AZERBAIJAN TECHNICAL UNIVERSITY (AzTU)

Practical guide for programme learning outcomes, course learning outcomes, teaching and assessment alignment

Guidance document for curriculum developers, programme leaders, course coordinators and quality assurance reviewers. Proposed institutional guidance; subject to AzTU approval.

1. Purpose and scope

This guide supports the drafting, review and assessment of measurable learning outcomes across AzTU bachelor's and master's programmes, especially engineering, computing and applied sciences. Outcomes should describe demonstrable student performance, not teaching intentions or broad topic coverage. Programme learning outcomes (PLOs) express capabilities expected at graduation; course learning outcomes (CLOs) contribute to those PLOs.

2. Bloom's taxonomy: levels and measurable verbs

The supplied reference uses the original six labels: Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. For contemporary curriculum writing, the revised labels Remember, Understand, Apply, Analyze, Evaluate and Create are often used. Synthesis broadly corresponds to Create, but the ordering of Evaluate and Create differs between the two frameworks. This guide uses revised labels for drafting while preserving the reference terminology below.

Revised level	Original reference label	Suitable action verbs	Typical assessment evidence
1 Remember	Knowledge	identify, list, define, label, recall	Short-answer test, identification task
2 Understand	Comprehension	explain, summarize, classify, interpret	Explanation, annotated diagram
3 Apply	Application	calculate, implement, operate, solve, demonstrate	Problem set, laboratory exercise
4 Analyze	Analysis	differentiate, compare, analyze, diagnose	Data analysis, fault investigation
5 Evaluate	Evaluation	assess, justify, critique, validate	Design review, evidence-based recommendation
6 Create	Synthesis	design, develop, formulate, construct, propose	Prototype, design project, research proposal

THE SIX COGNITIVE LEVELS | REVISED BLOOM'S TAXONOMY



Verb choice alone does not establish cognitive level: the task complexity, context, evidence and criteria determine the actual level.

3. Rules for writing assessable learning outcomes

• Begin with "Upon successful completion of [course/programme], the student will be able to …".

• Use one principal observable action per outcome; split unrelated actions into separate outcomes.

• Specify the object of performance and, when relevant, the context, tools, standards or constraints.

• Ensure the performance can be assessed through an identified task and explicit criteria.

• Avoid vague standalone verbs such as know, understand, appreciate, be familiar with or be aware of.

• Choose levels appropriate to the qualification, discipline and learning progression; do not require every outcome to be at the highest level.

Recommended construction: Action verb + disciplinary content/performance + context/conditions + quality criterion (where meaningful).

Weak statement	Stronger measurable learning outcome
Understand electrical circuits.	Analyze DC circuits using Kirchhoff's laws and calculate branch currents with documented assumptions.
Know programming.	Implement and test a modular program that meets a supplied functional specification.
Be familiar with sustainability.	Evaluate two engineering solutions against energy, resource-use and lifecycle criteria.
Learn research methods.	Design a reproducible investigation, including research questions, methods and data-quality controls.

4. Illustrative AzTU course learning outcomes

The following are model examples for adaptation, not verified or approved outcomes of any specific AzTU course.

Discipline / level	Example CLO	Assessment method
Electrical engineering / Apply	Calculate three-phase power and power factor for specified balanced loads using standard circuit relationships.	Timed calculation and laboratory report
Mechanical engineering / Analyze	Analyze stress and deformation results for a loaded component and identify critical design regions.	Simulation report and oral defence
Computer engineering / Create	Develop and test a secure software component against documented functional and security requirements.	Code repository, tests and demonstration
Cybersecurity / Evaluate	Evaluate a proposed network configuration against a defined threat model and justify mitigation priorities.	Security assessment report
Civil engineering / Create	Design a preliminary structural solution that meets given load, serviceability and material constraints.	Design portfolio and rubric
Environmental engineering / Analyze	Analyze water-quality measurements to identify likely contamination sources and limitations of the dataset.	Laboratory report
Master's research / Evaluate	Critically evaluate competing methods using published evidence and defend a justified methodological choice.	Research proposal and defence

5. Alignment: PLO → CLO → teaching → assessment

Each CLO should support at least one PLO; each PLO should be developed and assessed across the curriculum. The assessment must elicit the performance named in the outcome, and a rubric should define what counts as acceptable achievement.

PLO (illustrative)	Supporting CLO	Learning activity	Direct assessment	Criterion
PLO 2: Solve complex engineering	CLO 3: Analyze experimental performance data	Guided lab + data workshop	Lab report	Correct method, interpretation, limitations

problems				
PLO 3: Design solutions under constraints	CLO 5: Design a prototype to specification	Project studio + design critique	Prototype + design dossier	Requirements, testing, trade-offs
PLO 5: Communicate technical findings	CLO 6: Defend an evidence-based recommendation	Presentation + peer review	Oral defence	Evidence, clarity, response to questions

For programme-level mapping, record I = Introduced, D = Developed, M = Mastered, and A = Directly assessed. These codes are a suggested local convention, not a claim about existing AzTU policy.

6. Assessment design and performance standards

Use direct evidence such as examinations, design artefacts, laboratory reports, code, portfolios, demonstrations and dissertations. Surveys and satisfaction feedback may complement but should not replace direct assessment of learning.

Criterion	Developing	Meets expectation	Exceeds expectation
Technical accuracy	Major errors affect conclusions	Calculations/methods substantially correct	Accurate with robust verification
Reasoning and evidence	Limited or unsupported justification	Reasoning supported by relevant evidence	Critical comparison and clear limitations
Constraints and standards	Key constraints overlooked	Relevant constraints addressed	Trade-offs explicitly optimized and defended
Communication	Unclear or incomplete	Structured, traceable and comprehensible	Precise, persuasive and professionally documented

Set numerical thresholds, weighting, and achievement targets at programme or course level before assessment; do not present sample descriptors as university-approved grading regulations.

7. Quality assurance review checklist

☐ Outcome begins with an observable verb and specifies a clear performance.

☐ Cognitive level matches the complexity of the intended task.

☐ Content, context and expected standard are sufficiently explicit.

☐ CLOs map to relevant PLOs; programme outcomes are covered across courses.

☐ Teaching activities prepare students for the assessed performance.

☐ Assessment task and rubric measure the outcome directly.

☐ Evidence of student attainment is retained and reviewed.

☐ Review findings lead to documented curriculum or assessment improvements.

8. Reusable CLO drafting and mapping template

Field	Complete for each course
Programme / course	[Name, code, cycle, semester, credits]
CLO ID and statement	CLO [number]: Upon completion, the student will be able to [verb + performance + context + criterion].
Bloom level	[Remember / Understand / Apply / Analyze / Evaluate / Create]
Linked PLO(s)	[PLO code(s)]
Teaching / learning activities	[Laboratory, lecture, case study, project, etc.]
Assessment / weighting	[Task, rubric, weight]
Attainment measure / target	[Method and locally approved threshold]
Review and improvement action	[Evidence, decision, owner, date]

9. Suggested implementation at AzTU

Programme teams can first audit existing PLOs and CLOs for measurability, then agree programme-level expectations, complete curriculum mapping, revise assessment rubrics and retain samples of assessed student work. Quality assurance staff can review coverage, alignment and improvement actions during annual programme monitoring and accreditation preparation. This is a recommended process, not a statement that all steps have already been implemented.

PART II | INSTITUTIONAL IMPLEMENTATION FRAMEWORK

Proposed guidance for adoption and adaptation by Azerbaijan Technical University. The procedures and targets below are recommendations, not assertions of currently approved AzTU policy.

1. Institutional framework and governance

Learning outcomes should describe demonstrable student achievement at graduation (programme level) or course completion (course level). Outcomes must be observable, assessable, appropriately demanding and communicated to students.

Proposed responsibilities: programme coordinator maintains the PLO register and mapping; course leader writes CLOs and assessment plans; department reviews coherence and workload; faculty quality committee evaluates achievement data; authorised academic governance body approves programme-level revisions.

Each programme should maintain a controlled record of approved PLOs, CLOs, mapping, assessment evidence, review dates and improvement actions.

2. Qualification-framework and accreditation alignment

Programme teams should map outcomes to applicable Azerbaijan Qualifications Framework descriptors and relevant national programme requirements. Where useful, reference EQF level descriptors and European Standards and Guidelines (ESG) for quality assurance.

For engineering programmes, document alignment to the programme-specific learning outcomes and criteria applicable to the selected accreditor (including ASIIN or AQAS where relevant). Do not assume a single engineering competency list applies unchanged to every programme.

Keep an evidence table showing each external requirement, relevant PLO(s), course contribution, assessment method and evidence location.

3. Writing and approving Programme Learning Outcomes (PLOs)

A PLO states what a graduate can demonstrably do. Use one principal action verb, specify the object and context, and ensure that suitable evidence can be collected.

Recommended drafting formula: “On successful completion of the programme, graduates will be able to [measurable verb] [knowledge/skill] [context/constraints] [quality criterion where relevant].”

Before approval, check discipline relevance, qualification level, clarity, assessment feasibility, workload and coverage across the curriculum. Avoid vague verbs such as know, understand or appreciate when used without observable performance.

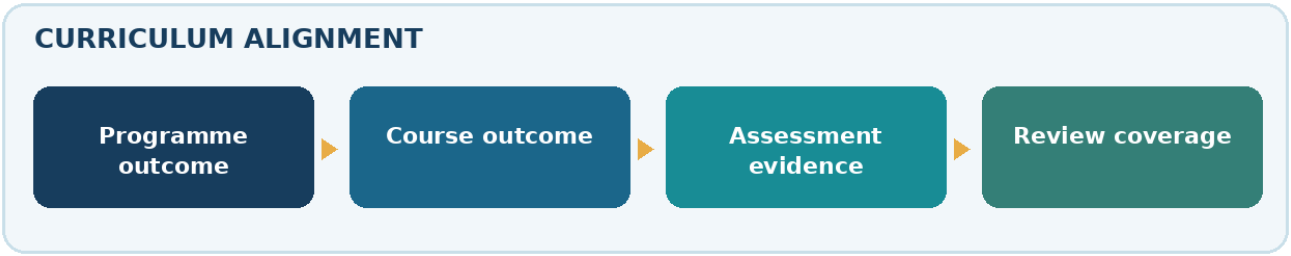
4. Writing Course Learning Outcomes (CLOs)

Each CLO should contribute to at least one PLO and should be assessed through a clearly identified task. A course team may use approximately 4–6 focused CLOs where appropriate; this is guidance, not a fixed rule.

Example: “Analyse measured vibration data to identify likely fault mechanisms in rotating machinery.” This can be assessed through a laboratory report using an explicit analytic rubric.

Distinguish teaching activities (“attend lectures”) from achieved learning (“calculate”, “design”, “evaluate”).

5. PLO–CLO curriculum mapping



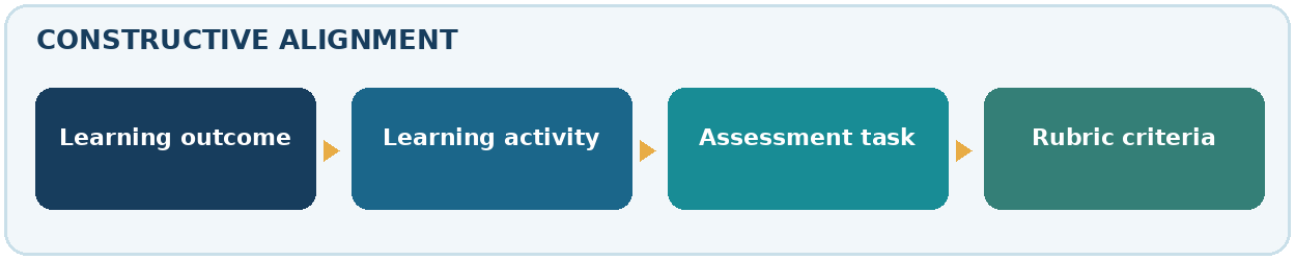
Use an explicit mapping matrix to identify introduced (I), reinforced (R) and demonstrated/mastered (D) learning. Check for unsupported PLOs, excessive concentration in one course and missing opportunities for advanced assessment.

Course outcome	PLO 1	PLO 2	PLO 3	Bloom level	Evidence
CLO 1: Apply mathematical methods	R			Apply	Problem set / exam
CLO 2: Analyse system	R	R		Analyse	Lab report

faults				
CLO 3: Design a technical solution	R	D	Create	Design project
CLO 4: Evaluate design options	D	R	Evaluate	Presentation + rubric

Illustrative mapping only. Replace PLO labels and I/R/D ratings with the programme's approved outcomes and evidence.

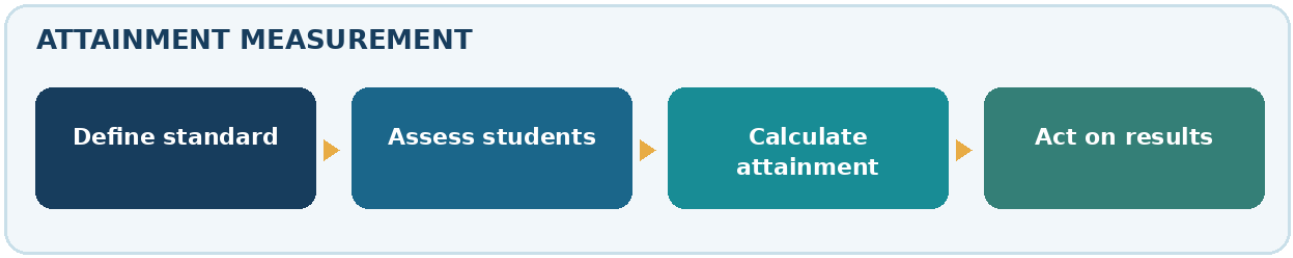
6. Constructive alignment



For every CLO, align the intended cognitive demand with teaching activities and assessment. A "design" outcome requires design performance evidence; a recall-only examination cannot by itself establish design competence.

Example: CLO "Evaluate cybersecurity controls against defined risks"; teaching: case analysis and risk workshop; assessment: comparative risk assessment report; criteria: evidence, technical reasoning, feasibility and justification.

7. Measuring learning-outcome achievement



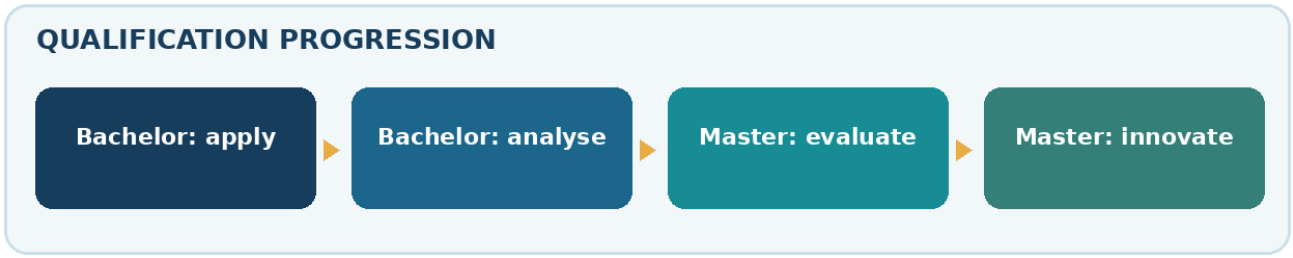
Direct evidence includes rubric-scored examinations, laboratory reports, projects, internships, portfolios and theses. Indirect evidence includes student, alumni and employer feedback; indirect measures should complement rather than replace demonstrated student performance.

For each outcome, define the assessment artifact, rubric dimensions, performance threshold, cohort, sampling method, responsible reviewer and reporting date before collecting results.

Example proposed measure: achievement rate = number of assessed students meeting the defined performance standard ÷ number assessed × 100. Any institutional target must be explicitly approved and recorded; it is not supplied here.

Report sample size, distribution, missing data, limitations and corrective action. Avoid reporting course pass rates as direct evidence of every individual PLO.

8. Bachelor's and master's expectations



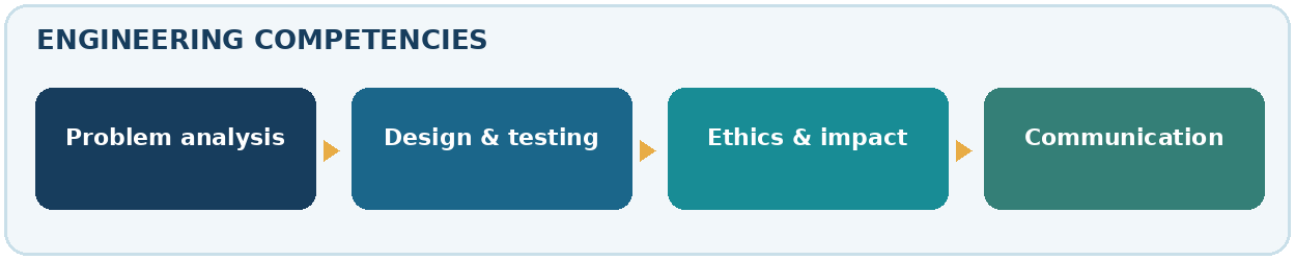
Bachelor's outcomes generally emphasise application of disciplinary foundations, analysis of defined or complex problems, evidence-based design and progressively independent work.

Master's outcomes should show advanced critical appraisal, research design, integration of specialised knowledge, management of uncertainty and justification of original or innovative approaches.

Determine the actual required level from the relevant qualification descriptors and approved programme profile rather than treating Bloom levels as a mechanical degree-level rule.

Dimension	Bachelor's illustration	Master's illustration
Problem solving	Analyse an engineering fault using established methods	Critically evaluate competing approaches for an unfamiliar engineering problem
Research	Interpret experimental measurements	Design and justify an investigation under uncertainty
Design	Develop a solution within specified constraints	Create and validate an innovative solution against multiple constraints

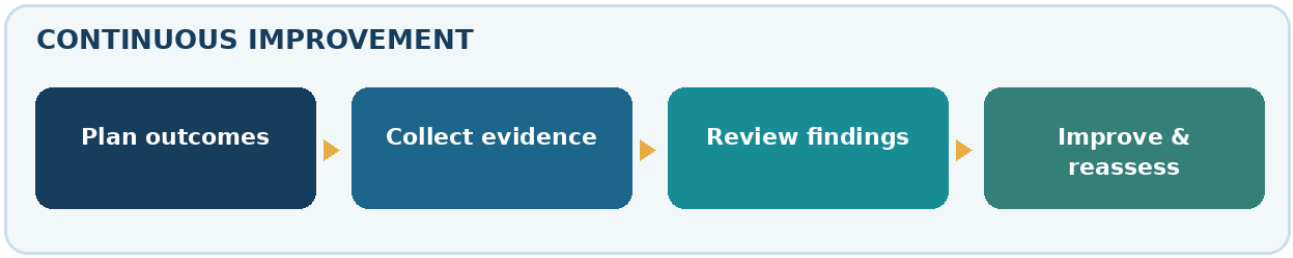
9. Engineering and computing competencies



Where applicable, ensure PLO coverage of mathematical and scientific foundations; engineering analysis; design and innovation; investigation and experimentation; modern tools; sustainability and societal impact; ethics; teamwork; communication; project management; and lifelong learning.

For computing and cybersecurity, include appropriate secure design, risk assessment, testing, privacy, reliability and professional responsibility outcomes. Adapt all examples to the actual programme and accreditation requirements.

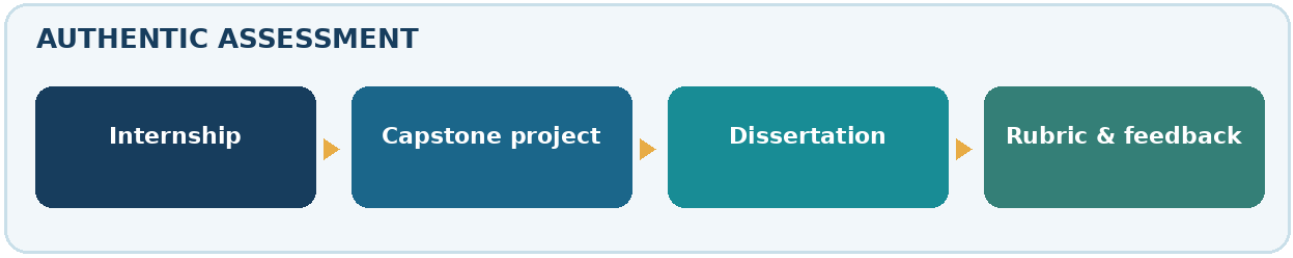
10. Continuous improvement cycle



Proposed annual cycle: (1) confirm outcomes and assessment plan; (2) collect student work; (3) moderate and score against rubrics; (4) analyse achievement by outcome; (5) agree corrective actions with owner and deadline; (6) reassess after implementation.

Record evidence of "closing the loop": what changed, why it changed, when it was implemented, and whether subsequent assessment indicates improvement.

11. Internships, capstone projects and dissertations

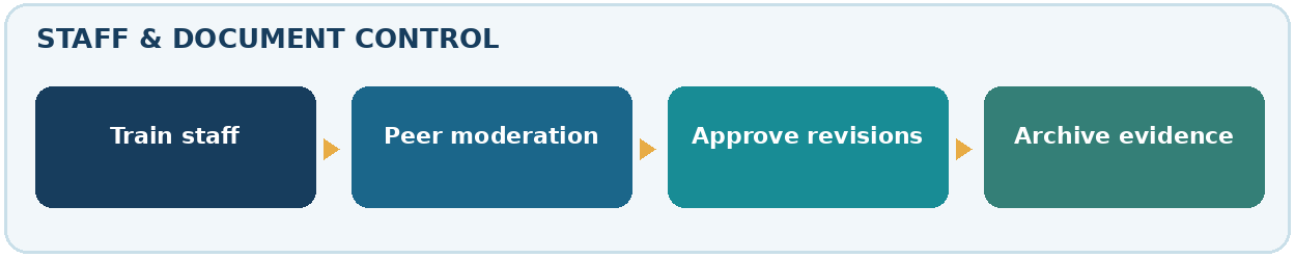


Internships: assess application of technical methods, professional conduct, teamwork, safety and reflection using supervisor feedback plus assessed student evidence.

Capstone projects: evaluate problem definition, requirements, technical design, testing, sustainability/ethics and communication with analytic rubrics.

Master's dissertations: assess research question, methodological rigour, critical literature engagement, analysis, originality where appropriate, limitations and defence.

12. Staff training and document control



Provide workshops on measurable verbs, constructive alignment, rubric design, mapping, moderation and achievement reporting. Use peer review of draft outcomes and calibration exercises with anonymised student work.

Maintain version number, programme identifier, approval authority, effective date, review cycle, document owner and revision history for each outcome set.

13. Review and approval checklist

☐ Outcome begins with an observable verb and specifies what is demonstrated.

☐ Demand matches qualification level and programme purpose.

☐ Every CLO maps to at least one PLO.

☐ Every PLO has sufficient opportunities for learning and direct assessment.

☐ Assessment methods and rubrics match the stated cognitive level.

☐ Thresholds, sample rules and reviewers are documented.

☐ Evidence and corrective actions are retained for the next review.

14. Glossary and references

PLO: Programme Learning Outcome.

CLO: Course Learning Outcome.

Constructive alignment: coherence between intended learning, teaching and assessment.

Direct assessment: evaluation of actual student performance. Rubric: explicit scoring criteria and performance descriptors.

Additional frameworks for local verification: Azerbaijan Qualifications Framework; European Qualifications Framework; Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG); applicable AQAS/ASIIN programme-specific requirements.

PART III | REUSABLE ANNEXES

Annex A. Bloom's action verbs (English / Azerbaijani)

Level	English action verbs	Azerbaijani equivalents
Remember	define, list, identify, recall	tərif etmək, sadalamaq, müəyyən etmək, xatırlamaq
Understand	explain, summarise, classify, interpret	izah etmək, ümumiləşdirmək, təsnif etmək, şərh etmək
Apply	apply, calculate, implement, demonstrate	tətbiq etmək, hesablamaq, həyata keçirmək, nümayiş etdirmək
Analyse	analyse, compare, differentiate, investigate	təhlil etmək, müqayisə etmək, fərqləndirmək, araşdırmaq
Evaluate	evaluate, justify, critique, assess	qiymətləndirmək, əsaslandırmaq, tənqidi təhlil etmək, dəyərləndirmək
Create	design, develop, formulate, construct	layihələndirmək, hazırlamaq, formalaşdırmaq, qurmaq

Annex B. Programme Learning Outcome register template

PLO ID	Approved outcome statement	Qualification descriptor	Evidence / review date
PLO-01	[Insert measurable graduate outcome]	[Descriptor]	[Assessment and date]
PLO-02	[Insert measurable graduate outcome]	[Descriptor]	[Assessment and date]

Annex C. CLO–PLO mapping and assessment template

CLO ID / statement	Bloom level	Mapped PLO(s)	Assessment task / rubric
CLO-01 / [statement]	[Level]	[PLO IDs, I/R/D]	[Task / criteria]
CLO-02 / [statement]	[Level]	[PLO IDs, I/R/D]	[Task / criteria]

Annex D. Learning Outcomes Assessment Report template

Field	Entry
Programme / course / period	[Complete]
Outcome and assessment artifact	[Complete]
Cohort size / assessed sample	[Complete]
Approved performance standard	[Complete]
Students meeting standard / achievement rate	[Complete]
Findings and limitations	[Complete]
Corrective action / owner / deadline	[Complete]
Follow-up results / evidence location	[Complete]

Annex E. Programme review and improvement record

Review question	Evidence / action
Are PLOs current and qualification-aligned?	[Evidence / owner]
Are all PLOs taught and assessed?	[Mapping gaps / action]
Which outcomes are below standard?	[Results / root causes]
What change was approved?	[Action / date / owner]
Was effectiveness checked?	[Next-cycle results]

PART IV | BLOOM'S TAXONOMY VERB & ASSESSMENT ATLAS

Redesigned reference annex • Complete six-level verb bank, question prompts, assessment matches and measurable-outcome guidance. The reference material uses the original labels; this annex maps them to revised Bloom's Taxonomy.

Reading guide: verbs are prompts, not automatic indicators of cognitive demand. The actual level depends on task complexity, conditions, criteria and student evidence.

REVISED LEVEL	ORIGINAL LABEL	PURPOSE
Remember	Knowledge	Retrieve facts and terminology
Understand	Comprehension	Explain meaning and relationships
Apply	Application	Use methods in a situation
Analyse	Analysis	Examine parts and relationships
Evaluate	Evaluation	Judge against criteria
Create	Synthesis	Develop an original product or approach

01 | REMEMBER

Original reference category: Knowledge • Observable student performance

REMEMBER / KNOWLEDGE

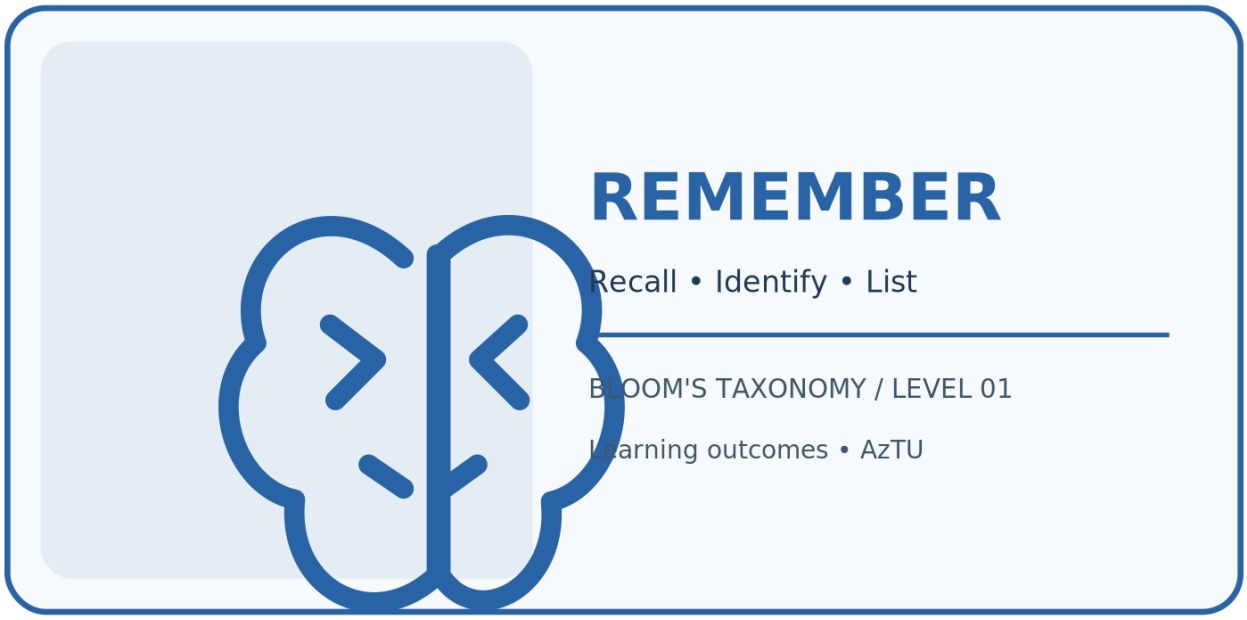
EXPANDED ACTION VERB BANK

VERBS A–	VERBS B–	VERBS C–
Define, Describe, Duplicate, Enumerate, Identify	Name, Order, Quote, Recall, Recite	Select, Sequence, State, Tell, Count
Label, List, Match, Memorize	Recognize, Record, Repeat, Reproduce	Locate, Find, Cite

ILLUSTRATIVE AzTU LEARNING OUTCOME

Outcome statement	Matching evidence
Identify standard symbols in a circuit diagram.	Identification test; labelled diagram

Faculty note: select a verb only when the assessment actually requires the named performance.



02 | UNDERSTAND

Original reference category: Comprehension • Observable student performance

UNDERSTAND / COMPREHENSION

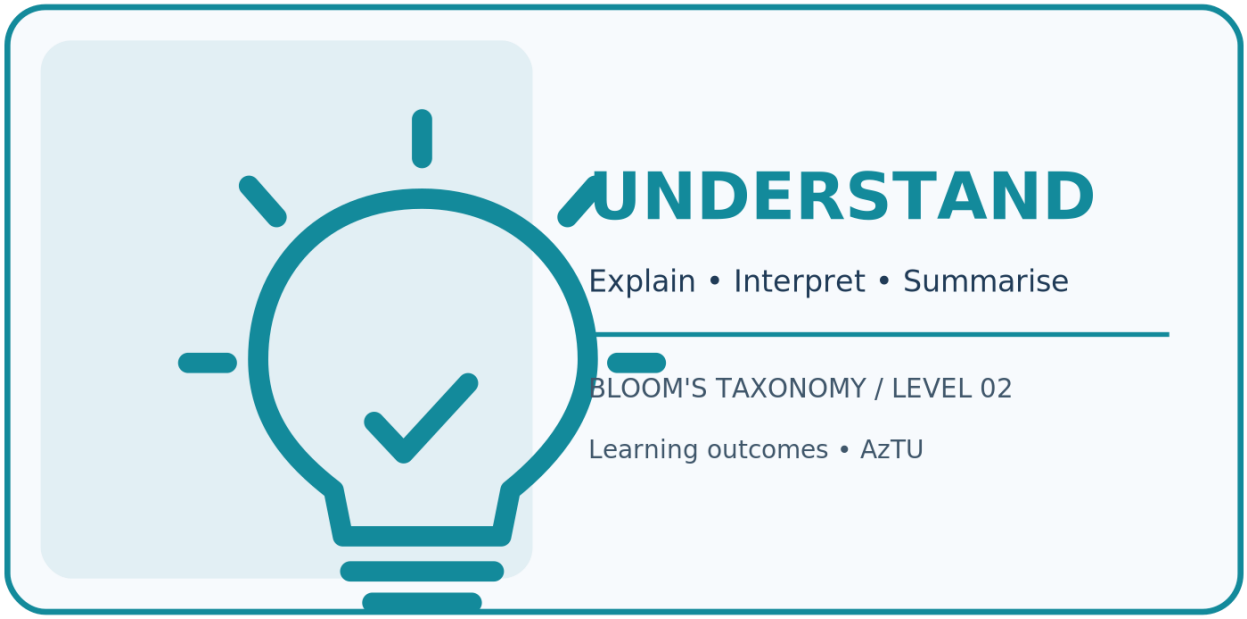
EXPANDED ACTION VERB BANK

VERBS A–	VERBS B–	VERBS C–
Classify, Compare, Conclude, Convert, Describe	Express, Generalize, Give examples, Illustrate, Infer	Predict, Report, Restate, Review, Summarize
Discuss, Distinguish, Estimate, Explain	Interpret, Locate, Outline, Paraphrase	Trace, Translate

ILLUSTRATIVE AzTU LEARNING OUTCOME

Outcome statement	Matching evidence
Explain the operation of a three-phase transformer using an annotated schematic.	Short explanation; concept map

Faculty note: select a verb only when the assessment actually requires the named performance.



03 | APPLY

Original reference category: Application • Observable student performance

APPLY / APPLICATION

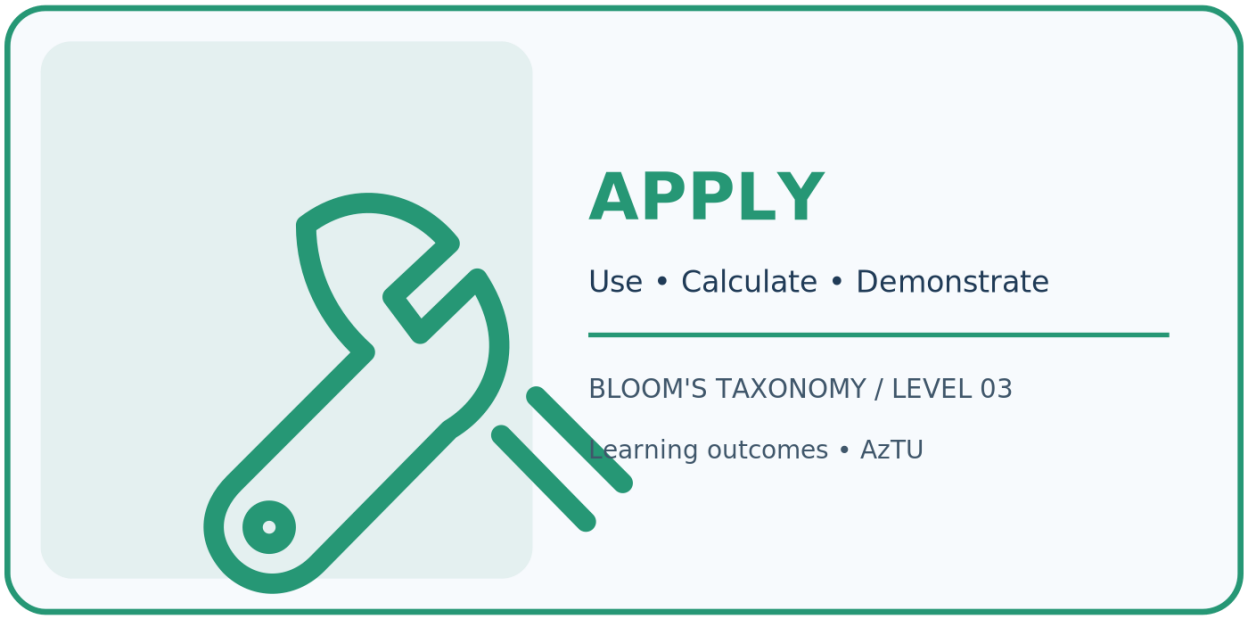
EXPANDED ACTION VERB BANK

VERBS A–	VERBS B–	VERBS C–
Act, Administer, Apply, Calculate, Change	Demonstrate, Determine, Develop, Discover, Dramatize	Operate, Practice, Predict, Prepare, Produce
Chart, Choose, Collect, Complete, Compute	Employ, Establish, Execute, Implement, Interview	Schedule, Show, Sketch, Solve, Transfer
Construct, Control	Manipulate, Modify	Use, Utilize

ILLUSTRATIVE AzTU LEARNING OUTCOME

Outcome statement	Matching evidence
Calculate power losses for a specified electrical network.	Problem set; laboratory task

Faculty note: select a verb only when the assessment actually requires the named performance.



04 | ANALYSE

Original reference category: Analysis • Observable student performance

ANALYSE / ANALYSIS

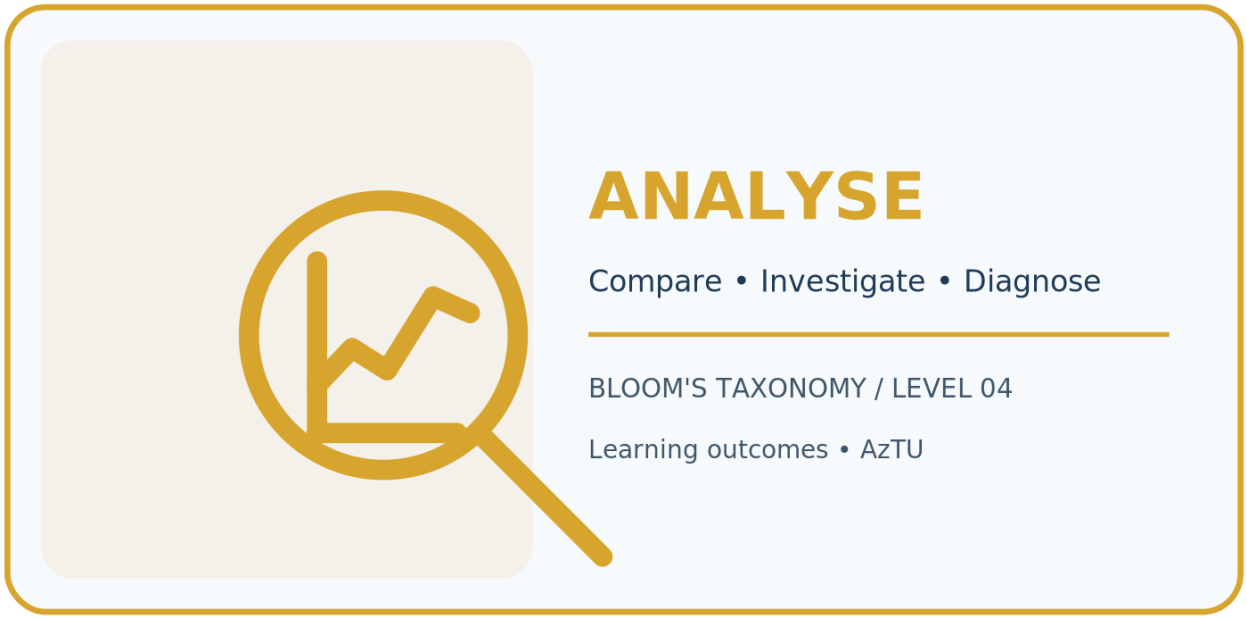
EXPANDED ACTION VERB BANK

VERBS A–	VERBS B–	VERBS C–
Analyze, Break down, Categorize, Characterize, Classify	Diagram, Differentiate, Discriminate, Distinguish, Examine	Investigate, Model, Outline, Point out, Prioritize
Compare, Contrast, Correlate, Debate, Deduce	Experiment, Focus, Identify, Infer, Inspect	Question, Research, Separate, Subdivide, Test

ILLUSTRATIVE AzTU LEARNING OUTCOME

Outcome statement	Matching evidence
Analyse vibration measurements to identify probable machine faults.	Fault-analysis report; data interpretation

Faculty note: select a verb only when the assessment actually requires the named performance.



05 | EVALUATE

Original reference category: Evaluation • Observable student performance

EVALUATE / EVALUATION

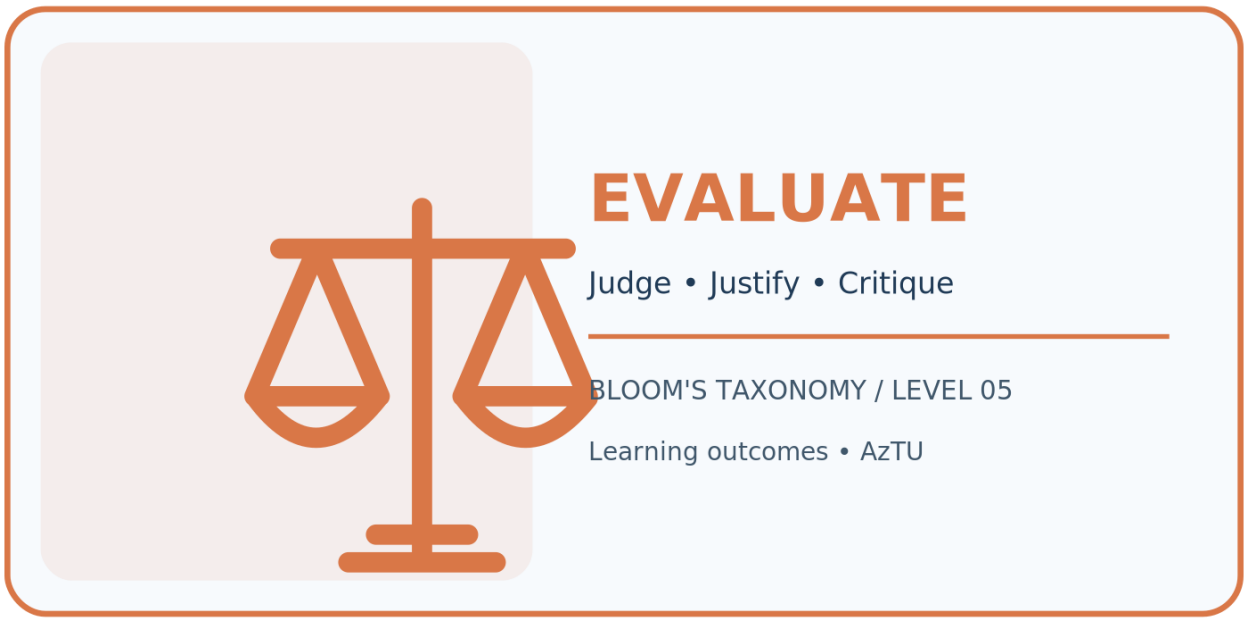
EXPANDED ACTION VERB BANK

VERBS A–	VERBS B–	VERBS C–
Appraise, Argue, Assess, Choose, Compare	Decide, Defend, Determine, Estimate, Evaluate	Prove, Rank, Rate, Recommend, Select
Conclude, Contrast, Criticize, Critique	Interpret, Judge, Justify, Prioritize	Support, Validate, Verify, Weigh

ILLUSTRATIVE AzTU LEARNING OUTCOME

Outcome statement	Matching evidence
Evaluate alternative cybersecurity controls against defined risk criteria.	Design review; justified recommendation

Faculty note: select a verb only when the assessment actually requires the named performance.



06 | CREATE

Original reference category: Synthesis • Observable student performance

CREATE / SYNTHESIS

EXPANDED ACTION VERB BANK

VERBS A–	VERBS B–	VERBS C–
Adapt, Anticipate, Arrange, Assemble, Collaborate	Devise, Formulate, Generate, Hypothesize, Incorporate	Plan, Prepare, Produce, Propose, Rearrange
Combine, Compile, Compose, Construct, Create	Initiate, Integrate, Invent, Model, Modify	Reconstruct, Reorganize, Revise, Rewrite, Set up
Design, Develop	Organize, Originate	Structure, Synthesize

ILLUSTRATIVE AzTU LEARNING OUTCOME

Outcome statement	Matching evidence
Design and validate a prototype meeting documented technical constraints.	Prototype; design portfolio; research proposal

Faculty note: select a verb only when the assessment actually requires the named performance.



ASSESSMENT QUESTION STEMS | SIX COGNITIVE LEVELS

LEVEL	QUESTION / TASK PROMPTS
Remember	What is …?; List the …; Identify the …; Which component …?
Understand	Explain in your own words …; How would you summarise …?; What is the difference between …?
Apply	How would you use … to solve …?; Calculate … using …; Demonstrate the method for …
Analyse	What factors explain …?; Compare the causes of …; What evidence distinguishes …?
Evaluate	Which option best meets the criteria …?; Justify your choice …; How effective is …?
Create	Design a … to achieve …; Propose a solution that …; Develop a test plan for …

Question stems are adapted and rewritten for engineering and higher education use; they are not verbatim reproductions of the source examples.

MATCHING VERBS TO ASSESSMENT EVIDENCE

LEVEL	STUDENT ACTION	DIRECT EVIDENCE
Remember	List, define, identify	Labelled diagram; short-answer quiz
Understand	Explain, classify, summarise	Annotated schematic; explanation
Apply	Calculate, implement, demonstrate	Problem solution; laboratory demonstration
Analyse	Differentiate, investigate, compare	Data analysis; fault investigation
Evaluate	Judge, justify, recommend	Technical critique; design review
Create	Design, develop, formulate	Prototype; capstone design; research proposal

Assessment principle: the evidence must demonstrate the performance. A multiple-choice recall question alone cannot verify that a student can design, evaluate or conduct an investigation.

MEASURABLE LANGUAGE | WHAT TO AVOID

VAGUE OR AMBIGUOUS	BETTER ASSESSABLE ALTERNATIVE
Know / have knowledge of	Define, explain, apply or analyse specified content
Understand / comprehend	Explain, classify, interpret or justify
Be aware of / be familiar with	Identify, describe or compare
Appreciate / value	Evaluate against specified criteria
Think / believe / feel	Argue, justify or defend with evidence
Have the capacity to	Demonstrate or perform a defined task
Recognise / memorise (without task context)	Identify or recall specified information under stated conditions

Source caution: some reference lists include “recognise” and “memorise” as measurable lower-level verbs while the source’s caution list also flags them as ambiguous. Use them only with a clearly observable task and assessment conditions.

Suggested outcome formula: ACTION VERB + DISCIPLINARY OBJECT + CONTEXT / CONDITIONS + PERFORMANCE CRITERION.

BEFORE	AFTER
Understand network security.	Evaluate a network configuration against a defined threat model and justify two risk mitigations.
Know circuit analysis.	Calculate branch currents using Kirchhoff’s laws for a supplied circuit and document assumptions.
Be familiar with research.	Design a reproducible experimental plan including methods, controls and data-quality criteria.