How to write Course Outcomes with proper procedure.

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Purpose of this document is to provide basic framework and guidance for writing the Course Outcomes. Our faculty members may find some usefulness of this document to write Course Outcomes. This document does not contain any of my own original ideas but simply a collection of learning material available on the web world. I had mentioned a source of all learning material, which I had used to prepare this document.

1. Definition[1]:
Course outcomes (CO):
1A.COs are the narrower statements that describe what students are expected *"to know"* and *"be able todo"* at the end of each course.
1B.Learning outcomes specify what learners' new behaviors will be after a learning experience.
1C.They states the *knowledge, skills, and attitudes* that the students will gain through your course.
1D.Learning outcomes begin with *an action verb* and describe something *observable* and measurable*.*

2. Features of CO[2]:
It should describe,
(a) What faculty members want students *"to know"* at the end of the course.
(b) What faculty members want students *"to be able to do"* at the end of the course.

3. Characteristics of CO:
(a)They *specify an action* (using action verbs and bloom's taxonomy) by the student that is *observable.* (b)They *specify an action* (using action verbs and bloom's taxonomy) by the student that is *measurable.*(c)They *specify an action* that is *done by the students.*
(d)They should *not* specify an action that is *done by the faculty.*

4. Methodology:
Following procedure/methodology should be applied for writing COs. (a)First determine *the basic purpose of teaching* the course.
(To determine the purpose of course refer Writing and Assessing   Course-Level
         Student Learning Outcomes Office of Planning and Assessment Texas Tech University, Page no.4)
(b) Keep in mind the *level of program.* (UG/PG/Diploma)
(c) Before writing the COs, prepare list of *the major elements* that you want your students *to know*
(Such as facts, theories, concepts, principles etc...) at the end of the course.
(d) Before writing the COs, prepare list of *the major activities* that you want your students *to be able to do* (Such as skills, abilities etc...) at the end of the course.
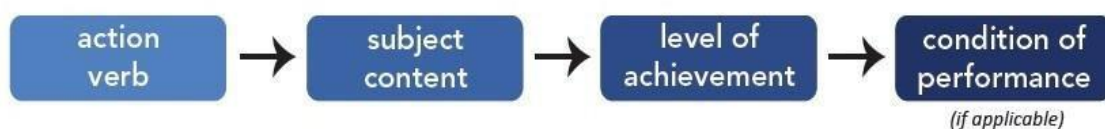(e) In first attempt write as many as nos. of COs, then narrow down the list between 5 to 10 nos. oraround Six (6).
(f) Rewrite/reframe them in orderly manner.

5. Steps to write CO[3] :
There is a four step to write a CO in a very simple manner,

Well-written LOs involve the following parts:

action verb → subject content → level of achievement → condition of performance *(if applicable)*

Step 1.
Select an *action verb* using Bloom's Taxonomy.
Step 2.
Select the *subject content* expected as outcome in the form of knowledge, skill or attitude/behavior.
Step 3.
Decide the *level of achievement.*
Example: Students able to operate Power supply correctly, accurately or effectively. Here correctly, accurately or effectively are levels of achievement.
Step 4.
Decide the *condition of performance.*
Example: In a Welding course with a field placement, you might say "Demonstrate oxy-fuel-gascutting techniques with limited supervision"
Here "limited supervision" is a condition of performance.

6.   Checklist for writing COs[4].
Use the following checklist to help you as you write your learning outcomes.
1. Focus on outcomes, not processes.
2. Start each outcome with an action verb.
3. Use only one action verb per learning outcome.
4. Avoid vague verbs such as *know* and *understand.*
5. Check that the verbs used reflect the level of learning required.
6. Ensure that outcomes are observable and measurable.
7. Write the outcomes in terms of what the learner does, not what the faculty does.
8. Check that the outcomes reflect knowledge, skills, or attitudes required in the workplace.
9. Include outcomes that are woven into the entire course (such as *work effectively in teams*).
10. Check that there are the appropriate numbers of outcomes (no more than three per major topic).
11. List the sub-outcomes for each outcome.
12. Check that the outcomes fit within program and course goals.

References:
[1]. https://www.youtube.com/watch?v=rCmVg XYkdBs,How to write Course Outcomes by Prof.U.P.Kulkarni.
[2]. Writing and Assessing Course-Level Student Learning Outcomes Office of Planning and Assessment Texas Tech University (806) 742-1505, www.depts.ttu.edu/opa.
[3]. https://www.mohawkcollege.ca/employees/c entre-for-teaching-learning/curriculum-development/how-to-write-course-learning-outcomes.
[4]. https://www.bcit.ca/files/ltc/pdf/ja_learningo utcomes.pdf (Check list)
[5]. Bloom's Taxonomy.
[6]. NBA General Manual for accreditation.