# Engineering Ethics Toolkit: Advice & Guidance - <u>Assessing Ethics: Rubric</u>

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This document provides the partial AHEP LO8 at each level. The competencies involved in meeting this Learning Outcome (LO) have then been identified, along with what students would need to demonstrate to evidence meeting a threshold level, or advanced level. Example questions are given to show how students may demonstrate their competence at each level. For each question there is an explanation of how the question supports achievement of LO at that level. The rubrics should be used alongside the accompanying <u>guidance</u> document which offers practical suggestions and advice.
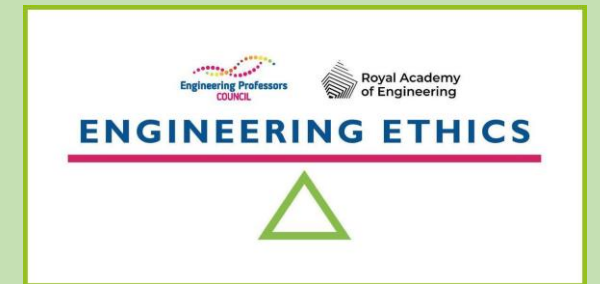
Year 1: This year focuses on developing awareness of issues, obligations, and responsibilities, and sensitising students to ethical issues.

AHEP4 LO8	Competency	Threshold This may be useful if considering assessment via a pass/fail mechanism	Advanced (in addition to Threshold)* This may be useful if considering development of marking rubrics and grading	Suggested assessment questions Note: In all cases, individual oral or written communication are deemed the most appropriate assessment method. Cases where other methods may be used (for example in the case of large cohort size or resource limitation as discussed in <u>Guidance</u>) have been indicated.	
Apply ethical principles and **recognise the need** for engineers to exercise their responsibilities in an ethical manner and in line with professional codes of conduct.	Explains the difference between **ethical and personal values**, demonstrating an understanding of some of the ethical issues within engineering products/ processes/projects, and the need for engineers to behave in an ethical manner.	Student can explain some of the key characteristics which differentiate personal/cultural values and ethics and demonstrate an understanding of why ethical principles (Joint Statement of Ethical Principles) are needed within a profession, for example by providing relevant examples of projects/products/process es which involve major ethical issues OR by identifying potential major ethical issues within a given project/product/process.	Student can clearly articulate the need for ethical reasoning within engineering and the consequences of not engaging in such reasoning. They are able to demonstrate their understanding by providing examples (e.g. engineering projects/products/processes) with consideration for influencing factors such as cultural differences, human and non-human actors, as well as a range of micro and macro ethical issues.	In the case that students have been presented with an ethical case study/ongoing scenario you may ask the following: • What are your initial thoughts about the issue? Do you see anything wrong in this situation? Why, or why not? • What ethical principles and codes of conduct are relevant to this situation? Multiple choice questions, or single word text input may also be considered. • Ethical principles and codes of conduct can be used to guide our actions during an ethical dilemma. How does the guidance provided in this case align with/differ from your personal views? • What are the moral values involved in this case and why does it constitute an ethical dilemma? *Multiple choice questions, or single word text input may also be considered.* • What role should an engineer play in influencing the outcome? What are the implications of not being involved in the situation? (Note: educators may also wish to ask students to provide examples of times when ethical practice has not been followed within the profession and the consequences).	*This allows students to demonstrate their ability to think about ethical dilemmas from the perspective of their personal values.* *This allows students to demonstrate their awareness of the relevant ethical principles involved in an ethical dilemma and identify ethical issues involved in engineering practice.* *This allows students to demonstrate their ability to differentiate between ethics and personal values and reflect on personal biases.* *This allows students to demonstrate their awareness of the relevant ethical values involved in an ethical dilemma and understanding of what an ethical dilemma is.* *This allows students to demonstrate their understanding of why engineers need to behave in an ethical manner and the implications of not doing so.*

*Advanced may be considered as a threshold at subsequent levels.

Year 2: This year focuses on developing the ability to identify ethical issues and to examine opposing arguments, all of which is needed to examine, analyse, and evaluate ethical dilemmas in Year 3.

AHEP4 LO8	Competency	Threshold	Advanced (in addition to Threshold)*	Suggested assessment questions
		This may be useful if considering assessment via a pass/fail mechanism	This may be useful if considering development of marking rubrics and grading	Notes: In all cases, individual oral or written communication are deemed the most appropriate assessment method. You may choose group assessment to allow for perspective sharing, but ensure that you are able to demonstrate that each individual meets the required level (see Guidance). For further comments on use of staged assessment, see Guidance.
Identify ethical concerns and make **reasoned** ethical choices **informed** by professional codes of conduct.	Follows a **systematic approach** to **analyse** ethical issues within engineering.	Students are able to draw upon professional codes of conduct and analyse the motivations, personal/cultural values, and arguments of stakeholders (including themselves) holding different positions in an ethical dilemma, as well as the involvement of non-human actors. They are able to use this, alongside the relevant facts in the scenario, to inform ideas for possible courses of action.	Students are able to identify areas of incomplete information within an ethical dilemma and are able to reflect upon how the associated level of risk and uncertainty impacts upon the advantages and disadvantages associated with possible courses for action.	In the case that students have been presented with an ethical case study/ongoing scenario you may ask the following: • Formulate a moral problem statement which clearly states the problem, its ethical nature and who needs to act. *This allows students to demonstrate their ability to identify ethical issues and the factors of consideration necessary for ethical analysis.* *This allows students to demonstrate their ability to logically think through an ethical dilemma and make suggestions for options for action based on professional codes of conduct.* • What are some of the possible courses of action in the situation? You should consider: the stakeholders involved and their interests in this situation; your responsibilities to the various stakeholders involved • What are some of the advantages and disadvantages associated with each? *This allows students to demonstrate their ability to start analysing options for action.* • What are the relevant facts in this scenario and what other information would you like to help inform your ethical decision making? *This allows students to determine the facts and identify areas of incomplete information within an ethical dilemma and to reflect upon how the associated level of risk and uncertainty impacts on their decision-making process.*

*Advanced may be considered as a threshold at subsequent levels.

Year 3: This year focuses on ensuring that students can satisfy LO8 at an output level in a robust manner.

AHEP4 LO8	Competency	Threshold	Advanced	Suggested assessment questions
		This may be useful if considering assessment via a pass/fail mechanism	This may be useful if considering development of marking rubrics and grading	Notes: In all cases, individual oral or written communication are deemed the most appropriate assessment method. For information about use of exams and consideration for academic integrity at Level 6 (output level), see Guidance.
Identify and **analyse** ethical concerns and make reasoned ethical choices informed by professional codes of conduct.	Follows a **systematic process** to **evaluate** the potential consequences of a range of actions/solutions and to inform/justify ethical decision making.	Students can make use of appropriate ethical frameworks (including legal frameworks) to identify and evaluate viable solutions to ethical dilemmas which is used, alongside analysis, to inform and justify ethical choices.	Students are more likely to be able to take account of a variety of impacts of their choices on different stakeholders (including themselves) over different time periods, cultural contexts, legal jurisdictions etc., and to articulate the impact that uncertainty has on decision making.	In the case that students have been presented with an ethical case study/ongoing scenario you may ask the following: • Make use of ethical frameworks and/or professional codes to evaluate courses of action with consideration for different stakeholders, the cultural context and legal jurisdiction, and both long- and short-term consequences. *This allows students to demonstrate their ability to analyse and evaluate options for action for ethical dilemmas.* • Compare the courses of action and, with use of reasoning and evidence, create an argument for the best possible course of action. *This allows students to demonstrate their ability to analyse and evaluate options for action for ethical dilemmas.* • How do the uncertainties and unknowns in this case impact upon your decision making? *This allows students to demonstrate their ability to analyse and evaluate options for action for ethical dilemmas.*

*Advanced may be considered as a threshold at subsequent levels.