# Procedural Guide for Measuring Learning Outcomes of Academic Programs

# at King Khalid University

First Edition

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**Approved in the minutes of the eighth meeting of the committee for measuring learning outcomes, and endorsed by His Excellency the University President under number 71838, dated 1444/9/18 H.**

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## Foreword:

In the academic realm, it is widely recognized that the outcomes derived from learning programs and courses play a pivotal role as the cornerstone or foundation of the educational process. When we examine the key components of the educational process, namely the learning environment, the learner, and the teacher, the outcomes of learning within programs and courses emerge as the crucial fourth pillar in constructing the educational framework. These outcomes not only act as a vital link between the three foundational elements but also represent the principal objective in the inception of any educational program.

Acknowledging the paramount significance of learning outcomes as the primary catalyst for the educational process and its central emphasis, there arises an imperative need to gauge and measure these outcomes. This assessment is crucial for evaluating the program's effectiveness in realizing learning objectives for students and comprehending the quality of planning, teaching, and evaluation procedures. Accordingly, a precise understanding, grounded in objective data, is essential to pinpoint the strengths and weaknesses inherent in the program. Utilizing this information, informed decisions are made to identify areas requiring enhancement, addressing them in subsequent development processes for both the program and its individual courses.

Recognizing the vital role of measuring learning outcomes in academic programs, King Khalid University is pleased to offer this procedural guide. The guide is crafted to delineate systematic and effective methods for measurement.

## The Significance of Measuring Learning Outcomes:

- Functions as a powerful tool for planning, enhancing, and advancing the educational process and academic practices.
- Ensures the quality of academic programs at the university, providing tangible evidence of student learning crucial for programmatic and institutional accreditation.
- Focuses on the student, equipping them with the skills essential for success in the job market.

- Assesses the level of student progress in attaining learning outcomes.
- Assists faculty members in effective curriculum planning, improvement, and review processes.
- Identifies the strengths and weaknesses within the educational framework.
- Assists program management in implementing necessary improvement measures.
- Promotes continuous development across all aspects of program processes.

## Guidelines for Measuring Learning Outcomes:

**These guidelines consist of three levels:**

1. Planning level: This involves developing a plan for measuring program learning outcomes and determining the measurement cycle, which should include at least two cycles during the program period.
2. Implementation level: This is the stage of measuring learning outcomes.
3. Review and development level: This involves the program monitoring the implementation of the measurement plan, reviewing and analyzing it, and creating improvement plans.

**After the program aligns with the guide for developing and writing learning outcomes, the following steps can be followed:**

- Form a committee dedicated to measuring program outcomes, devising a structured plan for assessing learning outcomes, and establishing a clear measurement cycle.
- Standardize measurement tools for learning outcomes across all course sections aligned with the specified outcomes.
- Create suitable performance indicators for learning outcomes, incorporating insights from previous measurement results to set realistic targets.

- Generate a detailed report on measurement results, conducting comparisons with outcomes from previous years, pinpointing strengths and weaknesses, and determining priority areas for necessary improvements.
- Present the report to specialized councils, fostering discussions, and proposing effective improvement plans.
- Deliver prompt and constructive feedback directly to students, aiming to enhance their skills based on the assessment results.
- Archive measurements of both course learning outcomes and program learning outcomes systematically for future reference.
- Actively monitor the implementation of improvement plans, ensuring that the outlined strategies are effectively put into practice.

Important Note: Course coordinators have the flexibility to employ measurement frameworks that best fit the unique nature of their courses and the methodologies used for assessing learning outcomes. Faculty members are encouraged to utilize the provided templates, and programs retain the prerogative to adopt alternative measurement models that align with their specific educational outcomes. It is mandatory to include all matrices and measurements in the course file at the conclusion of each semester. Additionally, the first paragraph of the course report, specifically addressing the measurement of learning outcomes, must be completed. Examples and supportive matrices are provided below.

### The Concept of the Measurement:

Measurement involves offering a quantitative estimate of an outcome by conducting calculations and comparing the results against a predefined performance indicator established by the program. As an illustration, the program's objective might be to have a minimum of 80% of students attain a score of at least 70% of the total grade in Outcome (A1) through direct measurement, while Outcome (A1) is assigned a rating of 4.5 in the indirect measurement.

## First: Planning Stage:

A. A comprehensive, balanced, flexible, approved, and efficient plan is prepared for the program, considering the time and effort required for both measurement cycles. Clear identification of the courses that will participate in measuring each program learning outcome is also specified. Here is an example of a program plan:

| M | Learning outcomes | LOs Code | Course Code(s) | Examples of measuring instruments | Person in charge | follow-up | Target Level | Evidence |
|---|---|---|---|---|---|---|---|---|
| 1 | Knowledge and understanding | K1 | | Professional Exams<br>Faculty observation card or assessment matrices | Program Measurement Committee - Course Professors (or specified by the program) | The program is determined by the implementation follow-up officer | %80 | Models of measuring instruments<br>Activity announcements-<br>Samples of studentswork<br>Samples of student tests<br>Quarterly results reports with .analysis of results<br>Course reports-<br>-Annual Program Report<br>Improvement measurement-plans |
| 2 | | K2 | | | | | %80 | |
| 3 | | K3 | | Student Tests and Professional Tests<br>Observation card for faculty members<br>Questionnaires for Employers | | | %80 | |
| 4 | Skills | S1 | | Practical tests and student tests<br>Faculty observation card or assessment matrices<br>Questionnaires for Employers | | | %80 | |
| 5 | | S2 | | Professional Exams<br>Case study and situation tests<br>Faculty observation card or assessment matrices<br>Questionnaires for Employers | | | %80 | |
| 6 | | S3 | | | | | %80 | |
| 7 | Values, Autonomy, and Responsibility | V1 | | | | | %80 | |
| 8 | | V2 | | | | | %80 | |

B. The measurement plan for the courses is prepared in alignment with the program's measurement plan.

| Learning outcomes | LOs number | LOs Code in the program | Measurement Tools | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Measurement time | Achievement test ..... | Practical test ..... | Presentations ..... | Research Projects ..... | ..... | ..... |
| **Knowledge and understanding** | **1.1** | **K1** | | Q1 | | | | | |
| | 1.2 | K2 | | Q2 | | | | | |
| | 1.3 | K3 | | Q3 | | | | | |
| **Skills** | 2.1 | S1 | | | | | | | |
| | 2.2 | S2 | | | | | | | |
| | 2.3 | S3 | | | Q1 | | | | |
| | 2.4 | S4 | | | Q2 | Q1 | | | |
| **Autonomy, Value, and Responsibility** | 3.1 | V1 | | | | Q2 | | | |
| | 3.2 | V2 | | | | | | | |
| | 3.3 | V3 | | | | | | | |

This stage involves the following:

- Clearly defining measurement objectives aligned with learning outcomes.
- Choosing measurement strategies that cover all aspects of student learning, diversifying the tools used. There are two types:

a. Conventional (traditional): Focused on the cognitive domain of students, utilizing methods like paper and pencil, with tools such as achievement tests.

b. Authentic (alternative): Encompassing all areas of student learning.

- Developing measurement tools and their instructions in accordance with specified criteria.
- Rigorously ensuring the scientific validity and reliability of measurement tools.
- Establishing grading rules, including answer key models.

**Secondly, the implementation stage:**

During this stage, the prepared plan from the previous phase is put into action and requires:

Integrating alternative measurement tools with teaching methods, incorporating performance tasks and activities leading to authentic learning outcomes.

Coordinating and diversifying the utilized measurement tools.

Providing necessary accommodations to facilitate the measurement process based on students' individual needs and available resources.

Conducting measurements both in-person and electronically.

Ensuring continuity in the measurement process, encompassing pre-measurement, ongoing measurement, and post-measurement phases.

Addressing measurement issues in accordance with regulations and systems, such as cheating, question leakage, absences, and others.

Correcting students' work using answer key models while adhering to objectivity and fairness.

**Thirdly, the review and development stage:**

This stage involves reviewing the outcomes of the implementation process and requires:

1. Collecting data from diverse measurement tools to extract general results for students.
2. Monitoring measurement results in dedicated models.

3. Using technical programs such as SPSS, Excel to analyze the results according to statistical concepts, including averages and percentages.

4. Extracting the actual performance level of students from the analyzed and interpreted results, and comparing it with the targeted level.
5. Preparing periodic and annual reports on measurement results that highlight strengths, weaknesses, improvement plans, and discussing them in specialized committees for approval and implementation.
6. Providing immediate and directed feedback to students.

## Methods of Assessing Learning Outcomes:

There are two main methods for measuring learning outcomes:

:

1. Direct routes
2. Indirect methods

| Indirect Methods | Direct Methods |
|---|---|
| **auditions** | Statistical data (such as student grades at graduation and number of passes) |
| **Professional Exams** | Number of hours spent learning |
| **Reports** | Polls such as: |
| **Projects** | Survey of registered and expected graduates and graduates |
| **Student Offers** | Survey/feedback from employers , whether during the student's training period or after joining the work |

## Alignment of Assessment Methods with Learning Outcomes:

All course activities, content, questions, and assessment methods should be aligned with the learning outcomes of the course to ensure that the measurement process is objective and reflects the skills learned by the student. The following are examples of various activities and assessments:

- Multiple-choice questions, essay questions, oral assessments, short tests, comprehensive tests/program exit exams, practical/application-based tests, presentations, projects.

## Assessment Alignment Models:

Standardizing assessment models as much as possible greatly facilitates the academic program in measuring its educational outcomes. The following are a set of diverse models that help faculty members plan and measure learning outcomes, including:

- Assessment matrix aligning different types of test questions with learning outcomes.
- Assessment matrix for practical lessons, presentations, essay questions, homework assignments, and other matrices.

**Example 2.1: A specific matrix for designing test questions and assessment tools for a course in alignment with learning outcomes.**

| Course Name and Code: | | | | Program Name: | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Semester: | | | | Academic Year: | | | | | | |
| **/ Questions Assessment Tools** | **Knowledge and understanding** | | | **Skills** | | | | **Autonomy, Value, and Responsibility** | | |
| | **K1** | **K2** | **...** | **S1** | **S2** | **S3** | **...** | **V1** | **V2** | **...** |
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| ..... | | | | | | | | | | |

*This table should not be limited to tests only, but should include other direct and indirect assessment tools in the course, as skills and values in particular require more appropriate tools than traditional paper-and-pencil tests for their assessment.

**Example 2.2: Assessment matrix for homework assignment or oral presentation.**

Assessment matrix for homework assignment / oral presentation.

| Name | Student ID | Criteria | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | Total |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Total achieved in each evaluation criteria | | | | | | | |
| **Overall of the outcome (CLO2.2)** | | | | | | | |

| # | Examples of assessment criteria * | Achieved (√) Checked | Not achieved (x) Not achieved |
|---|---|---|---|
| 1 | Paraphrased articles (plagiarism is less than 15%)Plagiarism is less than 15% (paraphrased (and cited scientific paper | | |
| 2 | Referencing is according to universal system references according to a specific world system | | |
| 3 | Coherent writing with sequence language and clarity | | |
| 4 | Covered the necessary scientific themes of the topicCovered the basic scientific ideas of the research topic | | |
| 5 | ..... | | |
| TOTAL | | | |

*** These are just examples. Course instructors can modify assessment criteria that matches the course content.**

### *Example 2.3: Course Evaluation Plan*

| Educational Output Code | / Learning Outcomes Assessment Methods | Quiz 1 | Assignment | Quiz 2 | Reports | Midterm exam | Presentation | Practical test (final) | Final exam (theoretical) | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | Distribution of grades* | 5 | 5 | 5 | 10 | 15 | 10 | 20 | 30 | 100 |
| 1 | Knowledge and understanding | | | | | | | | | |
| 1.1 | ... | 5 | | | | 5 | | | 5 | 15 |
| 1.2 | ... | | 3 | | | 10 | | | 5 | 18 |
| 2 | Skills | | | | | | | | | |
| 2.1 | ... | | | 5 | | | | 5 | 5 | 15 |
| 2.2 | ... | | 2 | | 5 | | | 5 | 10 | 22 |
| 2.3 | ... | | | | | | 5 | | 5 | 10 |
| 3 | Autonomy, Value, and Responsibility | | | | | | | | | |
| 3.1 | ... | | | | 2 | | 5 | | | 7 |
| 3.2 | ... | | | | 3 | | | 10 | | 13 |

*This is an example of grade distribution, and it is the responsibility of the course coordinator to adhere to the approved grade distribution in the course description. Another table can be used in conjunction with this table to monitor the question numbers with learning outcomes and distribute grades allocated to each learning outcome, as in the following Example 2.4.

### Example 2.4: Matrix of grade distribution and test questions on learning outcomes.

| Course Learning Outcomes CLOs | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Total** | **3.2** | **3.1** | **2.3** | **2.2** | **2.1** | **1.2** | **1.1** | |
| | | | | | | | | **Question numbers** |
| **100** | 3 | 7 | 10 | 22 | 15 | 18 | 15 | **Grade Weighting** |
| | | | | | | | | **Total Score** |

### Example 2.5: Matrix for measuring course learning outcomes[1]

The assessment matrix for the course is determined as shown in the following figure.

This is achieved through the following:

First: The course coordinator determines the grade distribution for the assessment activities specified in the course description, such as:

- Quizzes
- Projects
- Practicals
- Assignments
- Midterm exam
- Final exam

Second: The coordinator determines the contribution percentage of each type of activity mentioned above in achieving a learning outcome.

$$8.75 = 15 * 15\% + 15 * 10\% + 30 * 10\% + 40 * 5\%$$

Determining the distribution of the grades

| Total Scores | Total Grades Spreader | Final Exam | Semester Exam | Assignments | practical | Projects | Quizzes | |
|---|---|---|---|---|---|---|---|---|
| | 100 | 40 | 30 | 15 | 0 | 0 | 15 | |
| 8.75 | | 5 | 10 | 10 | 0 | 0 | 15 | K1 |
| 8.75 | | 5 | 10 | 10 | 0 | 0 | 15 | P2 |
| 11.75 | | 5 | 15 | 20 | 0 | 0 | 15 | K3 |
| 12.75 | | 5 | 20 | 15 | 0 | 0 | 15 | K4 |
| 16 | | 10 | 15 | 20 | 0 | 0 | 30 | M1 |
| 15 | | 15 | 20 | 10 | 0 | 0 | 10 | M2 |
| 7 | | 10 | 10 | 0 | 0 | 0 | 0 | m3 |
| 8 | | 20 | 0 | 0 | 0 | 0 | 0 | M4 |
| 6 | | 15 | 0 | 0 | 0 | 0 | 0 | M5 |
| 6.25 | | 10 | 0 | 15 | 0 | 0 | 0 | M6 |
| 100 | | 100 | 100 | 100 | 0 | 0 | 100 | Check the distribution of activity grades (Percentage) |

[1] This is an example for assessing the scope of knowledge and understanding, and to demonstrate another mathematical method for measuring learning outcomes. The course coordinator is also responsible for assessing the scope of values according to the nature of the actions used and their measurement method.

We check that the sum of the scores distributed over the activities is .100

If a particular activity is not used in the evaluation, it is sufficient to put zeros in the .column for that activity

We verify that the total activity scores are distributed to the course learning outcomes

Determining the percentages of achievement of the output through the activity

(*activity scores* *Percentages of total*)

Example 2.6: Assessment of course learning outcomes.

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1 | females | 81.22 | 81.22 | 81.56 | 81.36 | 81.23 | 80.18 | 79.14 | 77.67 | 77.67 | 79.95 |
| | | | | | | | 2 | males | 81.53 | 81.53 | 81.77 | 81.43 | 81.64 | 79.98 | 78.57 | 77.24 | 77.24 | 79.87 |
| | | | | | | | | mixed | 81.39 | 81.39 | 81.68 | 81.40 | 81.46 | 80.07 | 78.82 | 77.43 | 77.43 | 79.91 |

| Students | Sex | Quizzes | Projects | practical | Duties | Semester Exam | Final Exam | K1 | P2 | K3 | K4 | M1 | M2 | m3 | M4 | M5 | M6 | Total Scores |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Student 1 | 1 | 15 | 0 | 0 | 15 | 25 | 23 | 0.846 | 0.846 | 0.864 | 0.852 | 0.847 | 0.763 | 0.686 | 0.575 | 0.575 | 0.728 | 78 |
| Student 2 | 1 | 15 | 0 | 0 | 14 | 30 | 28 | 0.920 | | | | | | | | | 0.784 | 87 |
| Student 3 | 1 | 11 | 0 | 0 | 11 | 23 | 38 | 0.794 | | | | | | | | | 0.872 | 83 |
| Student 4 | 1 | 12 | 0 | 0 | 11 | 28 | 38 | 0.869 | | | | | | | | | 0.872 | 89 |
| Student 5 | 1 | 13 | 0 | 0 | 11 | 20 | 33 | 0.766 | | | | | | | | | 0.792 | 77 |
| Student 6 | 1 | 14 | 0 | 0 | 15 | 22 | 29 | 0.829 | | | | | | | | | 0.824 | 80 |
| Student 7 | 1 | 11 | 0 | 0 | 13 | 24 | 32 | 0.794 | | | | | | | | | 0.824 | 80 |
| Student 8 | 1 | 10 | 0 | 0 | 14 | 21 | 24 | 0.709 | | | | | | | | | 0.720 | 69 |
| Student 9 | 1 | 15 | 0 | 0 | 12 | 26 | 31 | 0.869 | | | | | | | | | 0.784 | 84 |
| Student 10 | 1 | 11 | 0 | 0 | 12 | 23 | 35 | 0.789 | | | | | | | | | 0.848 | 81 |
| Student 11 | 1 | 12 | 0 | 0 | 11 | 21 | 27 | 0.726 | | | | | | | | | 0.696 | 71 |
| Student 12 | 1 | 11 | 0 | 0 | 10 | 27 | 31 | 0.789 | | | | | | | | | 0.736 | 79 |
| Student 1 | 2 | 10 | 0 | 0 | 14 | 30 | 26 | 0.823 | | | | | | | | | 0.752 | 80 |
| Student 2 | 2 | 12 | 0 | 0 | 15 | 24 | 22 | 0.777 | | | | | | | | | 0.712 | 73 |
| Student 3 | 2 | 15 | 0 | 0 | 15 | 27 | 36 | 0.943 | 0.943 | 0.945 | 0.936 | 0.947 | 0.920 | 0.900 | 0.900 | 0.900 | 0.936 | 93 |
| Student 4 | 2 | 13 | 0 | 0 | 15 | 26 | 31 | 0.869 | 0.869 | 0.885 | 0.876 | 0.869 | 0.843 | 0.814 | 0.775 | 0.775 | 0.856 | 85 |
| Student 5 | 2 | 11 | 0 | 0 | 12 | 28 | 35 | 0.846 | 0.846 | 0.851 | 0.864 | 0.838 | 0.877 | 0.900 | 0.875 | 0.875 | 0.848 | 86 |
| Student 6 | 2 | 15 | 0 | 0 | 11 | 20 | 31 | 0.789 | 0.789 | 0.766 | 0.756 | 0.800 | 0.750 | 0.729 | 0.775 | 0.775 | 0.760 | 77 |
| Student 7 | 2 | 14 | 0 | 0 | 14 | 25 | 25 | 0.829 | 0.829 | 0.843 | 0.836 | 0.828 | 0.770 | 0.714 | 0.625 | 0.625 | 0.736 | 78 |
| Student 8 | 2 | 12 | 0 | 0 | 12 | 23 | 30 | 0.777 | 0.777 | 0.779 | 0.776 | 0.778 | 0.767 | 0.757 | 0.750 | 0.750 | 0.768 | 77 |
| Student 9 | 2 | 15 | 0 | 0 | 15 | 24 | 23 | 0.834 | 0.834 | 0.851 | 0.836 | 0.838 | 0.750 | 0.671 | 0.575 | 0.575 | 0.728 | 77 |
| Student 10 | 2 | 13 | 0 | 0 | 14 | 20 | 34 | 0.806 | 0.806 | 0.804 | 0.780 | 0.819 | 0.787 | 0.771 | 0.850 | 0.850 | 0.880 | 81 |
| Student 11 | 2 | 10 | 0 | 0 | 10 | 30 | 27 | 0.783 | 0.783 | 0.796 | 0.828 | 0.763 | 0.803 | 0.814 | 0.675 | 0.675 | 0.672 | 77 |
| Student 12 | 2 | 11 | 0 | 0 | 11 | 27 | 37 | 0.834 | 0.834 | 0.830 | 0.844 | 0.828 | 0.877 | 0.914 | 0.925 | 0.925 | 0.856 | 86 |
| Student 13 | 2 | 10 | 0 | 0 | 13 | 28 | 29 | 0.806 | 0.806 | 0.830 | 0.840 | 0.794 | 0.817 | 0.814 | 0.725 | 0.725 | 0.776 | 80 |
| Student 14 | 2 | 15 | 0 | 0 | 13 | 23 | 38 | 0.886 | 0.886 | 0.868 | 0.856 | 0.897 | 0.873 | 0.871 | 0.950 | 0.950 | 0.920 | 89 |
| Student 15 | 2 | 11 | 0 | 0 | 14 | 25 | 31 | 0.811 | 0.811 | 0.830 | 0.824 | 0.809 | 0.810 | 0.800 | 0.775 | 0.775 | 0.832 | 81 |
| Student 16 | 2 | 13 | 0 | 0 | 10 | 22 | 34 | 0.783 | 0.783 | 0.762 | 0.764 | 0.788 | 0.787 | 0.800 | 0.850 | 0.850 | 0.784 | 79 |

1. The coordinator adds the university numbers of the students who passed the course
2. Gender is selected: 1 for female, 2 for males
3. Scores are entered according to the matrix that was set in the previous table.

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | females | 81.22 | 81.22 | 81.56 | 81.36 | 81.23 | 80.18 | 79.14 | 77.67 | 77.67 | 79.95 | | | | | | |
| 2 | males | 81.53 | 81.53 | 81.77 | 81.43 | 81.64 | 79.98 | 78.57 | 77.24 | 77.24 | 79.87 | | | | | | |
| | mixed | 81.39 | 81.39 | 81.68 | 81.40 | 81.46 | 80.07 | 78.82 | 77.43 | 77.43 | 79.91 | | | | | | |
| **Students** | **Sex** | **Quizzes** | **Projects** | **practical** | **Duties** | **Semester Exam** | **Final Exam** | **K1** | **P2** | **K3** | **K4** | **M1** | **M2** | **m3** | **M4** | **M5** | **M6** | **Total Scores** |
| Student 1 | 1 | 15 | 0 | 0 | 15 | 25 | 23 | 0.846 | 0.846 | 0.864 | 0.852 | 0.847 | 0.763 | 0.686 | 0.575 | 0.575 | 0.728 | 78 |
| Student 2 | 1 | 15 | 0 | 0 | 14 | 30 | 28 | 0.920 | 0.920 | 0.932 | 0.940 | 0.913 | 0.873 | 0.829 | 0.700 | 0.700 | 0.784 | 87 |
| Student 3 | | | | | | | | 0.794 | 0.794 | 0.783 | 0.784 | 0.797 | 0.833 | 0.871 | 0.950 | 0.950 | 0.872 | 83 |
| Student 4 | | | | | | | | 0.869 | 0.869 | 0.860 | 0.876 | 0.863 | 0.907 | 0.943 | 0.950 | 0.950 | 0.872 | 89 |
| Student 5 | | | | | | | | 0.766 | 0.766 | 0.749 | 0.740 | 0.775 | 0.757 | 0.757 | 0.825 | 0.825 | 0.792 | 77 |
| Student 6 | | | | | | | | 0.829 | 0.829 | 0.838 | 0.816 | 0.838 | 0.777 | 0.729 | 0.725 | 0.725 | 0.824 | 80 |
| Student 7 | | | | | | | | 0.794 | 0.794 | 0.804 | 0.800 | 0.794 | 0.800 | 0.800 | 0.800 | 0.800 | 0.824 | 80 |
| Student 8 | | | | | | | | 0.709 | 0.709 | 0.736 | 0.720 | 0.709 | 0.680 | 0.643 | 0.600 | 0.600 | 0.720 | 69 |
| Student 9 | | | | | | | | 0.869 | 0.869 | 0.860 | 0.864 | 0.869 | 0.837 | 0.814 | 0.775 | 0.775 | 0.784 | 84 |
| Student 10 | | | | | | | | 0.789 | 0.789 | 0.787 | 0.784 | 0.791 | 0.810 | 0.829 | 0.875 | 0.875 | 0.848 | 81 |
| Student 11 | | | | | | | | 0.726 | 0.726 | 0.723 | 0.720 | 0.728 | 0.703 | 0.686 | 0.675 | 0.675 | 0.696 | 71 |
| Student 12 | | | | | | | | 0.789 | 0.789 | 0.787 | 0.808 | 0.778 | 0.810 | 0.829 | 0.775 | 0.775 | 0.736 | 79 |
| Student 1 | | | | | | | | 0.823 | 0.823 | 0.860 | 0.872 | 0.806 | 0.820 | 0.800 | 0.650 | 0.650 | 0.752 | 80 |
| Student 2 | | | | | | | | 0.777 | 0.777 | 0.809 | 0.796 | 0.775 | 0.720 | 0.657 | 0.550 | 0.550 | 0.712 | 73 |
| Student 3 | 2 | 15 | 0 | 0 | 15 | 27 | 36 | 0.943 | 0.943 | 0.945 | 0.936 | 0.947 | 0.920 | 0.900 | 0.900 | 0.900 | 0.936 | 93 |
| Student 4 | 2 | 13 | 0 | 0 | 15 | 26 | 31 | 0.869 | 0.869 | 0.885 | 0.876 | 0.869 | 0.843 | 0.814 | 0.775 | 0.775 | 0.856 | 85 |
| Student 5 | 2 | | | | | | | | | | | | | | | | 848 | 86 |
| Student 6 | 2 | | | | | | | | | | | | | | | | 760 | 77 |
| Student 7 | 2 | | | | | | | | | | | | | | | | 736 | 78 |
| Student 8 | 2 | | | | | | | | | | | | | | | | 768 | 77 |
| Student 9 | 2 | | | | | | | | | | | | | | | | 728 | 77 |
| Student 10 | 2 | | | | | | | | | | | | | | | | 880 | 81 |
| Student 11 | 2 | | | | | | | | | | | | | | | | 672 | 77 |
| Student 12 | 2 | | | | | | | | | | | | | | | | 856 | 86 |
| Student 13 | 2 | | | | | | | | | | | | | | | | 776 | 80 |
| Student 14 | 2 | | | | | | | | | | | | | | | | 920 | 89 |
| Student 15 | 2 | 11 | 0 | 0 | 14 | 25 | 31 | 0.811 | 0.811 | 0.830 | 0.824 | 0.809 | 0.810 | 0.800 | 0.775 | 0.775 | 0.832 | 81 |
| Student 16 | 2 | 13 | 0 | 0 | 10 | 22 | 34 | 0.783 | 0.783 | 0.762 | 0.764 | 0.788 | 0.787 | 0.800 | 0.850 | 0.850 | 0.784 | 79 |

1. **The file calculates the extent to which each student's learning outcome is achieved.**
2. **The total score of each student.**
3. **The average of each learning outcome is calculated in the female section, then the students, and then in the two halves.**
   **averageif**

The formula used to calculate the achievement of each student's learning outcome:

$$= (\$D7 * 'Ass.Matrix'!\$C\$5 + \$E7 * 'Ass.Matrix'!\$D\$5 + \$F7 * 'Ass.Matrix'!\$E\$5 + \$G7 * 'Ass.Matrix'!\$F\$5 + \$H7 * 'Ass.Matrix'!\$G\$5 + \$I7 * 'Ass.Matrix'!\$H\$5)/('Ass.Matrix'!\$K\$5)$$

The previous formula for the result p1 .

[1] **This is another method using a mathematical formula, and the course coordinator can use the appropriate measurement methods according to the examples used in this guide and according to the learning outcomes measurement plan.**

## Reporting the Results of Learning Outcomes Measurement:

## Reporting the results of measuring the course learning outcomes in the course report:

In accordance with the course description and the stipulated method for assessing learning outcomes, it is imperative for the faculty member to adhere to these guidelines to ensure the uniformity of the measurement approach each time the course is taught, whether in a semester system or an annual system. Following the assessment of learning outcomes as outlined above, the results are incorporated into section B1 of the course report template, including both the targeted performance level and the actual measurement value.

### B. Course Learning Outcomes

#### 1. Course Learning Outcomes Assessment Results

| Course Learning Outcomes (CLOs) | | Related PLOs Code | Assessment Methods | Assessment Results | | Comment on Assessment Results |
|---|---|---|---|---|---|---|
| | | | | Targeted Level | Actual Level | |
| 1 | Knowledge and Understanding: | | | | | |
| 1.1 | | | | | | |
| 1.2 | | | | | | |
| 1... | | | | | | |
| 2 | Skills: | | | | | |
| 2.1 | | | | | | |
| 2.2 | | | | | | |
| 2... | | | | | | |
| 3 | Values, autonomy, and responsibility | | | | | |
| 3.1 | | | | | | |
| 3.2 | | | | | | |
| 3... | | | | | | |

#### 2. Recommendations

### ب. نواتج التعلم للمقرر

#### 1. قياس نواتج التعلم للمقرر

| نواتج تعلم المقرر | | رمز ناتج التعلم المرتبط من البرنامج | طرق التقييم | نتيجة التقييم | | التعليق على نتائج القياس |
|---|---|---|---|---|---|---|
| | | | | المستوى المستهدف | المستوى الفعلي | |
| المعرفة والفهم | 1 | | | | | |
| | 1.1 | | | | | |
| | 1.2 | | | | | |
| | 1... | | | | | |
| المهارات | 2 | | | | | |
| | 2.1 | | | | | |
| | 2.2 | | | | | |
| | 2... | | | | | |
| القيم والاستقلالية والمسؤولية | 3 | | | | | |
| | 3.1 | | | | | |
| | 3.2 | | | | | |
| | 3... | | | | | |

#### 2. التوصيات:

## Reporting the Results of Measuring Program Learning Outcomes in the Annual Program Report:

In alignment with the program description and the specified method for assessing program learning outcomes, as delineated in the program plan (section 1.1) designed to streamline calculations for program managers, strict adherence to these guidelines is imperative. This ensures a standardized measurement methodology when composing the annual program report. Following the assessment of learning outcomes as per the approved measurement plan, the results are incorporated into section B1 of the new annual program report template, encompassing the targeted performance level and the measured outcome.

### B. Program Assessment

1. Program Learning Outcomes Assessment and analysis according to PLOs assessment plan *

| # | Program Learning Outcomes | Assessment Methods (Direct and Indirect) | Targeted Performance (%) | Assessment Results |
|---|---|---|---|---|
| Knowledge and Understanding | | | | |
| K1 | | | | |
| K2 | | | | |
| K3 | | | | |
| K.. | | | | |
| Skills | | | | |
| S1 | | | | |
| S2 | | | | |
| S3 | | | | |
| S.. | | | | |
| Values, autonomy, and responsibility | | | | |
| V1 | | | | |
| V2 | | | | |
| V3 | | | | |
| V.. | | | | |

*Attach a separate report on the program learning outcomes assessment results for male and female sections and for each branch (**if any**).

| Strengths: |
|---|
| |

| Aspects that need improvement with priorities: |
|---|
| |

### ب. تقويم البرنامج

1. تقويم وتحليل نواتج التعلم للبرنامج وفقًا لخطة قياس نواتج التعلم*.

| | نواتج التعلم | طرق التقويم (مباشر – غير مباشر) | مستوى الأداء المستهدف | نتائج التقييم |
|---|---|---|---|---|
| المعرفة والفهم | | | | |
| ع.. | | | | |
| ع.. | | | | |
| ع.. | | | | |
| المهارات | | | | |
| م.. | | | | |
| م.. | | | | |
| م.. | | | | |
| القيم والاستقلالية والمسؤولية | | | | |
| أ.. | | | | |
| أ.. | | | | |
| أ.. | | | | |

* يرفق تقرير لتقويم نواتج التعلم للبرنامج لكل فصل ولكل من شطري الذكور والإناث وكذلك لكل فرع من فروع البرنامج (إن وجدت).

| جوانب القوة: |
|---|
| |

| الجوانب التي تحتاج إلى تحسين مع الأولويات: |
|---|
| |

The End.