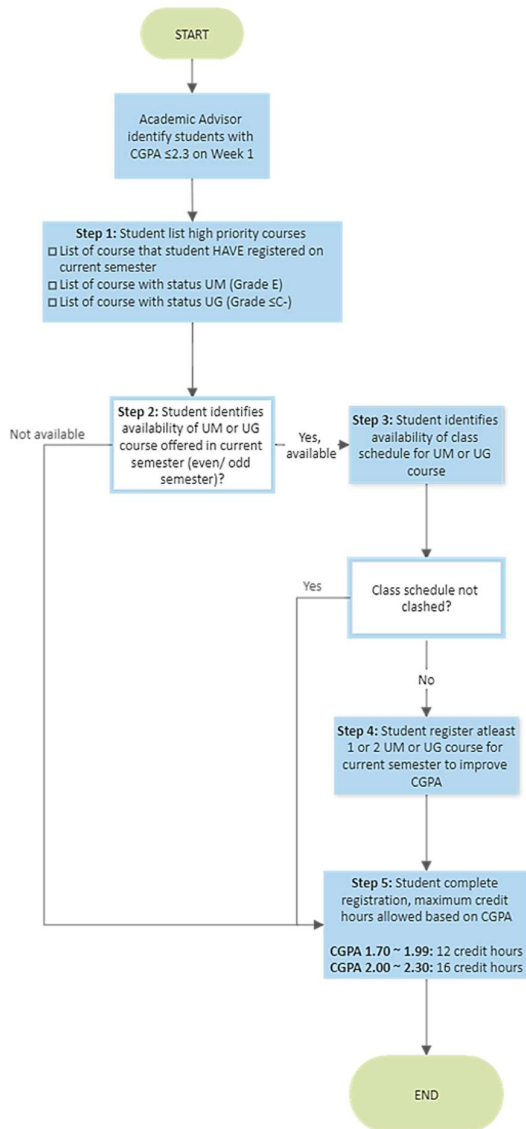


Figure 2 Instructional strategy to improve student CGPA

### 3. RESULTS AND DISCUSSION

Based Figure 3 and Figure 4, the total number of conditional academic standing (KS) was reduced from 58.70% to 17.39%, from Semester 1, 2014/2015 to Semester 2, 2014/2015, respectively after implementation of the instructional strategy. As a comparison, students achieving good academic standing (KB) increased by 56.52%. The similar instructional design was also applied to another cohort of students with a conditional academic standing (KS) in Semester 1, 2019/2020 for three consecutive semesters as shown in Figure 5. As expected, the results also showed a significant improvement to a good academic standing status (KB) with CGPA above 3.00. As a summary, an earlier countermeasure was efficient to increase students' Cumulative Grade Point Average (CGPA), and it is a more effectively intervention from the beginning of their studies.

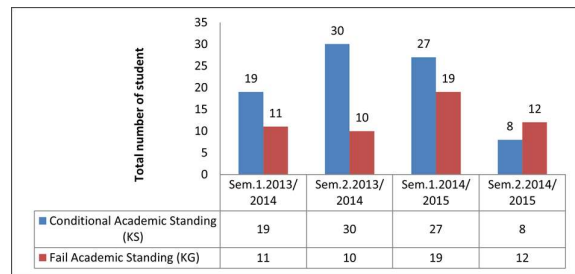


Figure 3 Detail statistic of academic standing KS & KG for four (4) consecutive semesters from 2013 to 2015.

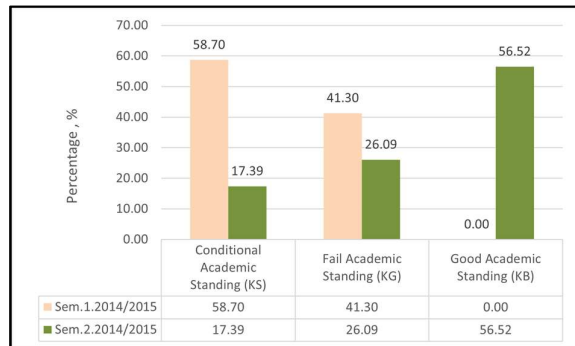


Figure 4 Improvement of student CGPA for Semester 2, 2014/2015

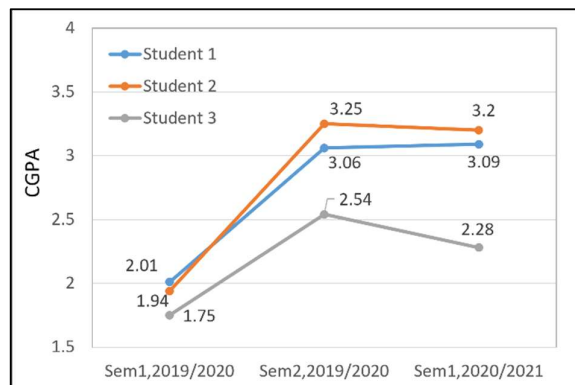


Figure 5 Statistical improvement of academic standing from KS to KB for three students, in consecutive semesters from Semester 1, 2019/2020 to Semester 1, 2020/2021.

### 4. CONCLUSIONS

In conclusion, the instructional design was successfully implemented and verified to two different cohorts, and the results showed a significant improvement of students' CGPA to a good academic standing (KB). The results also showed that an earlier intervention by Academic Advising (AA) system was capable to rise students' CGPA to above 3.00 point.

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