CLOs Writing and Review Procedure

Procedure #	AA-202	**Revision #**	00
Accessibility level	A	**Effective date**	Sep 2024

1. Purpose

This procedure sets out how Course Learning Outcomes (CLOs) are written, reviewed, approved, and monitored at Fahad Bin Sultan University (FBSU). It ensures that **all course specifications** include learning outcomes covering the three domains of the National Qualifications Framework (NQF), **Knowledge and Understanding, Skills, and Values**, and that every outcome is properly formulated as a **SMART** outcome in line with best practice. It puts into operation the Guide to Writing Learning Outcomes (AA-407-G01) at course level.

2. Scope

This procedure applies to all courses offered by FBSU, including general education, college requirement, program core, elective, practical, field-training, and capstone courses, at undergraduate and postgraduate levels. It applies when a new course is developed, when a course specification is revised, and during the periodic review of all course specifications.

3. Definitions

3.1. **Course Learning Outcome (CLO):** A statement of what a student is expected to know, be able to do, or demonstrate by the end of a course, which can be assessed.

3.2. **Program Learning Outcome (PLO):** A statement of what a graduate of the program is expected to achieve. PLOs are attained through the achievement of CLOs across the program.

3.3. **NQF Domains:** The three categories of learning outcomes in the National Qualifications Framework: Knowledge and Understanding (K), Skills (S), and Values (V), referred to in the current NQF as Values, Autonomy and Responsibility.

3.4. **SMART Outcome:** An outcome that is Specific, Measurable, Achievable, Relevant, and Time-bound, as described in Section 4.2.

3.5. **Action Verb:** An observable verb that describes the expected student performance and indicates its cognitive level, based on Bloom's Taxonomy (e.g., explain, calculate, design).

3.6. **Course Specification:** The approved document, prepared using the NCAAA template, that describes a course, including its CLOs, content, teaching strategies, and assessment methods.

4. Procedure

4.1. Coverage of the three NQF domains

A) Each course specification shall include **at least one CLO in each of the three domains**: Knowledge and Understanding, Skills, and Values.

B) The total number of CLOs in a course should normally be **between four (4) and eight (8)**, so that each outcome can be taught and assessed properly.

C) The distribution of CLOs across the domains shall reflect the nature and level of the course. Introductory courses may emphasize Knowledge, while advanced, practical, and capstone courses should place greater emphasis on Skills and Values.

D) Where a department considers that a course cannot include an outcome in one of the domains, the course coordinator shall provide a written justification in the CLO Review Checklist (AA-202-F1). The justification is subject to the approval of the Department Curriculum Committee and is reported to the Deanship of Quality and Academic Accreditation (DQAA). Such exceptions should be rare.

Domain	What it describes	Typical assessment methods
Knowledge and Understanding (K)	Facts, concepts, principles, theories, and procedures of the discipline.	Written exams, quizzes, short-answer and objective questions.
Skills (S)	Cognitive skills (analysis, problem solving, critical thinking), practical and technical skills, and communication, numerical, and digital skills.	Problem sets, case studies, lab work, projects, design tasks, reports, presentations.
Values (V)	Ethical and professional conduct, academic integrity, teamwork and leadership, autonomy, self-directed learning, and social responsibility.	Team projects with peer evaluation, reflective reports, professional-conduct rubrics, field-training evaluations.

Table 1: The three NQF domains of learning outcomes

4.2. SMART formulation of CLOs

Every CLO shall meet all five SMART criteria:

Criterion	Requirement	Check question
Specific	States one clear, well-defined performance; avoids vague or compound statements.	Does the CLO describe exactly what the student will do?
Measurable	Uses an observable action verb that can be assessed by an exam, task, or rubric.	Can an assessment show whether the student achieved it?
Achievable	Is realistic for the course level, credit hours, and students' prior learning.	Can most students achieve it within the course?
Relevant	Contributes to at least one PLO and to the program's graduate attributes.	Which PLO does this CLO support?
Time-bound	Is to be achieved by the end of the course or a stated stage (e.g., end of field training).	Is it clear by when it must be achieved?

Table 2: SMART criteria for CLOs

4.3. Structure and writing rules

In line with the Guide to Writing Learning Outcomes (AA-407-G01), each CLO shall follow the structure: **Action verb + Content + Condition or context (+ Standard, where needed)**, preceded by the phrase "Upon completion of this course, students will be able to…". For example:

"…**calculate** the bending stresses in simply supported beams using standard engineering formulas."

A) Use **one action verb** per CLO. Do not combine different performances (e.g., "describe and design") in one CLO.

B) Use **observable and measurable verbs**. Verbs such as understand, know, learn, appreciate, be aware of, and be familiar with shall not be used.

C) Match the verb to the **domain** and to the **level** of the course, using Bloom's Taxonomy (Table 3).

D) Write the CLO from the **student's** perspective (what the student will do), not the instructor's (what will be taught).

E) Keep each CLO **concise and clear**, normally one sentence of no more than 30 words.

F) Ensure that each CLO is **assessed** by at least one assessment task that matches its verb. For example, "design" requires a design task, not a multiple-choice question.

Domain	Level	Recommended verbs
Knowledge and Understanding	Remember / Understand	define, list, identify, state, describe, explain, classify, summarize, compare
Skills	Apply / Analyze	apply, calculate, solve, demonstrate, use, perform, analyze, examine, investigate, test
	Evaluate / Create	evaluate, assess, justify, critique, design, develop, construct, formulate, propose
	Communication and digital	present, write, report, communicate, use (software or tools), interpret data
Values	Professional and affective	demonstrate (ethical or professional conduct), adhere to, comply with, collaborate, contribute, take responsibility for, lead, reflect on

Table 3: Recommended action verbs by domain and level

Domain	Not acceptable	Acceptable (SMART)
K	Understand the principles of accounting.	Explain the principles of double-entry bookkeeping and their role in preparing financial statements.
S	Learn programming.	Develop a Python program that reads, processes, and visualizes a given dataset.
S	Improve communication skills.	Present a technical project report orally to a peer audience, meeting the criteria of the presentation rubric.
V	Appreciate the importance of ethics.	Demonstrate professional and ethical responsibility in completing team project tasks, as assessed by a peer-evaluation rubric.

Domain	Not acceptable	Acceptable (SMART)
V	Be a good team member.	Collaborate effectively in a team to deliver the course project on schedule, as evidenced by peer evaluation.

Table 4: Examples of poorly written and SMART CLOs

4.4. Alignment with PLOs, teaching, and assessment

A) Each CLO shall be mapped to at least one PLO in the course specification, indicating the level at which the course addresses the PLO (**Introduced, Practiced, or Mastered**), in line with the Program Learning Outcomes Procedure (AA-408-P01).

B) Each CLO shall be linked to the teaching strategies used to develop it and to the assessment methods used to measure it.

C) The CLOs, their mapping to PLOs, and the assessment items mapped to each CLO shall be entered in the FBSU Assessment System, so that CLO and PLO attainment can be calculated each semester, as required by the Learning Outcomes Assessment Policy (AA-431).

D) A CLO that is not assessed or not mapped to a PLO is not acceptable and shall be revised or removed.

4.5. Review and approval of CLOs

Step	Activity	Responsibility	Output
1	Draft or revise the CLOs in the course specification in line with this procedure.	Course coordinator	Draft course specification
2	Complete the CLO Review Checklist (AA-202-F1) as a self-check.	Course coordinator	Completed checklist
3	Review the CLOs for domain coverage, SMART formulation, and alignment with PLOs; return for revision if needed.	Department Curriculum Committee	Reviewed specification and checklist
4	Approve the course specification.	Department Council	Council minutes
5	Verify a sample of approved course specifications and prepare the Program CLO Compliance Summary (AA-202-F2).	College Quality Assurance Committee	Compliance summary per program
6	Upload the approved course specification and enter or update the CLOs and their mapping in the FBSU Assessment System before the start of the semester, as scheduled in the Quality Assurance Activities Calendar.	Course coordinator / Department Chair	Updated specification and system records
7	Audit compliance across colleges, report the results, and follow up on corrective actions.	DQAA	Annual CLO Compliance Report to the University Council

Table 5: CLO review and approval steps

4.6. Periodic review and monitoring

A) All course specifications shall be reviewed against this procedure at least once in every program review cycle, and whenever a course is modified.

B) The DQAA shall monitor compliance annually using the indicators in Table 6 and report the results to the University Council. Corrective actions shall be assigned to the concerned departments and followed up until closed.

Indicator	Target
Percentage of course specifications that include CLOs in all three NQF domains	100%
Percentage of CLOs meeting all SMART criteria in the DQAA audit	≥ 95%
Percentage of CLOs mapped to PLOs and assessment items in the FBSU Assessment System	100%
Percentage of faculty members trained on writing learning outcomes	≥ 90%

Table 6: Indicators for monitoring compliance

4.7. Training and support

The DQAA shall provide workshops for faculty members on writing and assessing learning outcomes, introduce this procedure to new faculty members during orientation, and make this procedure, its forms, and examples available on the Quality Assurance Portal.

5. Responsibilities

5.1. **Course Coordinator:** Writes and updates the CLOs, ensures they are taught and assessed, and maps the assessments in the FBSU Assessment System.

5.2. **Department Curriculum Committee:** Reviews all CLOs against this procedure, approves justified exceptions, and recommends course specifications to the Department Council.

5.3. **Department Chair / Department Council:** Approves course specifications and ensures that all courses in the department are reviewed.

5.4. **College Quality Assurance Committee:** Verifies compliance and prepares the Program CLO Compliance Summary.

5.5. **Deanship of Quality and Academic Accreditation (DQAA):** Publishes and updates this procedure, provides training, audits compliance, and reports annually to the University Council.

6. Related Documents

6.1. Guide to Writing Learning Outcomes (AA-407-G01)

6.2. Program Learning Outcomes Policy (AA-408)

6.3. Program Learning Outcomes Procedure (AA-408-P01)

6.4. Program Specification Policy (AA-410)

6.5. Learning Outcomes Assessment Policy (AA-431)

6.6. FBSU Assessment Manual

6.7. NCAAA Course Specification Template

6.8. CLO Review Checklist (AA-202-F1) – Appendix A

6.9. Program CLO Compliance Summary (AA-202-F2) – Appendix B

Appendix A: CLO Review Checklist (AA-202-F1)

College:		Program:	
Course code / title:		Course coordinator:	
Reviewer:		Date:	

No	Course-level criterion	Yes	No	N/A
1	At least one CLO in Knowledge and Understanding.			
2	At least one CLO in Skills.			
3	At least one CLO in Values (or an approved justification is attached).			
4	The total number of CLOs is between 4 and 8.			
5	Verb levels are appropriate to the course level.			
6	Every CLO is mapped to at least one PLO (I / P / M).			
7	Every CLO is assessed by at least one assessment method that matches its verb.			
8	CLOs and their mapping are entered in the FBSU Assessment System.			

CLO	Statement (abbreviated)	S	M	A	R	T	Domain
K1							K
K2							K
S1							S
S2							S
S3							S
V1							V

Justification for any exception:	
Required revisions:	
Decision:	☐ Approved ☐ Approved with minor revisions ☐ Returned for revision
Reviewer signature:	

Appendix B: Program CLO Compliance Summary (AA-202-F2)

Program	No. of courses	Specs reviewed	Courses with K, S and V CLOs (%)	SMART-compliant CLOs (%)	Corrective actions
College total					