



جامعة الملك خالد
KING KHALID UNIVERSITY

Department of Electrical Engineering

PLO Assessment Report

Year: 2022-2023

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Introduction

Assessment of the outcomes is planned at the end of each year. Difficulties in the assessment of course outcomes are discussed with the concerned faculty member contributing to the measurement of the outcomes.

1.1. Assessment cycle

Our assessment process cycle is planned to go through the following phases:

1. Measurements
2. Analysis of results
3. Recommendations
4. Actions

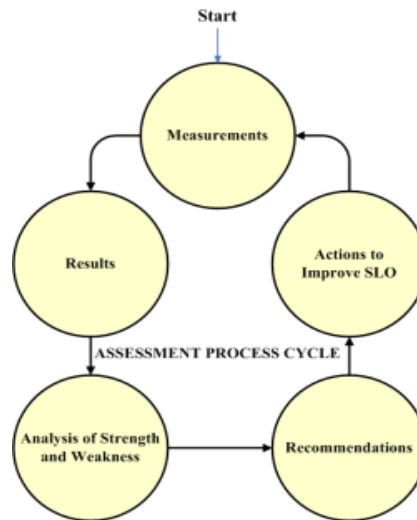


Figure 1 Assessment process cycle for assessing SOs

This is done through quality control process. The Quality Coordinator, is responsible for informing the individual faculty member for the following details:

1. Program learning that need to be measured at the course.
2. Measurement of the student outcome.
3. Suggested assessment method.

4. Directions in how to write a short assessment report detailing the five assessment phases (measure, results, analysis, recommendations and actions).
5. Keeping samples of student work at the different levels.

1.2. Continuous Improvements

A number of post graduate courses are taken and the PLOs are assessed. The outcomes are typically measured using direct method and using the indirect methods such as surveys. The assessment typically contains four sections: (1) measurement, (2) analysis, (3) recommendations and (4) actions. In the measurement section, each of the student outcomes and the corresponding measurement method is outlined. The typical direct measurement methods are Mid-1, Mid-2, final exam, reports, assignments/projects and quizzes and faculty observations. In the analysis section, the measured data is analyzed to determine the strengths and weaknesses that are assessed. In the recommendations section, relevant improvements to enhance the course are suggested. The purpose of these recommendations is to improve the performance of the faculty and students for the next semester course. In the actions section, specific actions taken by the individual instructor and/or the department taken to improve student outcomes are informed to the concerned faculty. Stakeholders include Students, Alumni's, Employers, Faculties

The analysis, recommendations and actions taken to improve each course are also provided along with it. A target score for the above-mentioned procedure is set, based on the average scores obtained and considering the previous year target. The summary of results is discussed at the departmental faculty assessment meeting. Faculty recommendations are discussed, and the appropriate actions would be taken in the upcoming semester to improve the student outcome. Recommendations and actions are discussed and taken for each outcome separately.

Table-1: The program learning outcomes followed in the year 2022 to 2023 is given below:

Bachelors-EE Program Learning Outcomes (Satisfying NQF-KSA and ABET)

DOMAIN	PLO code	Outcomes	Teaching Strategies	Assessment Methods
		Knowledge and understanding		
K	K1	Broad in-depth integrated body of knowledge and comprehension of the underlying theories, principles, and concepts in electrical engineering and related discipline		
	K2	In-depth knowledge and comprehension of processes, materials, techniques, practices, conventions, and/or terminology in electrical engineering		
	K3	A broad range of specialized knowledge and understanding informed by current developments		
	K4	Knowledge and comprehension of research and inquiry methodologies	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • In class short quizzes
		Skills		
S		Skills (Cognitive skills)		
	S1	Apply integrated theories, principles, and concepts in various contexts, related to electrical engineering, profession, and related	<ul style="list-style-type: none"> • Lectures • Laboratories • Projects • Courses 	<ul style="list-style-type: none"> • Quizzes • Mid-term and final exams. • Tasks and mini projects • Presentations • Reports • Group Assignments • Group discussions • Presentations • Publications
	S2	Solve problems in various complex contexts in in electrical engineering and related discipline		
	S3	Use critical thinking and develop creative solutions to current issues and problems, in various complex contexts, in electrical engineering, profession, and related discipline		

Skills (Practical and Physical skills)

S4 Use and adapt advanced processes, techniques, tools, instruments, and/or materials in dealing with various complex practical activities

S5 Carry out various complex practical tasks and procedures related to electrical engineering, professional practice, or related discipline

Skills (Communication and ICT skills)

S6 Communicate effectively to demonstrate theoretical knowledge

S7 Select, use, and adapt various standard and specialized digital technological and ICT tools and applications to process and analyze data and information to support and enhance research and/or projects

**Values, Autonomy and Responsibility
Values and Ethics**

V1 Demonstrate integrity and professional and academic values when dealing with various issues.

V2 **Autonomy and Responsibility**
Effectively plan for and achieve academic and/or professional self-development, assess own learning and performance, and autonomously make

- Projects
- Discussions
- Reports
- Group Assignments
- Presentations
- Publications

- Projects
- Reports
- Group Assignments
- Reports
- Group Assignments
- Group discussions

V

v3

Collaborate responsibly and constructively on leading diverse teams to perform a wide range of tasks while playing a major role in planning and evaluating joint

- Discussions

- Presentations
- Publications

The graduate attributes of the program are given below. They are mapped PLOs. Hence the PLO measurement represent the indication of GAs too. Also, GAs are measured from survey results provided in the upcoming sections

GA-1: Scholarship of Knowledge

GA-2: Problem Solving

GA-3: Critical Thinking

GA-4: Usage of Modern Tools

GA-5: Communication

GA-6: Ethical Practices and Social Responsibility

GA-7: Independent and Reflective Learning

GA-8: Research/Investigation Skill

GA-9: Life-long Learning

Mapping matrix for new PLOs

Sl No	Course Code	Course Name																	
ELECTRICAL ENGINEERING COURSES			K1	K2	K3	K4	S1	S2	S3	S4	S5	S6	S7	V1	V2	V3			
1	211-EE-5	Electric Circuits 1	x				x	x		x	x								
2	221-EE-4	Electric Circuits 2	x	x			x	x		x									
3	222-EE-1	Electric Circuit Lab		x					x	x	x	x							
4	311-EE-4	Electrical Measurements	x	x			x		x		x								
5	312-EE-1	Electrical Measurements Lab		x					x	x	x	x							
6	313-EE-4	Logic Design	x	x					x										

7	314-EE-1	Logic Design Lab		x		x		x				x	x				
8	321-EE-4	Computer Programming	x	x						x	x						
9	322-EE-4	Signals and Systems	x				x		x	x							x
10	323-EE-4	Electromagnetics		x			x			x			x				
11	324-EE-4	Introduction to Microprocessors and Microcontrollers	x	x			x		x								
12	325-EE-1	Microprocessors and Microcontrollers Lab	x	x						x	x	x	x				
13	411-EE-4	Automatic Control	x	x			x										x
14	412-EE-1	Automatic Control Lab		x				x		x	x	x					
15	422-EE-4	Numerical Methods	x				x	x	x	x							
16	413-EE-4	Basics of Electronic Devices	x				x	x	x				x				x
17	414-EE-1	Basics of Electronic Devices Lab		x						x	x		x				
18	421-EE-4	Electromechanical Energy Conversion - 1	x				x	x	x						x		
19	512-EE-4	Digital Signal Processing	x				x	x		x	x						
20	513-EE-1	Digital Signal Processing Lab		x			x	x		x			x				
21	514-EE-4	Electric Power System	x	x			x			x							
22	515-EE-1	Electric Power System Lab		x					x	x	x	x					
23	423-EE-4	Analog Communications	x	x			x	x				x					

3	543-EE-4	Antennas and Wave Propagation	x				x				x						
4	544-EE-4	Communication Systems	x				x		x								
		EIECTIVE COURSES-EE Electronics Engineering															
1	551-EE-4	Electronic Instrumentation	x	x			x		x	x							
2	554-EE-4	VLSI Design	x				x		x								
3	556-EE-4	Solar Cells and Photovoltaic Systems	x														
4	554-EE-4	Embedded System Design	x				x	x	x								

A list of KPIs that are used in the SSRP (including NCAAA required KPIs)

Standard	KPI code	KPI	Description	Actual Benchmark	Target Benchmark	Internal Benchmark	External Benchmark	New Target Benchmark
-2- Teaching and Learning	KPI-P-01	Students' Evaluation of quality of learning experience in the program	Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey	3.48	3.8	4	NA	3.8
	KPI-P-02	Students' evaluation of the quality of the courses	Average students overall rating for the quality of courses on a five-point scale in an annual survey	3.52	3.8	3.5	NA	3.8
	KPI-P-03	Completion rate	Proportion of undergraduate students who completed the program in minimum time in each cohort	63.85%	70%	70%	NA	75%
	KPI-P-04	First-year students retention rate	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year	75.6%	70%	70%	NA	75%
	KPI-P-05	Students' performance in the professional and/or national examinations	Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any)	3.35	4	3.8	NA	4
	KPI-P-06	Graduates' employability and enrolment in postgraduate programs	Percentage of graduates from the program who within a year of graduation were: a. employed b. enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year	NA	NA	NA	NA	NA
	KPI-P-07	Employers' evaluation of the program graduate's proficiency	Average of overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey	3.4	4	4	NA	4
-4- Teaching Staff	KPI-P-8	Ratio of students to teaching staff	Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program	1:21	1:20	1:21	1: 14	1:20

	KPI-P-9	Percentage of publications of faculty members	Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program	32:30	31:31	31:31	NA	31:31
	KPI-P-10	Rate of published research per faculty member	The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year)	3:1	2:1	2:1	2:1	2:1
	KPI-P-11	Citations rate in refereed journals per faculty member	The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published)	5.9	5	5	5	5

PLO Analysis

The continuous improvement of the program is done through regular assessment methods and corresponding actions based on the recommendations. The review of Vision, Mission, and PEOs are done before self-study. The outcomes are reviewed and mapped during the curriculum revision or when the accreditation agency revises their student outcomes. We consider program learning outcomes of National Commission for Academic Accreditation and Assessment (NCAAA) benchmark. The assessment of various learning outcomes is done semester-wise. The results in the first two semesters of a particular year are analyzed, and an implementation plan is made and conveyed to the faculty. The recommendations and actions are made at two levels. For the courses, the course report conveys this information. However, at the program level, the annual program report (APR) summarizes the implementation plan with required recommendations. The APR summarizes the following points: 1. Analysis of Program Evaluation, which contains the strengths, areas of improvement, and the priorities of improvement. 2. Program Management's Difficulties and Challenges 3. Program Improvement Plan. The APR is available in the link: [Annual Program Reports](#).

At the end of each academic year, the academic development and quality committee of the department make the analysis of program evaluation and identify strength, weakness, areas

of improvement and the priorities. The difficulties and challenges faced program management and the improvement plans are also proposed and an Annual Program Report is prepared at the end of each year.

Various steps involved in this process are given below:

1. Collect and compile data: Compile all Direct and Indirect assessment results at Course Level and cascade to reflect Program level
2. Analyze the results: Faculty members should be the ones responsible for the analysis and interpretation of data and information. The results should be summarized in a meaningful way so that they can be reviewed and actions needed to improve the program can be decided upon. The results now need to be interpreted.

- **Method used for creating actual benchmark in PLO analysis:** The actual values of the PLOs are assessed through the course CLOs. Three levels of the grading are considered in the evaluation of CLOs. 1. Satisfactory (S) 2. Developing (D) and 3. Unsatisfactory (U). The corresponding scores assigned for them are S=5, D=3 and U=1. The CLOs are evaluated through various methods such as Quizzes, Assignments, HomeWorks, Mini Projects, Presentations, Discussions, Group tasks etc. Suppose N_S , N_D , N_U represent the number of students with satisfactory, developing and unsatisfactory score, respectively in the evaluation, then the actual benchmark is calculated as

$$Actual\ Benchmark = \frac{N_S * S + N_D * D + N_U * U}{N_S + N_D + N_U}$$

- **Target Benchmarks:** Initially, the target score is kept according to the average score obtained. The target scores are kept 5% above the average score. That is, Target = (1.05)*Average obtained in the initial phase. However, if the target is not met in the previous semester, the same target level from the previous semester is used for the evaluation.

Program Learning Outcomes Assessment Results

Direct Assessment (Actual, Internal and Target Benchmarks)

Academic Year: 2022-23

Outcome 1(S1): An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

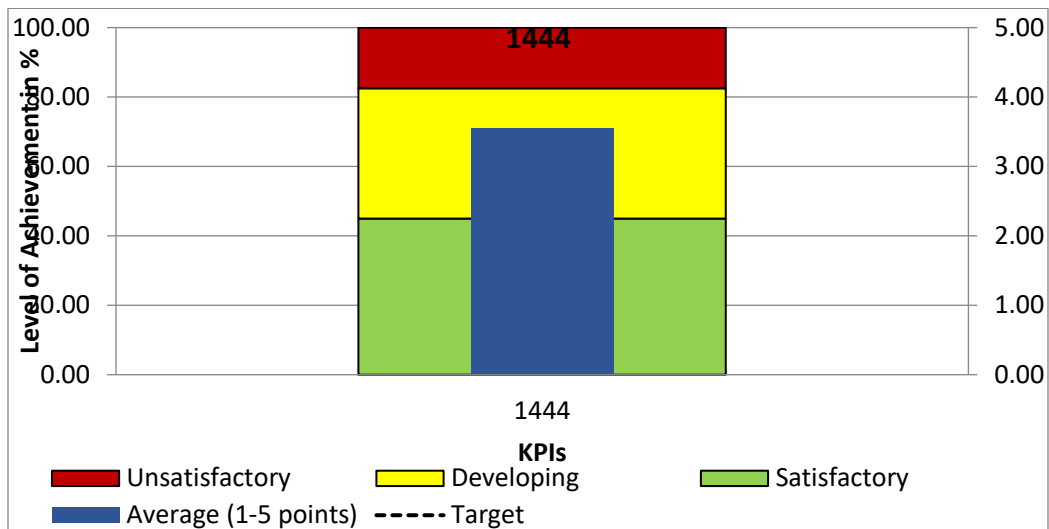


Figure 4. 1 Measurement of the Outcome-1 (2022-2023)

Target:	3.8	Measure SO	1	Level/Year	8/10
Course Code	211EE-5, 311EE-4, 413-EE-4, 324EE-4				
# Students (#samples)	Sem-441: 40				
	Sem-442:70				
	Sem-443:71				
Method:	Designated problems from the final exam/ assignments/tutorial/ homework, Faculty Observation, Lab exams	Results:	As shown in the Graph		
Analysis:	We can see that 70% of the students are able to identify and formulate the problems and there is an improvement to 80% in the second semester.				
Recommendations:	<ul style="list-style-type: none"> All kpi's are satisfying the target. The actions and recommendations in the previous semester can be continued. 				
Actions:	<ul style="list-style-type: none"> The actions and recommendations in the previous semester can be continued. 				

Outcome 2(S2,S3): An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

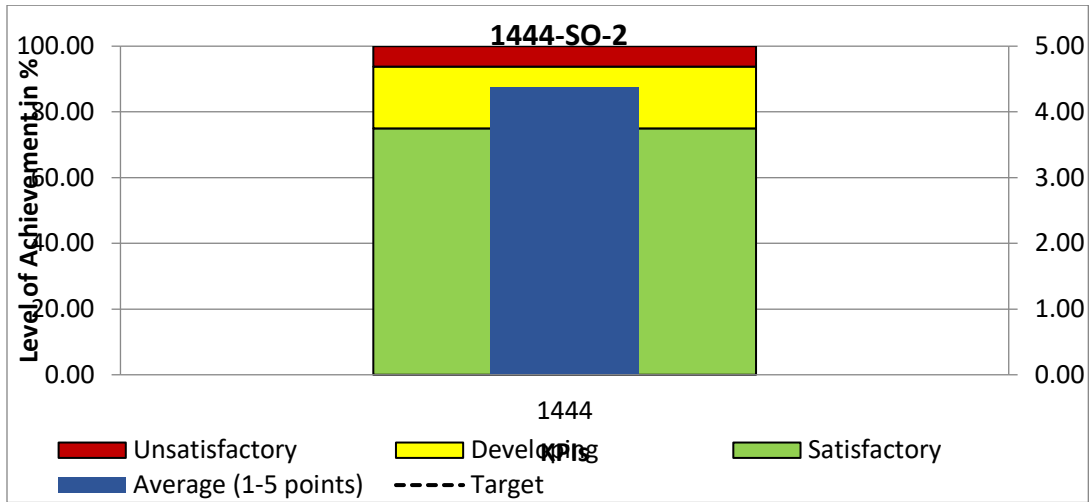


Figure 4. 2 Measurement of the Outcome-2 (2022-2023)

Target:	3.8	Measure SO	2	Level/Year	
Course Code	Courses from new plan: 413EE-3, 412EE-3, 322EE-3, 312EE-3 Courses from old plan: Nil				
# Students (#samples)	Sem-441: 24 Sem-442:19 Sem-443:40				
Method:	Designated Problems in Final Exams, Home Assignment, Faculty, Observation, Lab final Exam	Results:	As shown in the Graph		
Analysis:	It can be seeing that Outcome-2 hardly meeting the target. Also, the satisfactory has been increased in the second semester. It clearly indicates that the students previous strategies were helpful.				
Recommendations:	<ul style="list-style-type: none"> Faculty is advised to increase the target level and is advised to provide more information on experimental plan of data gathering and data documentation. 				
Actions:	<ul style="list-style-type: none"> Faculty is advised to provide more information on experimental plan of data gathering and data documentation, especially in the during the laboratory courses. 				

Outcome 3(S6): An ability to communicate effectively with a range of audiences

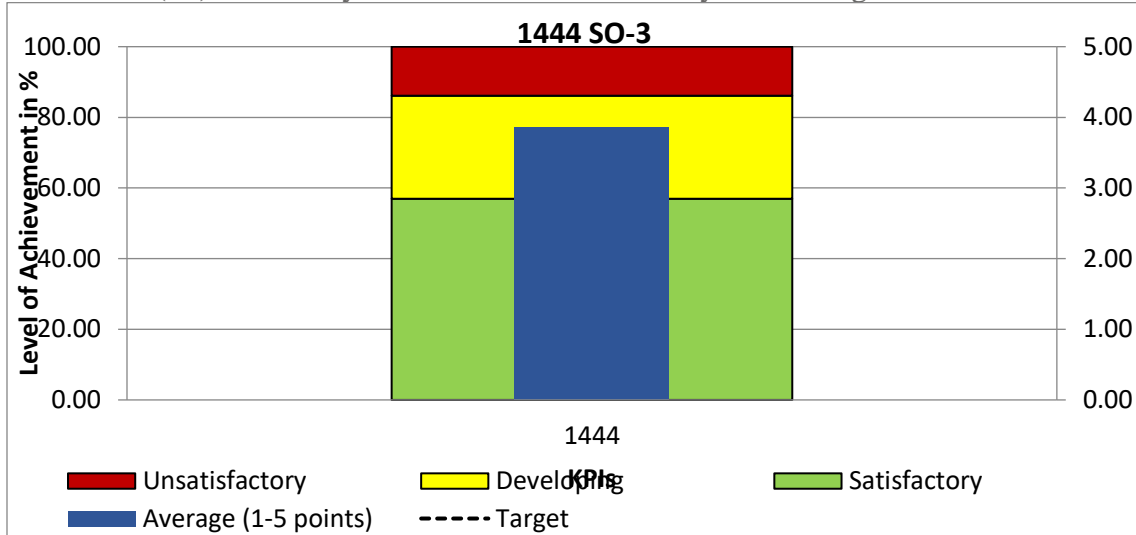


Figure 4. 3 Measurement of the Outcome-3 (2022-2023)

Target:	3.8	Measure SO	3	Level/Year	
Course Code	412EE-1, 314EE-1, 312EE-31				
# Students (#samples)	Sem-441: 22				
	Sem-442:24				
	Sem-443:28				
Method:	Lab final exam, Designated Problems in Final/Mid Exams, Home Assignment, Faculty Observation	Results:	As shown in the Graph		
Analysis:	Around 75% of students are in satisfactory level and it has been improved to 80%				
Recommendations:	Include classroom presentations on the topics related to the course and asses them.				
Actions:	Continue the practice recommended in the previous semester and include presentations on the topics related to the courses.				

Outcome 4(V1): An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

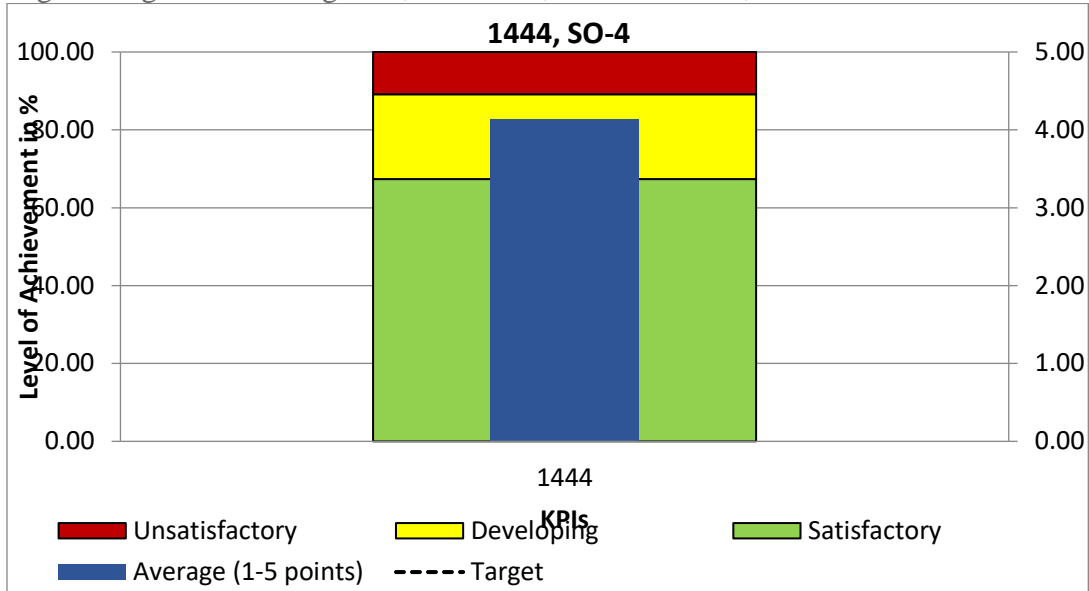


Figure 4. 4 Measurement of the Outcome-4 (2022-2023)

Target:	3.8	Measure SO	4	Level/Year	
Course Code	512EE-1, 571EE-2				
# Students (#samples)	Sem-441: 21				
	Sem-442:24				
	Sem-443:22				
Method:	Designated Problems in Final/Mid Exams, Home Assignment, Faculty Observation, Observation during theoretical session interaction	Results:	As shown in the Graph		
Analysis:	The performance of the satisfactory level for SO-4 has been improved from 75% to 80%.				
Recommendations:	<ul style="list-style-type: none"> It is suggested that the project supervisors can show the student outcome improvement through course deliverables. 				
Actions:	<ul style="list-style-type: none"> It is suggested that the project supervisors can show the course outcomes improvement through course deliverables. Advice the students to attend workshops conducted in the department. 				

Outcome 5(V2,V3) : An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

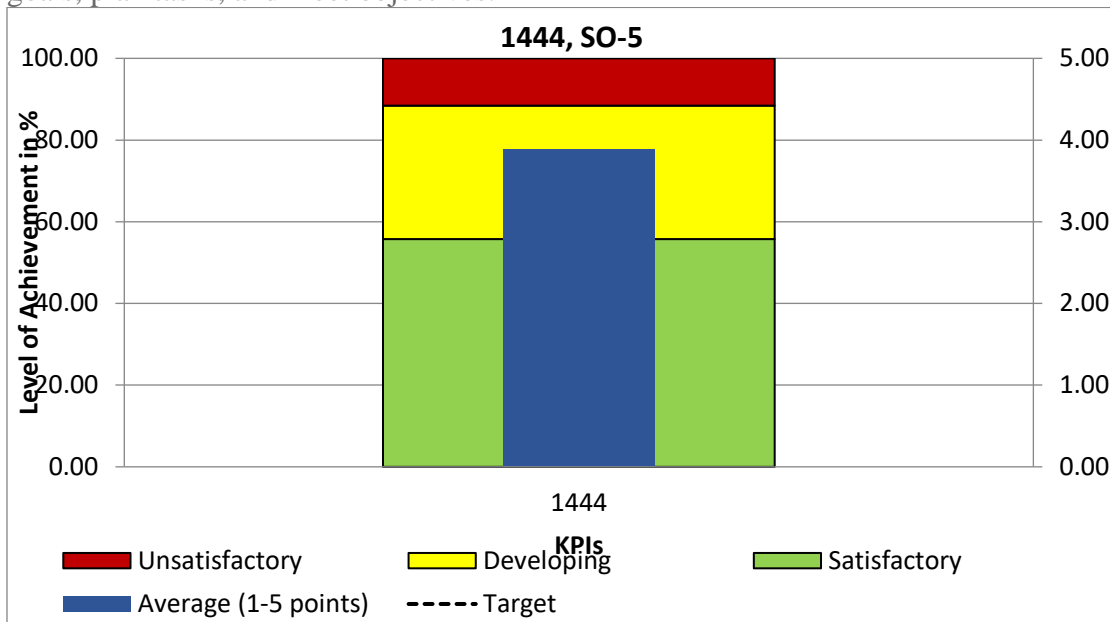


Figure 4. 5 Measurement of the Outcome-5 (2022-2023)

Target:	3.8	Measure SO	5	Level/Year	
Course Code	322EE-4 ,571EE-2				
# Students (#samples)	Sem-441: 16				
	Sem-442:21				
	Sem-443:35				
Method:	Graduation project, presentation/Evaluation//Group-Projects	Results:	As shown in the Graph		
Analysis:	The outcome-5 achieved the target in the first semester and it shows consistency in the second semester also.				
Recommendations:	<ul style="list-style-type: none"> More effective presentation and more exercises are needed to be incorporated. Encourage the students to collaborate with team members. Group projects in the courses can help the improvement. 				
Actions:	<ul style="list-style-type: none"> Faculty is advised to conduct more effective presentation and include group project wherever possible and evaluate them. 				

Outcome 6(S4,S5,S7) : An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
PLOs

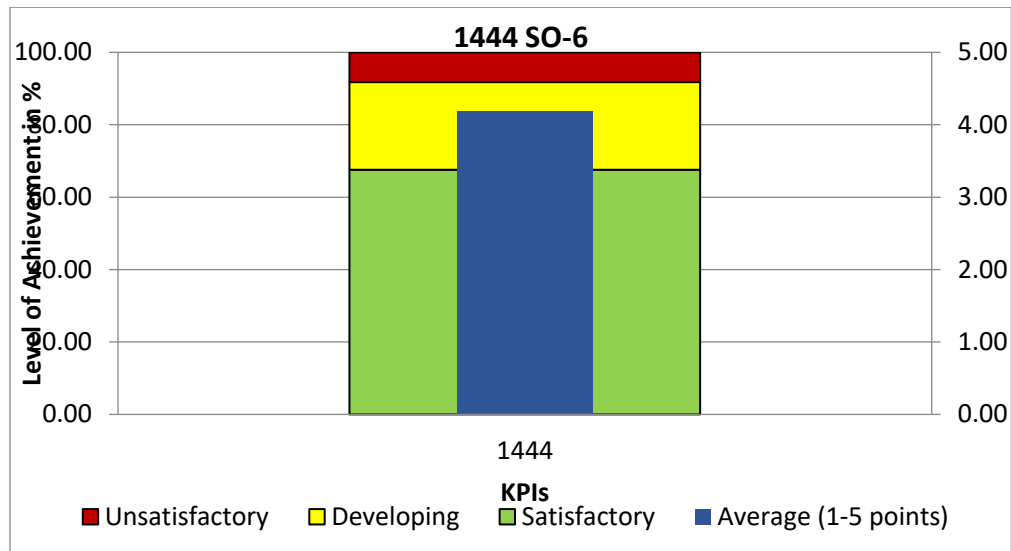


Figure 4. 6 Measurement of the Outcome-6 (2022-2023)

Target:	3.8	Measure SO	6	Level/Year
Course Code	211EE-5, 412EE-1, 325EE-1, 324EE-4, 322EE-4, 314EE-1			
# Students (#samples)	Sem-441: 35			
	Sem-442:21			
	Sem-443:70			
Method:	Lab final exam, Assignments/Mini projects	Results:	As shown in the Graph	
Analysis:	The outcome-6 achieved the target in the first semester and it shows consistency in the second semester also.			
Recommendations:	<ul style="list-style-type: none"> The faculty is advised to increase the target level. 			
Actions:	<ul style="list-style-type: none"> Continue the practice recommended in the previous semesters. 			

Outcome 7 (K1,K2,K3,K4,S2,S3): An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

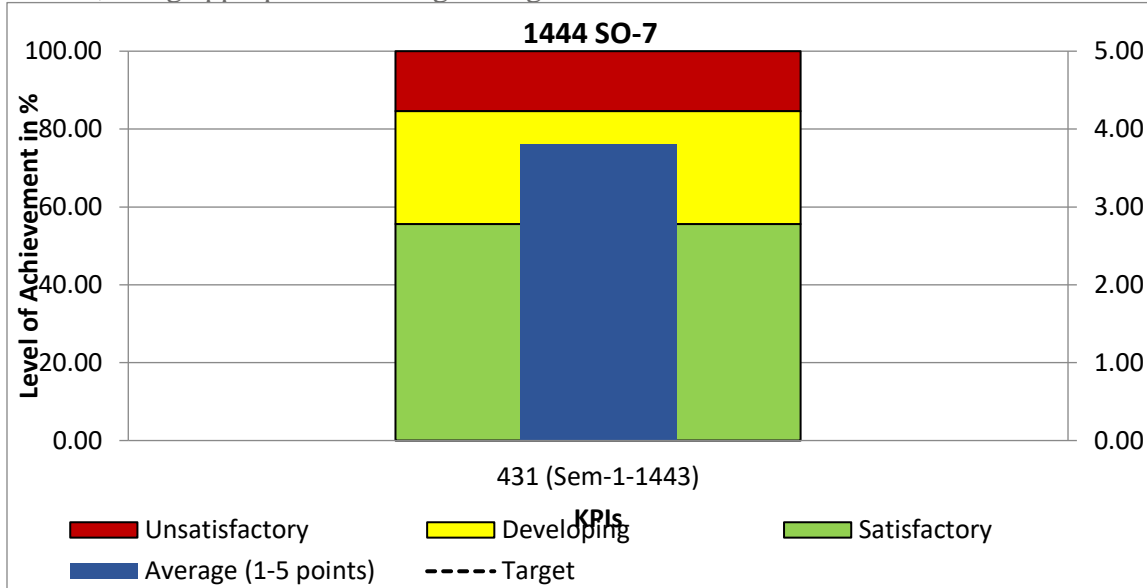


Figure 4. 7 Measurement of the Outcome-1 (2022-2023)

Target:	3.8	Measure SO	7	Level/Year	
Course Code	211EE-5, 311EE-4, 325EE-1, 324EE-4,				
# Students (#samples)	Sem-441: 34				
	Sem-442:28				
	Sem-443:60				
Method:	Designated Problems in Final/Mid Exams, Home Assignment, Faculty Observation	Results:	As shown in the Graph		
Analysis:	The outcome-7 achieved the target in the first semester, and it shows consistency in the second semester also. Giving a good result above 80% in second semester.				
Recommendations:	<ul style="list-style-type: none"> Continue the practice recommended in the previous semester. Enforce the students to read the articles related to the courses 				
Actions:	<ul style="list-style-type: none"> Continue the practice recommended in the previous semester and advice the students to read the standard text books related to the courses. 				

A number of required courses as a part of the continuous improvement process have been assessed for the first and the second semester of the year 2022-2023. The outcomes are typically measured using direct methods using CLOs. After the measuring process, each faculty in charge of the course is required to write a report based on their observations. The assessment report typically contains four sections: (1) measurement, (2) analysis, (3) recommendations and (4) actions. In the measurement section, each of the student outcomes and the corresponding measurement method is outlined. The typical direct measurement methods are mid exams, final exams, lab reports, assignments, quizzes and faculty observations. In the analysis section, the measured data is analyzed to determine the strengths and weaknesses that are assessed. In the recommendations section, relevant improvements to enhance the course are suggested. The purpose of these recommendations is to improve the performance of the faculty and students for the next semester course. In the actions section, specific actions taken by the individual instructor and/or the department taken to improve student outcomes are informed to the concerned faculty. As far the individual courses are concerned a summary can be found in [Course Reports](#)

Summary of Recommendations

- Additional activity in mathematics related to the course.
- Importance and contribution of concepts in design strategies and considerations shall be explained to students.
- Students shall be trained to first read, understand and interpret the question, before solving. Why they are studying a concept and why they are solving a particular problem on a topic is also to be discussed in lab/tutorial class.
- Applications of scientific principles must be explained while solving problems.
- Numerical Problems will be discussed in lectures as well as in tutorials.
- Identify the weak students as early as possible
- The students were provided with previous year question paper and a discussion along with the revisions was conducted.
- Lack of self-study and regular study by students is one of the reasons, they try to learn only before exams. Hence, great motivation is required for the students to read the textbooks.
- Introduce evaluation methods in several parts throughout the semester by quiz/assignment/mid-1 and mid-2 so that students are involved in the subject throughout the semester and grades follow a normal distribution.
- Encourage students to learn simulation tools such as Matlab.

Indirect Assessment (Actual, Internal and Target Benchmarks), Course Evaluations (Survey)

Achievement of student outcomes is assessed indirectly based on data obtained each semester with course evaluation. This survey, among other data, is used to assess faculty teaching performance in the following areas:

- Course management and planning
- Teaching and interaction with students
- Evaluation and exams
- Personal features of the course's Instructor
- General evaluation of the course
- Guidance and support
- Learning resources
- Evaluation of learning
- Overall evaluation
- Open questions

Course evaluations produce a lot of data that our faculty finds to be as useful feedback to improve one or more of the course aspects. Furthermore, our faculty strives to consistently from year to year achieve excellence in teaching as perceived by our constituents.

Survey (BSc): Evaluation of the Course by Students -2022-23

Goals and objectives of the survey: Achievement of student outcomes is assessed indirectly based on data obtained each semester with course evaluation. This survey, Table 4.12, among other data, is used to assess faculty teaching performance in the following areas:

- Course management and planning
- Teaching and interaction with students
- Evaluation and exams
- Personal features of the course's Instructor
- General evaluation of the course
- Guidance and support

- Learning resources
- Evaluation of learning
- Overall evaluation
- Open questions

Course evaluations produce a lot of data that our faculty finds to be useful feedback to improve one or more of the course aspects. The charts below summarize the results. From these charts we see that our students find the required courses to be a worthwhile contribution to their curriculum. Furthermore, our faculty strives to consistently from year to year achieve excellence in teaching as perceived by our constituents.

Questionnaire of the Survey

Questionnaire Evaluation of the Course by Students

College:	Program/section:	level:	Academic year:
Course name:	Course no.:	Course Prof:	

Measures	Statements	Strongly agree	Agree	Not sure	Not agree	Strongly not agree
Course management and planning	1. Prof presented the course at its start (introduced the course- its objectives & topics- student support-books and references-student's evaluation)	5	4	3	2	1
	2. Basic books and references helping in the course study are available at the library	5	4	3	2	1
	3. What presented by the Prof was useful and updated (reading scripts, summaries, references,...etc.	5	4	3	2	1
	4. Connection and correlation between this course and other courses in the program (section) are explained to me	5	4	3	2	1
	5. Prof of the course learned about the students' previous information which support teaching of the new course	5	4	3	2	1
	6. implementation of the course and assignments were consistent with the baselines of the course as was planned at the beginning of semester	5	4	3	2	1
	7. Prof of the course discussed students' errors and corrected them	5	4	3	2	1

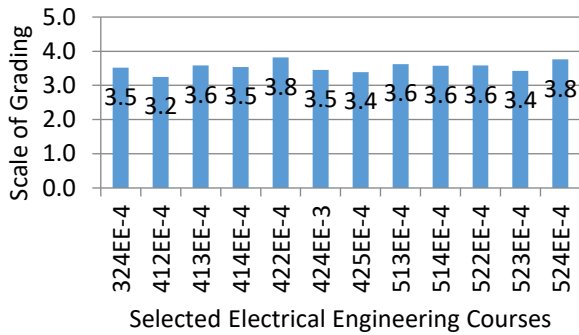
Teaching and interaction with students	8. Prof of the course encouraged me to raise questions and give opinion	5	4	3	2	1
	9. I felt appreciated by the Prof	5	4	3	2	1
	10. Prof of the course was keen to check the extent of understanding the course topics by the students	5	4	3	2	1
	11. Technology was effectively used to support the course	5	4	3	2	1
	12. Prof of the course used various teaching approaches	5	4	3	2	1
	13. Assignments and research projects assisted in the development of my knowledge and skills as targeted by the course	5	4	3	2	1
	14. Actual teaching hours are proportionate with the credit hours assigned for the course	5	4	3	2	1
	15. Research projects contributed to my acquisition of the scientific research skills	5	4	3	2	1
Evaluation and exams	16. Test questions of the course are commensurate with the teaching approaches and methods	5	4	3	2	1
	17. Means to evaluate students are varied (tests, activities, research projects, commitment and active participation in the classroom)	5	4	3	2	1
	18. Written test questions are varied (article questions, objective questions)	5	4	3	2	1
	19. Results of the quarterly tests and activities were announced in time by the Prof	5	4	3	2	1
	20. Prof of the course allowed for the students to review their test results	5	4	3	2	1
	21. Prof of the course explained to students their errors in the tests and how to correct them	5	4	3	2	1
Personal features of the course's Prof	22. Staff member is highly versed in the course content	5	4	3	2	1
	23. Prof of the course ran efficiently the classroom	5	4	3	2	1
	24. Prof of the course started and ended the teaching of the course while maintaining the same vigor and vitality	5	4	3	2	1
	25. Staff member abided to give the whole course (lectures started in time, he is present always, the use of educational aids)	5	4	3	2	1
	26. Prof of the course is characterized by impartiality and equity in the evaluation of students	5	4	3	2	1
	27. Prof of the course is a role model to his students as far as conduct and general appearance are concerned	5	4	3	2	1

General evaluation of the course	28. What I acquired in this course is important and will be useful to me in the future	5	4	3	2	1
	29. This course helped me a lot in enhancing my capacity to thinking and problem solution instead of only memorizing the information.	5	4	3	2	1
	30. This course helped me to improve my skills in working within one team and work groups	5	4	3	2	1
	31. This course helped me to enhance my ability to communicate effectively.	5	4	3	2	1
Overall evaluation	32. I feel satisfied in general for the quality level of the course	5	4	3	2	1
	33. I feel content at large for the quality level of the Prof performance	5	4	3	2	1
	34. What attracted you most in this course?					
Open questions	1- 2- 3- 4-					
	35. What had not satisfied you most?					
	1. 2. 3. 4.					
	36. What are your proposals to enhance this course?					
	1. 2. 3. 4.					

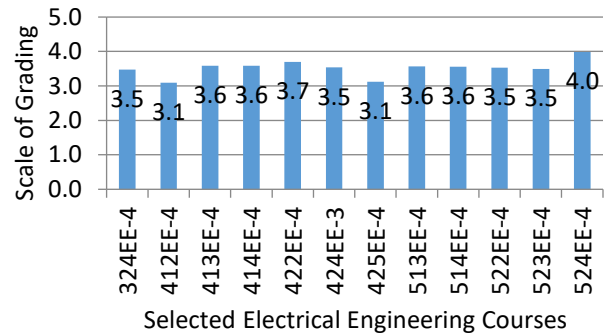
Course Evaluation Result-First semester of the year 2022/2023

A set of twelve courses are courses are evaluated and the average of the results is plotted as shown below.

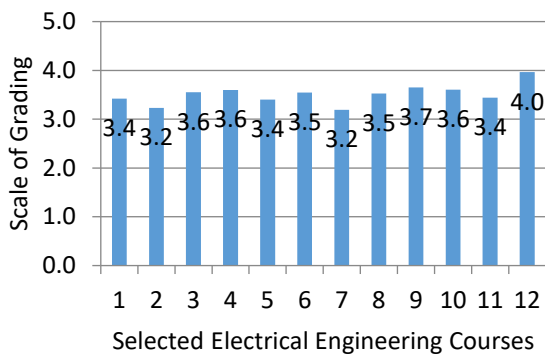
Course Management and Planning



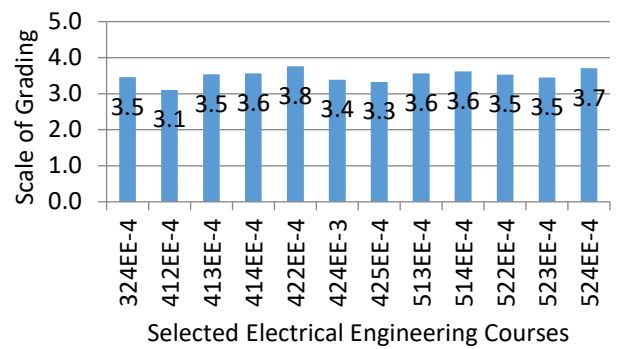
Teaching and interaction with students



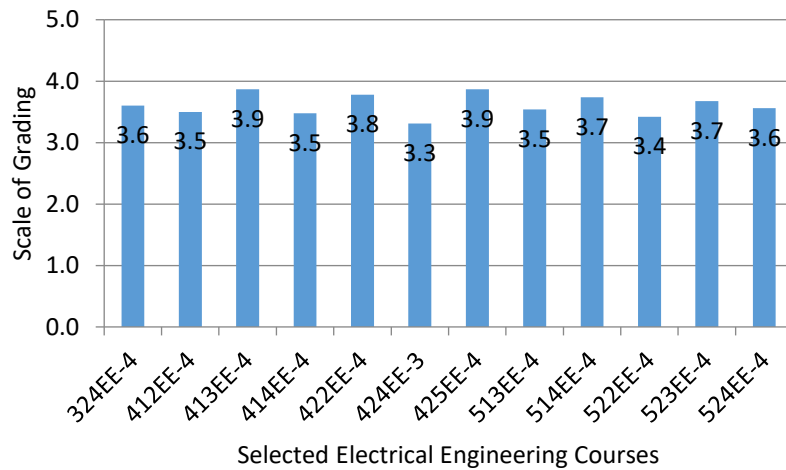
Evaluation and exams.

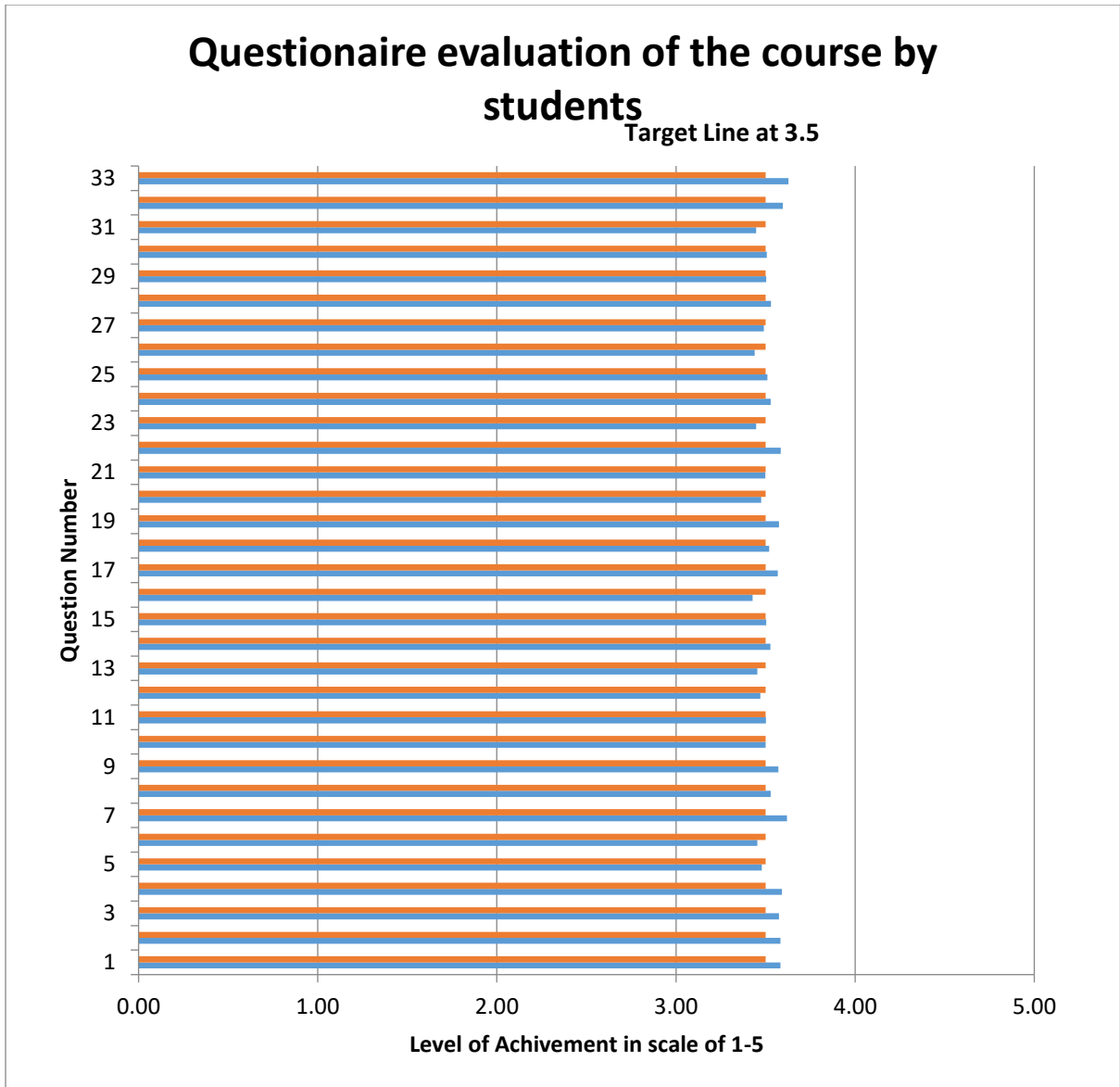


Personal features of the course's Prof



Overall Evaluation





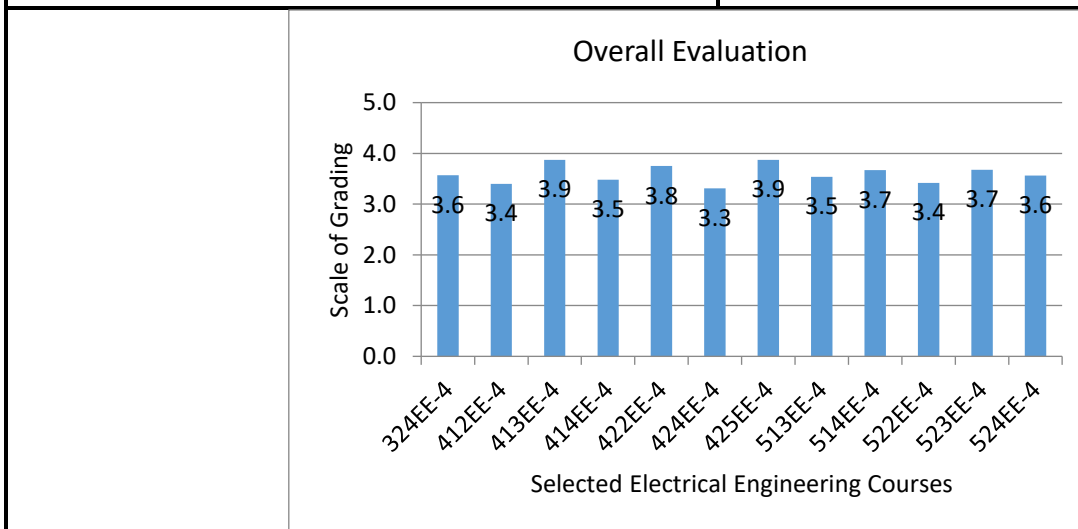
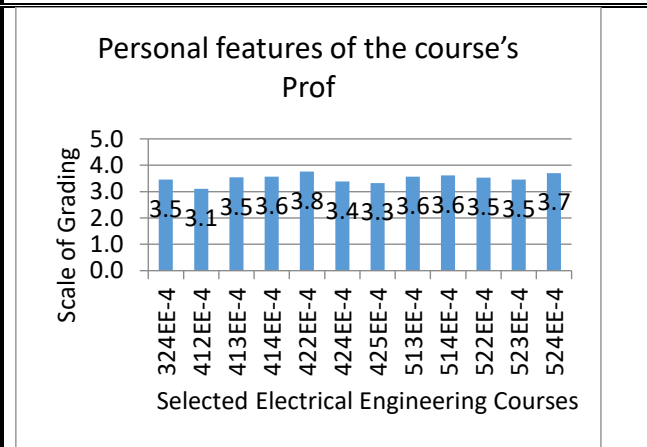
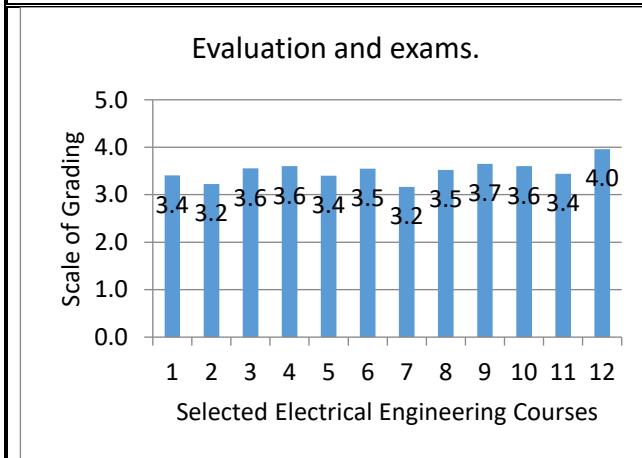
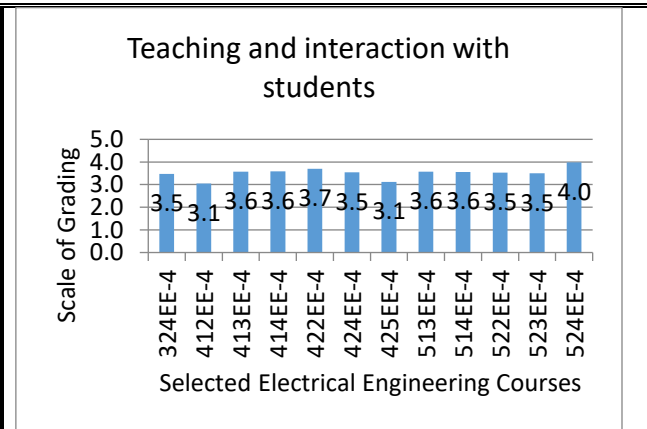
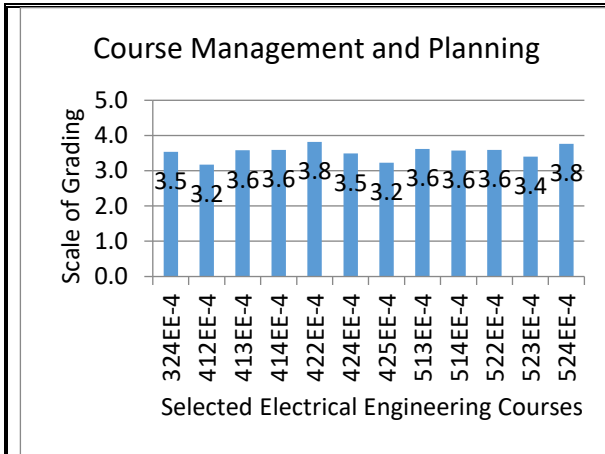
Measure: Twelve electrical engineering courses are considered as per course evaluation form. evaluation form.

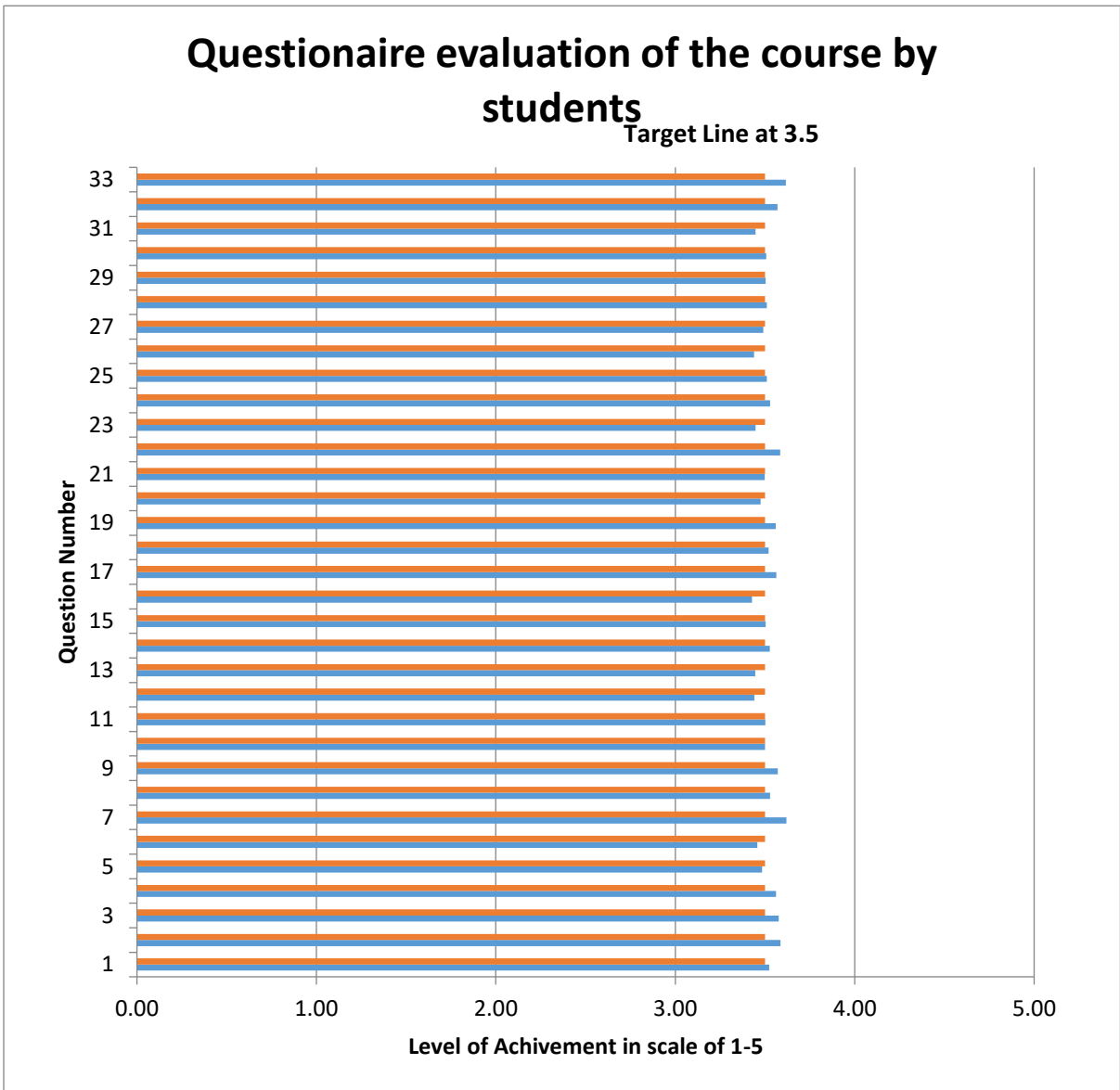
Analysis: All the questions are achieving target.

Recommendations: Measure again for the consistency

Actions: We would like to measure again next year to check on the consistency of data.

Course Evaluation Result-Second semester of the year 2022/2023





Measure: Twelve electrical engineering courses are considered as per course evaluation form.

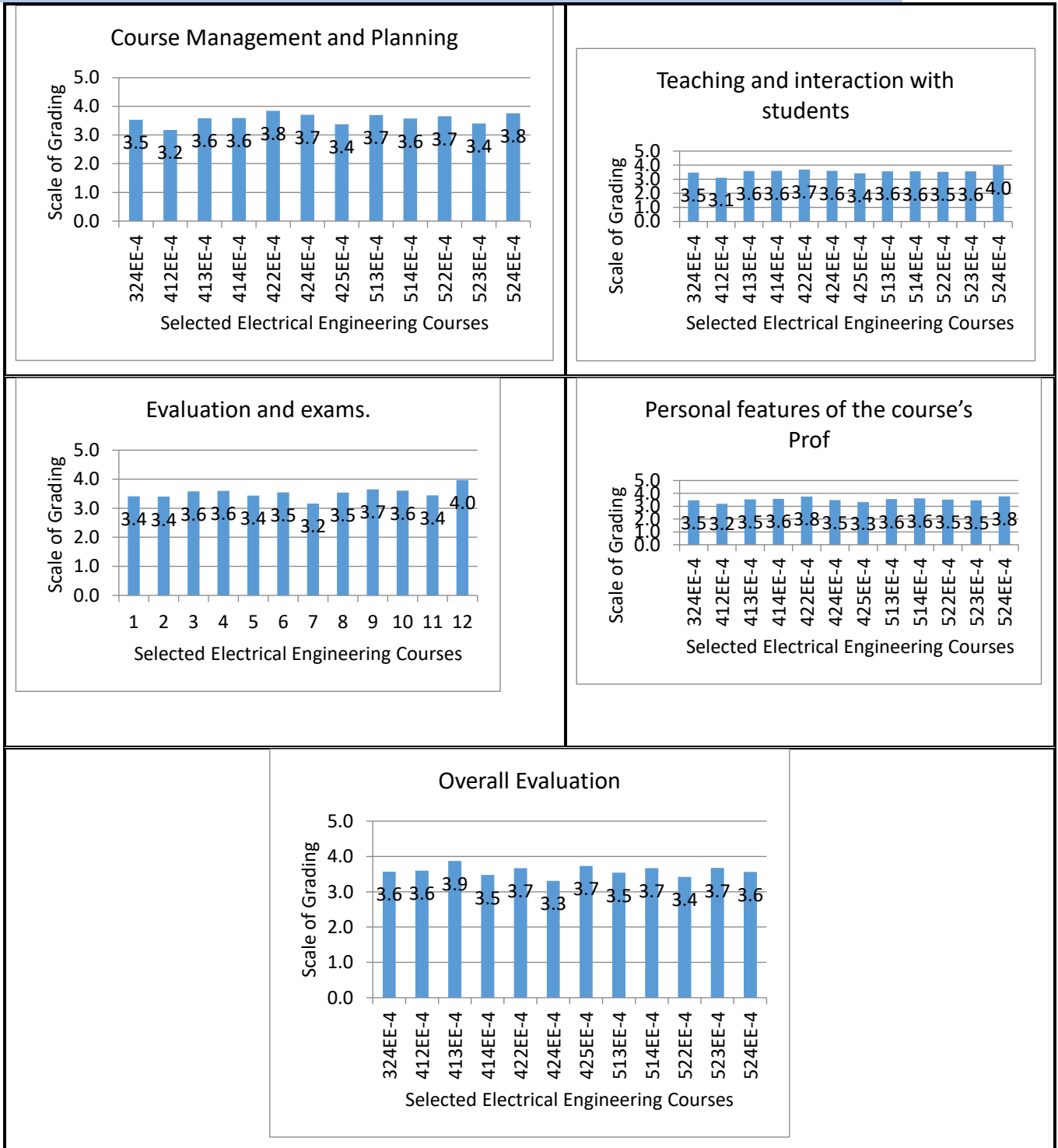
Analysis: All the questions has achieved the target.

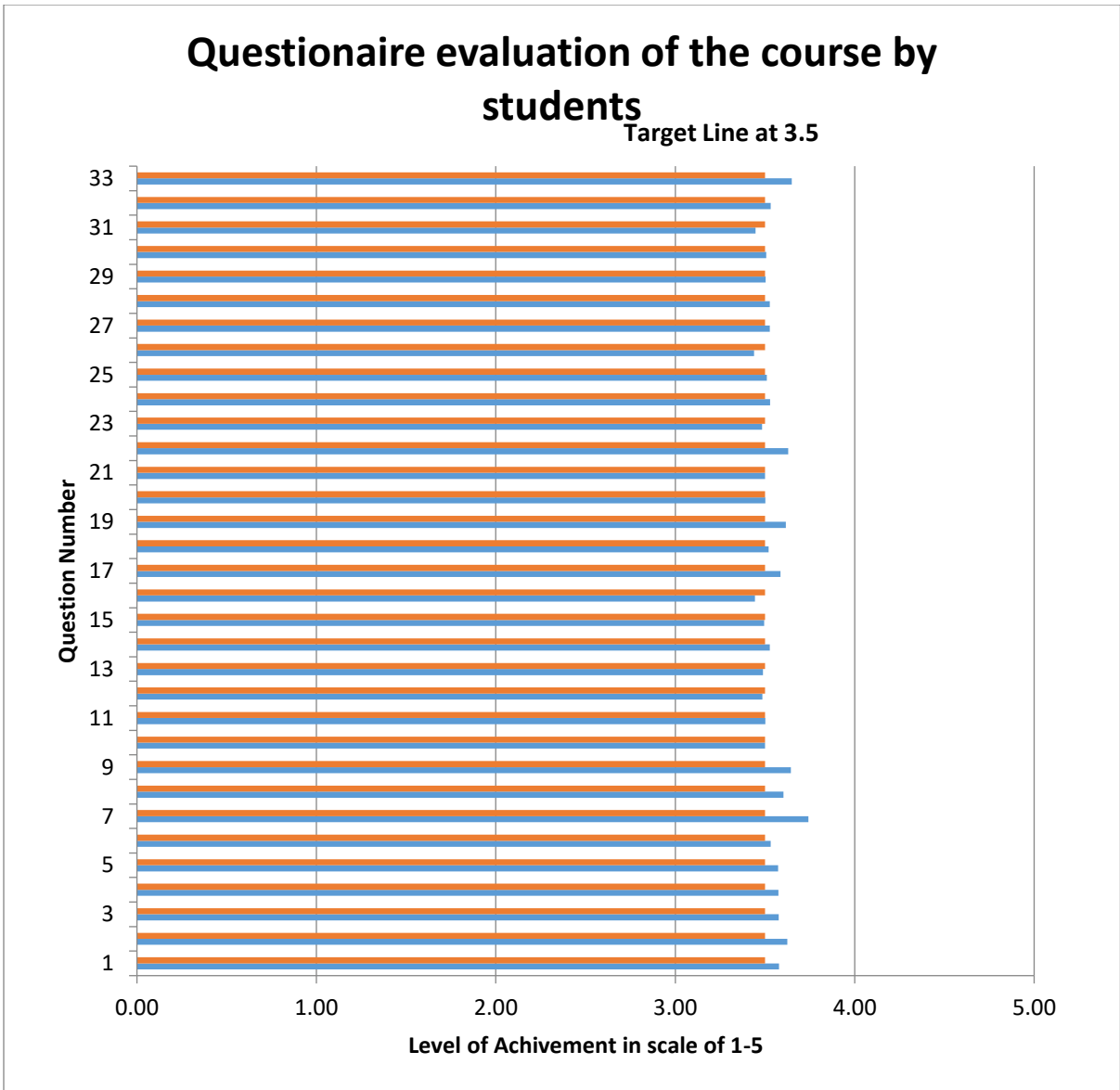
Recommendations: For next year the target to 3.5 at strongly agree to agree.

Actions: We would like to measure again next year to check on the consistency of data.

A set of twelve courses are evaluated and the average of the results is plotted as shown graphs.

Course Evaluation Result-Third semester of the year 2022/2023





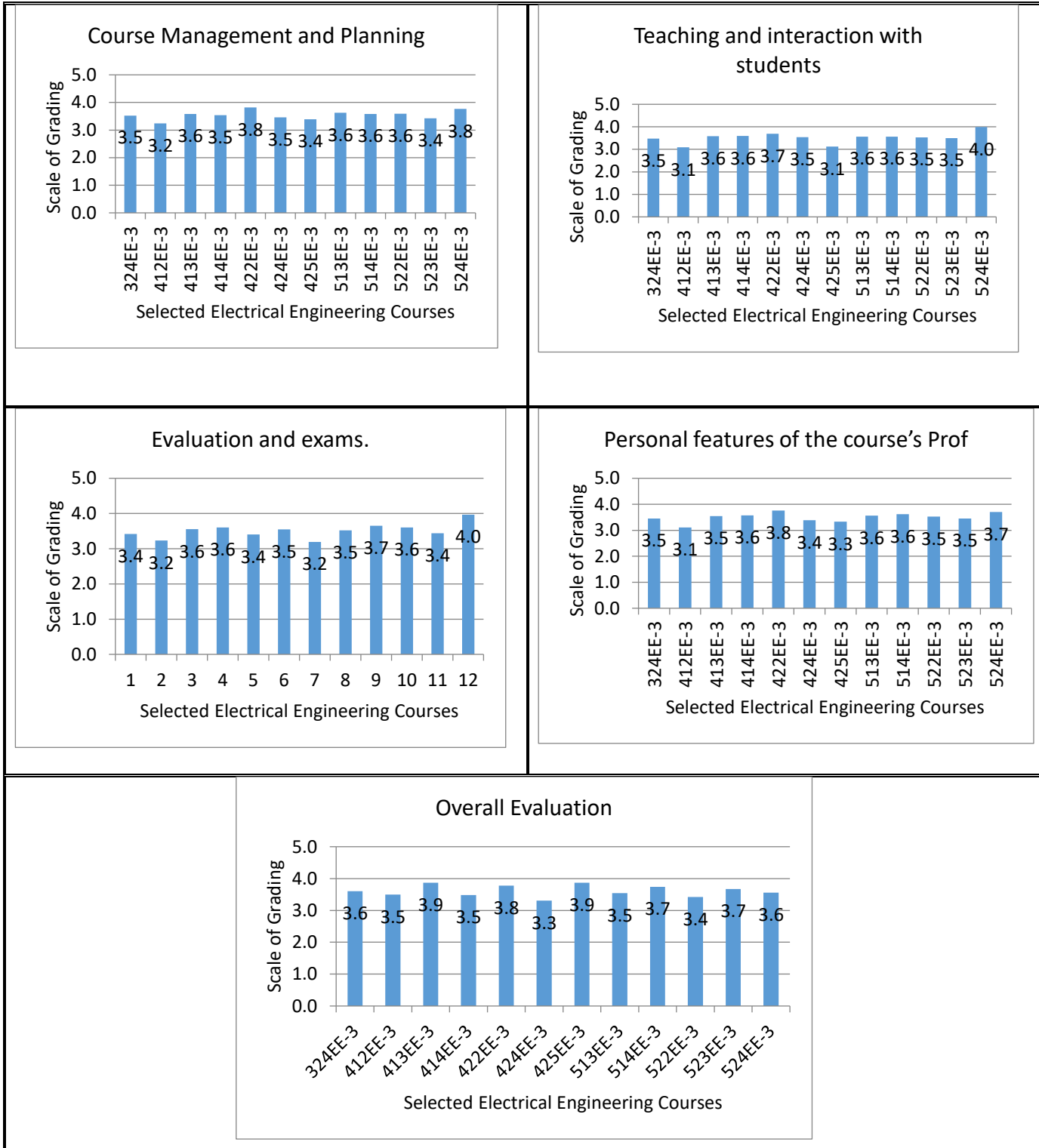
Measure: Twelve electrical engineering courses are considered.

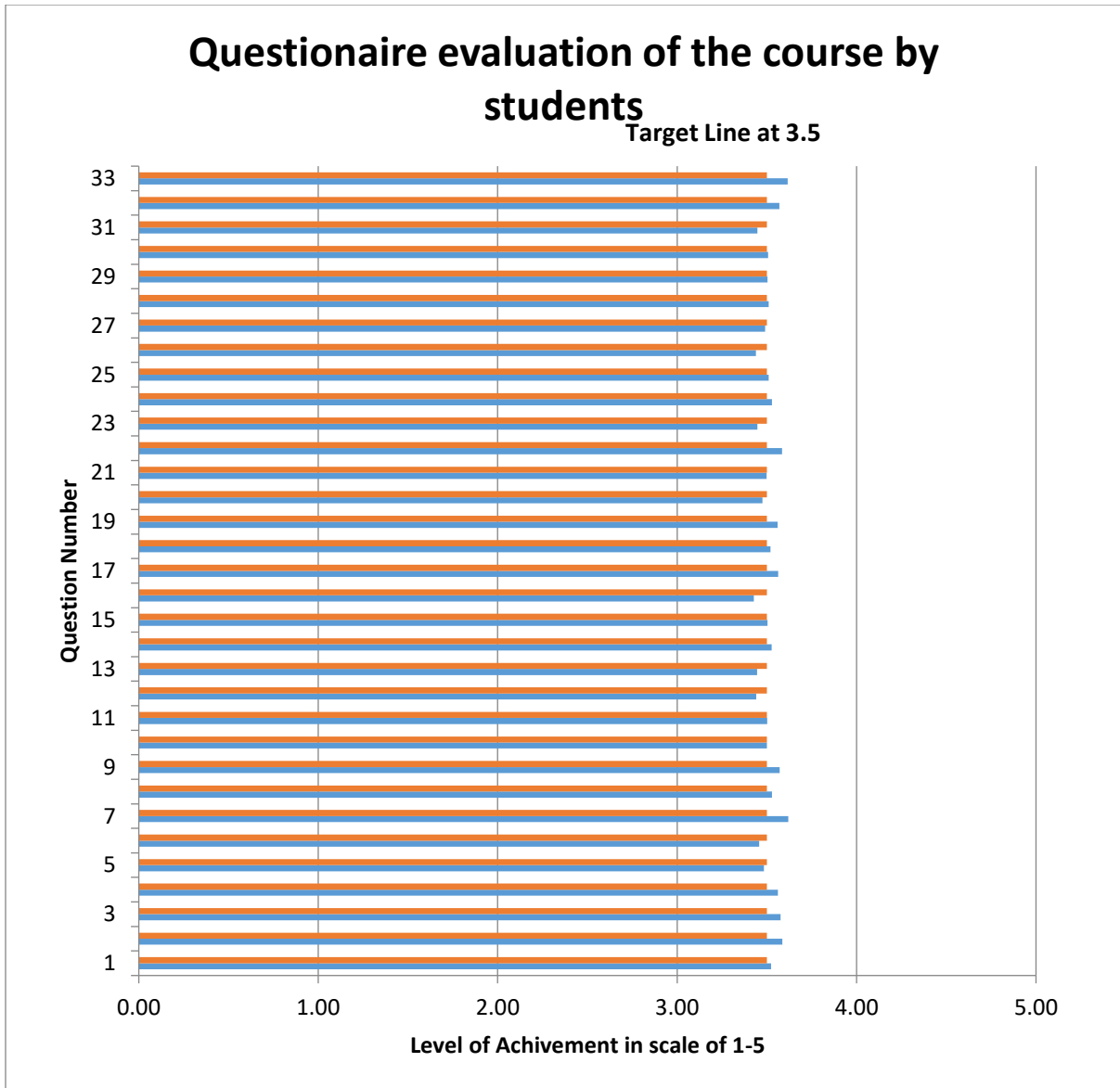
Analysis: All the questions has achieved the target.

Recommendations: check the consistency by measuring in the next semester.

Actions: We would like to measure again next year to check on the consistency of data.

Table 4. 16 Course Evaluation Result-Third semester of the year 2022/2023





Measure: Twelve electrical engineering courses are considered.

Analysis: All the questions has achieved the target.

Recommendations: 1. Continuous monitoring of student assessments are performed to ensure that the planned range of domains of student learning outcomes is taken fully in account 2. Regular assesment of the students 3. Identify weak students during Mid Exam itself. 4 Improve attendance through faculty advising.

Actions: We would like to measure again next year to check on the consistency of data.

1. Conduct regular assessments and reviews of all aspects of the educational experience to identify areas for improvement.

2. Regular online monitoring of performance and results of assessments of students

3. Continuous monitoring of student assessments are performed to ensure that the planned range of domains of student learning outcomes is taken fully in account

4. Improve attendance through faculty advising

5. Regular online monitoring of performance and results of assessments of students.
6. Organize industry related electrical engineering workshops
7. Encourage the students to read text books.

Following are the other relevant surveys used in the program. The analysis is done and is attached as shown below.

1. Alumni Survey ([Questionnaire-Alumni-Survey-EAS](#)) (Also represent: *Measurement of Graduate Attributes: GA-1,2,4,6,10*)
2. Evaluation of Graduate of the Program by Employers ([2.12- Questionnaire: Evaluation of Graduate of the Program by Employers EES](#)) (Also represent: *Measurement of Graduate Attributes: GA-3,5,8*)
3. Evaluation of Program by Faculties ([Evaluation of Program by Faculties](#))
4. Evaluation of Program by Students ([Evaluation of program by students-EPS-Analysis](#)) (Also represent: *Measurement of Graduate Attributes: GA-3,7,9*)
5. Evaluation of Program Mission, Vision, PEOs by Students ([Program Mission Vision-PMS-Analysis](#)) (Also represent: *Measurement of Graduate Attributes: GA-2,3*)

All Questionnaire are available at: [Questionnaire All Surveys](#)

Based on the evaluations KPIs ([KPI analysis](#)) are evaluated, the actions and recommendations are made and are and are summarized in the annual program report which can be accessed here: [Annual Program Reports.](#)

Strengths

- Qualified faculty members with appropriate ratio among Professor, Associate Professor, Assistant Professor and Lecturers
- Research publication by faculty members

Weaknesses

Areas of Improvement

- Updating library with relevant and latest books.
- Include more PowerPoint presentations, Video tutorials, e-learning etc.
- Student Evaluation of quality of learning experience in the program

Priorities of Improvement

- Students performance in the professional and/or national examinations
- Higher studies and employability of graduates

Summary of Analysis from Course Reports

Strengths :
<ul style="list-style-type: none">• Course assessment clearly mapping learning outcomes with Course Objectives.• Most of the students could achieve better scores
Areas for Improvement:
<ul style="list-style-type: none">• Focusing on practical applications to increase interest in students.• Explain the importance and contribution of concepts in design strategies and considerations to students.• Intense training in English language so that they could understand the lecture and read the books with interest and easily• Motivate students to read the standard textbooks related to the course.
Priorities for Improvement:
<ul style="list-style-type: none">• Additional activity related to the course.• Applications of scientific principles must be explained while solving problems.• Numerical Problems will be discussed in lectures as well as in tutorials.• Identify the weak students as early as possible• The students were provided with previous year question paper and a discussion along with the revisions was conducted.

Summary of Course Results (First Semester)

Semester (2023)	441	
<i>Grade</i>	<i>Total Number</i>	<i>Percentage</i>
A+	111	12.3
A	144	16
B+	130	14.5
B	115	12.8
C+	93	10.3
C	79	8.8
D+	48	5.3
D	86	9.6
F	27	3

Summary of Course Results (Second Semester)

Semester (2023)	442	
<i>Grade</i>	<i>Total Number</i>	<i>Percentage</i>
A+	114	12.1
A	144	15.3
B+	117	12.4
B	129	13.7
C+	95	10.1
C	87	9.2
D+	67	7.1
D	81	8.6
F	43	4.6

Summary of Course Results (Third Semester)

Semester (2023)	443	
<i>Grade</i>	<i>Total Number</i>	<i>Percentage</i>
A+	130	13.8

A	147	15.6
B+	124	13.1
B	128	13.6
C+	91	9.7
C	92	9.8
D+	62	6.6
D	83	8.8
F	38	4

Analysis of Results

Strengths

There is consistency of results across the semester even the number of students are increasing across the semesters.

Weaknesses

The number is larger in grade D compared to grade D+ across all the semesters. There is a scope of improvement here.

Areas of Improvement

- Organized more industry related electrical engineering workshops .
- Collaboration with industry is highly recommended.
- More concentration on ISI and grant project and involve also the students in their lab learning process.
- Effective procedures need to be established to ensure that work submitted by students is actually done by the students concerned.
- Improve laboratory facilities.

Priorities of Improvement

- Research facilities for the students and faculties has to be improved.
- Laboratory facilities for the students and faculties has to be improved, especially for carrying out the thesis works. Need software's and hardware related to the work.
- Incorporate students in the scientific research programs with funding.

- More effective techniques related to the teaching strategies need to be implemented .

Action Plan for Improvement

No.	Priorities for Improvement	Actions	Action Responsibility	Date		Achievement Indicators	Target Benchmark
				Start	End		
1	Encouraging student to be a part of international technical groups like IEEE by applying for student memberships	Students were briefed about the pros of being a member of such groups	All staff	1444	1445	Memberships	15%
2	Student outcome improvement	Revision of assessment methods for improvement.	All course co-coordinators	1444	1445	Course deliverables	90%
3	Specifying design problems	Practical importance of design problems	All course co-coordinators in consultation with the course instructors.	1444	1445	Tutorial exercises should be embedded with more design constraints	100%
4	Student outcome improvement in graduation project	Students should be advised to attend more workshops and training courses.	All project supervisors and training course committee	1444	1445	Training courses and presentations	100%

5	Code of conduct	Ethics and professionalism	All course co-coordinators	1444	1445	Providing online resources like SDL pertaining to code of conduct.	80%
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Due date for Next Assessment

Next Assessment will be done on the end of the next academic year-1445

Approval Data

Prepared by	Academic Development and Quality Committee, EE Department
Approved by	Department Council
Approved by	College Council

Date: August-2023

