

Engineering Ethics Teaching - Planning Tool Worksheet*

*For further guidance on how to use this tool or to arrange a 90 min online workshop for your group, school or department please email Sarah Junaid (s.junaid@aston.ac.uk)

Stage1: Resources

Tabulate all relevant resources and their Learning Outcomes or Programme Outcomes

What are your Learning Outcomes for the topic you will teach? Please list them here.

- Do any of the accreditation requirements highlight any ethical requirements or competencies that includes key topics such as sustainability or equality, diversity and inclusion (EDI)?
- Are there any other national requirements or frameworks that highlight engineering ethics?
- Are there any teaching frameworks or activities that you would like to implement? List them here.

Highlight the **verbs in blue** and the **ethical topics in red**; this will help highlight any potential gaps.

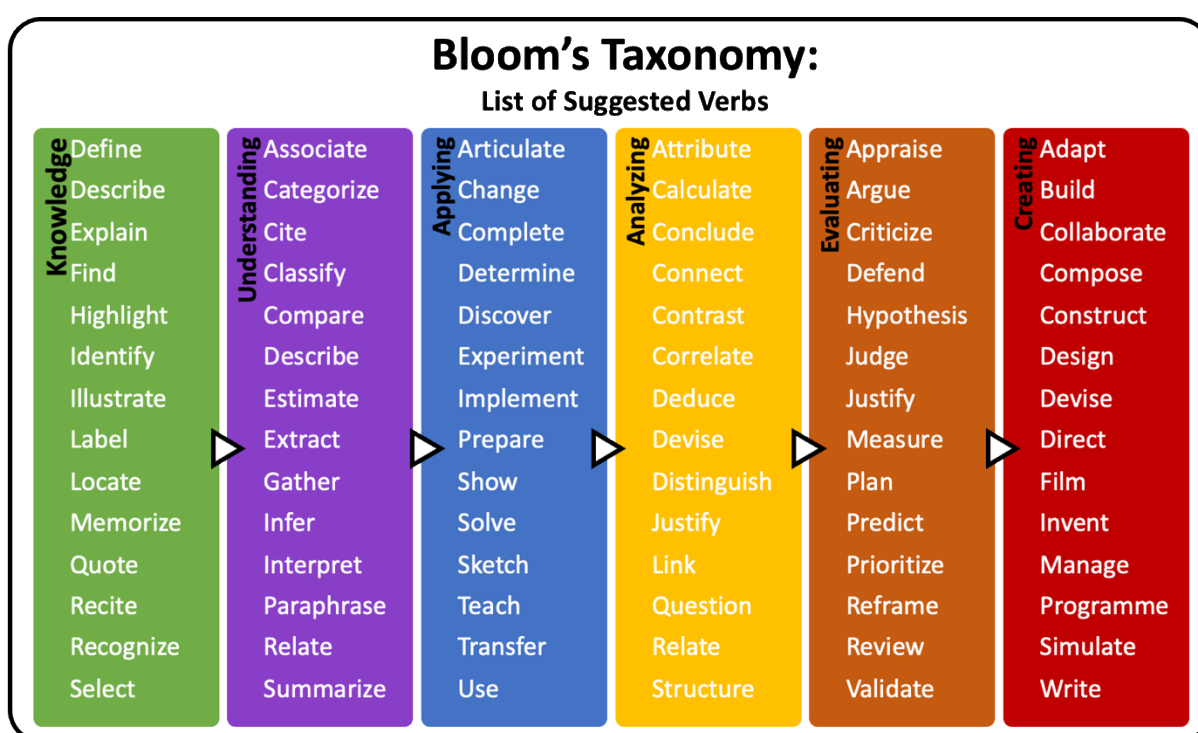
	Program level (My module, course, class, or lecture)	Accreditation level	National or Professional level ethics map or framework (optional)	International level
Reference/ Source	[Your University and course title]	[Your national accreditation board]	[e.g. codes of conduct, code of ethics, ethical principles, suggested teaching approaches]	[e.g. CDIO Syllabus, ABET, Washington Accord]
LO1.	[Write current Learning Outcome HERE]	[Copy and paste the relevant competency HERE]	[Copy and paste the relevant guidance HERE]	[Copy and paste the relevant competency/skill HERE]
LO2.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
LO3.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

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Stage 2: Re-write Learning Outcomes (LOs)

- Can one or more of the topic LOs be re-written to focus on a competency?
- Can different verbs be used e.g. using Bloom's Taxonomy below or another learning taxonomy to identify appropriate learning levels for this competency?
- Can you explain your rationale for the changes you have made?



Learning Outcomes	Re-worded Learning Outcomes	Rationale
LO1. [Copy and paste LO from Stage I table HERE]	LO1. [Re-write LO and highlight verbs in bold HERE]	[Justify your changes or if unchanged, justify why HERE]
LO2. Click or tap here to enter text.	LO2. Click or tap here to enter text.	Click or tap here to enter text.
LO3. Click or tap here to enter text.	LO3. Click or tap here to enter text.	Click or tap here to enter text.

Authors: Sarah Junaid (Aston University); Yann Serreau (CESI); Alison Gwynne-Evans (University of Cape Town); Patric Granholm (Åland University of Applied Sciences); Kathryn Fee (Queen's University Belfast).

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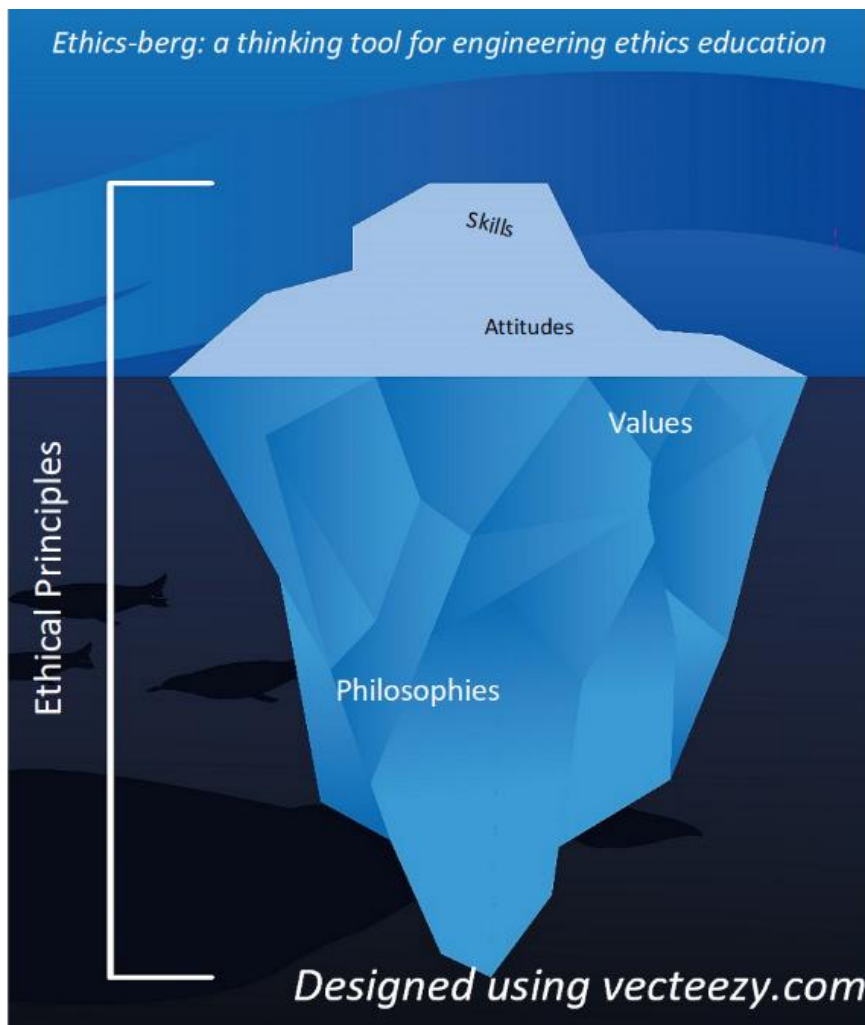
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Stage 3:

Ethics Teaching Tools – Evidence-based tools and resources to help with teaching engineering ethics

- What ethics teaching model will you adopt?
- Can you fill the ethics-berg with both demonstrable and non-demonstrable principles?
- What demonstrable factors (above the ethics-berg) are needed for the relevant LO?
- What non-demonstrable factors (below the water) are important that underlie the above?



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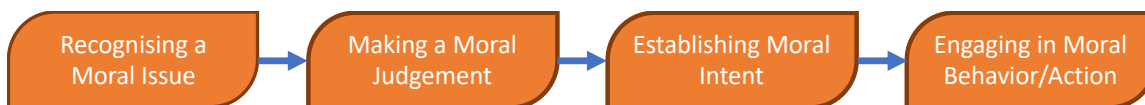
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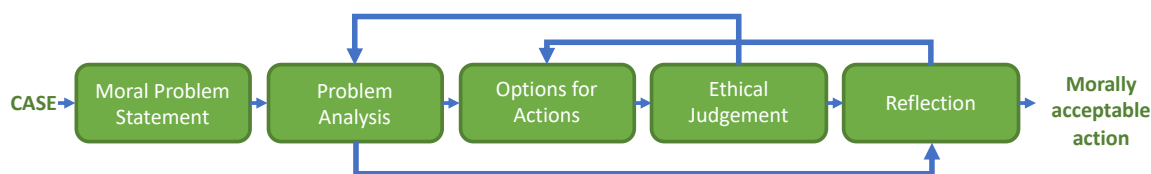
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Three Examples of Ethics Teaching Models:

1. The Rest Model for Ethical Decision Making¹ (Individual)



2. The Ethical Cycle² (Problem-solving)



3. The Innovent-E Model³ (Competencies) Language: French

Note: you can use other models, see footnote as a starting guide.

Stage 4: Constructive Alignment – Tabulate the LOs, activity and assessment, and ensure alignment

- If not aligned, where is the discrepancy?
- Is the Competence chosen not suitable for the module content?
- Could a different Competence be more appropriate?
- Could the Learning Outcome be edited to align with the required Competence?
- Could the activity be unsuitable?

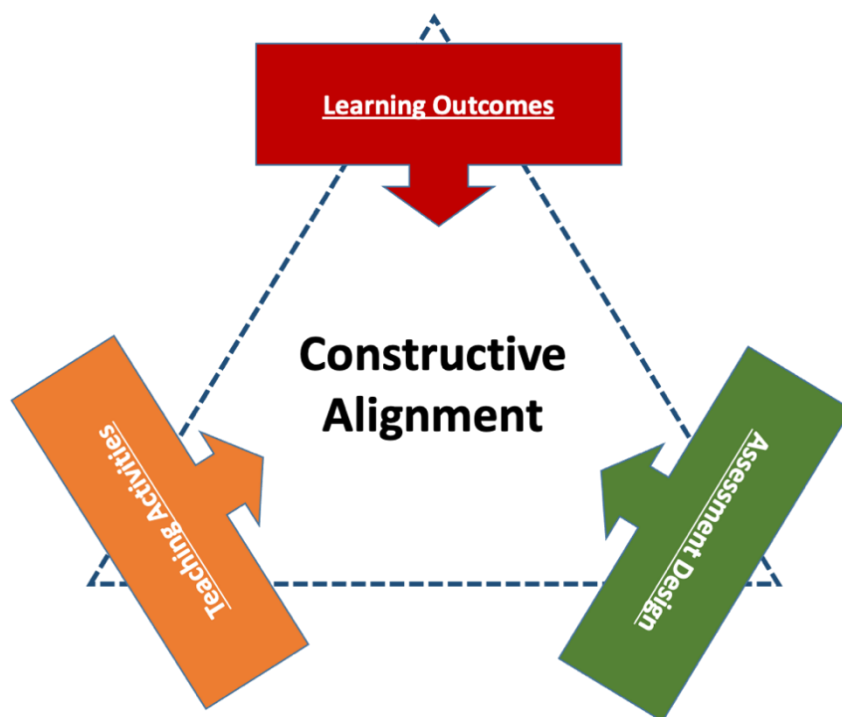
¹ <https://www.jstor.org/stable/258867> Jones, 1991.

² <https://link.springer.com/article/10.1007/s10551-006-9121-6> Van de Poel & Royakkers, 2007.

³ <https://www.innovent-e.com/> For access to competences in ethics contact Yann Serreau (yserreau@cesi.fr)

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MY MODULE - LEARNING OUTCOMES	LEARNING & TEACHING ACTIVITY	ASSESSMENT
LO1. [Copy and paste new LO from Stage II table HERE]	[What activity will support and prepare the student for the assessment?]	[What assessment would be needed to demonstrate this new LO?]
LO2. Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
LO3. Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

If you have used this tool in any way to shape your teaching, the authors would love to hear about it. Please let them know [here](#).

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