

Bloom's Revised Taxonomy for Learning Objectives

| REMEMBER | UNDERSTAND | APPLY | ANALYSE | EVALUATE | CREATE |
|---|--|--|---|---|--|
| To repeat or list information ¹ or procedures ² | To explain, paraphrase, organise, or exemplify information ¹ or procedures ² | To apply procedures ² , theories or skills to a known or similar situation ³ | To break a complex situation ³ into parts or clusters ⁴ , and/or to identify what procedures ² , ideas ⁷ or relationships are applicable. | To assess information ¹ , procedures ² , tools, processes, skills, and/or products ⁵ on their quality ⁶ and/or significance in order to reach a conclusion, advice, decision, or proof. | To create original ideas ⁷ , procedures ² , tools, or products ⁵ |

¹**Information** e.g. facts, terms, definitions/concepts, ideas, theories

²**Procedures** e.g. formulas, techniques, procedures, methodologies, rules, experiments, analyses

³**Situations** e.g. problem, experiment, data, process, research question, literature, list of specifications, computer program, or other information

⁴**Parts or clusters** e.g. causes and consequences, advantages and disadvantages, motives, stakeholders, and relations

⁵**Products** e.g. computer programs, designs, data, products, list of specifications, literature

⁶**Quality** e.g. reliability, validity

⁷**Ideas** e.g. ideas, theories, hypotheses, opinions, research questions

| Example | Example | Example | Example | Example | Example |
|--|---|--|---|---|---|
| The student is able to list the steps in the following methods of analysis: interpolation and classification. | The student is able to explain the movement of bony segments of the human skeleton system. | The student is able to calculate the shear and bending moment resistance of pre-stressed concrete structures. | The student is able to derive equations describing the steady-state performance of the vehicles discussed during the course. | The student is able to evaluate the quality of the collected data. | The student is able to design systems engineering solutions through the use of requirements analysis and conceptual designs. |

| Verbs | Verbs | Verbs | Verbs | Verbs | Verbs |
|--|---|---|---|--|---|
| Reproduce: Duplicate, List, Repeat, Reproduce Find/identify in e.g. a figure: Identify ^{AN} , Label, Locate, Name, Recognise, Recall | Give explanation: Discuss ^{AN, EV} , Explain ^{EV} Give examples: Give examples, Illustrate ^{AP, CR} In other words: Define, Paraphrase, Rephrase, Restate, Summarise Organise information Categorise ^{AP, AN} , Compar ^{AN} , Contrast ^{AN} , Order ^{AN} , Organise ^{AP, AN} | Apply general: Apply, Administer, Develop ^{CR} , Employ, Perform, Use, Implement, Make use of Apply knowledge: Categorise ^{UN, AN} , Link ^{AN} Apply specific procedures/skills: Assemble, Calculate, Compile ^{CR} , Correlate ^{AN} , Construct ^{CR} , Evaluate, Experiment ^{CR} , Illustrate ^{UN, CR} , Interview, Simulate, Solve ^{AN, EV, CR} | Analyse in general: Analyse, Appraise ^{EV} , Estimate, Examine, Inspect, Investigate, Research, Simplify ^{CR} , Solve ^{AP, EV, CR} Divide: Breakdown, Categorise ^{UN, AP} , Discriminate, Dissect, Divide, Isolate, Prioritise ^{EV} , Order ^{UN} , Organise ^{UN, AP} Arguments (one sided): Criticise ^{EV} , Debate ^{EV} , Discuss ^{UN, EV} , Focus, Highlight, Motivate, Point out, Reason ^{EV} Relationships: Compar ^{UN} , Contrast ^{UN} , Correlate ^{AP} , Infer ^{EV} , Link ^{AP} , Model ^{CR} , Rank, Relate, Reorganise Select applicable procedure/theory/skill: Choose ^{EV} , Identify ^{UN} , Model, Select ^{EV} , Simplify | Taking into consideration: Consider, Deduct, Reason ^{AN} , Value Working towards a conclusion*: Appraise ^{AN} , Assess, Award, Evaluate, Grade, Mark, Rate, Reason ^{AN} , Score, Solve a problem ^{AP, AN, CR} Reaching a conclusion*: Advise, Choose ^{AN} , Conclude, Decide, Determine, Judge, Prioritise ^{AN} , Select ^{AN} Defending a conclusion* (or not): Argue, Convince, Criticise ^{AN} , Debate ^{AN} , Disprove, Dispute, Influence, Justify, Persuade, Prove, Reason ^{AN} , Recommend, Support, Validate Discuss consequences/significance of conclusion*: Discuss ^{AN, UN} , Explain (results, consequences for stakeholders, society, etc.) ^{UN} , Induce, Infer ^{AN} , | Make something new: Compose, Create, Design, Develop ^{AP} , Discover, Experiment ^{AP} , Invent, Plan Change something: Adapt, Change, Innovate, Modify, Reframe, Revise, Simplify ^{AN} , Substitute, Transform Add something: Add to, Elaborate, Extend Improve something: Improve, Maximise, Minimise Combine some things: Combine, Compile ^{AP} , Integrate New ideas: Formulate, Hypothesise, Originate, Propose, Speculate, Suggest, Theorise Construct: Construct ^{AP} , Illustrate ^{UN, AP} , Draw, Visualise Other: Model ^{AN} , Solve ^{AP, AN, EV} , Program |

^{UN, AP, AN, EV, CR} Some verbs can be used in multiple levels of the taxonomy. This is indicated with the superscripts: UNderstand, APply, ANalyse, EValuate or CReate. The verbs used in this document are a selection of the possibilities. You can also use other verbs.

| Products | Products | Products | Products | Products | Products | |
|-----------------------------|--------------------------------|---|--|---|---|--|
| Definition Fact Label | List Reproduction Quotes | Categorisation Collection Closed questions (e.g. true/false, multiple choice) Examples Explanation Outline Summary Devise a wiki entry | Demonstration (e.g. video) Illustration Interview Performance Presentation Role play Simulation Use formulas, programs, rules, procedure, techniques Calculation | Abstract Analysis of a case/situation Case presentation Chart Checklist Discussion of the (quality of) results' Graph Observation of professional practice Peer feedback Report Spreadsheet Survey | Advise Case presentation Comment Conclusion Discussion/debate Essay Evaluation Judgement Opinion Recommendation Report Review Verdict | Computer program Design plan/blueprint/scheme/drawings Exam questions Game Paper Plan Portfolio Project Prototype Research proposal |