SNS COLLEGE OF TECHNOLOGY

Coimbatore-35.

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

COURSE NAME : 19GET201 PROFESSIONAL ETHICS & HUMAN VALUES

IV YEAR/ VII SEMESTER

UNIT – II ENGINEERING AS SOCIAL EXPERIMENTATION

TOPIC: ENGINEERS AS RESPONSIBLE EXPERIMENTERS

ENGINEERS AS RESPONSIBLE EXPERIMENTERS

Engineers as Responsible Experimenters

- Engineers are not alone in the field.
- Their responsibility is shared with organizations, people, government and others.
- No doubt the engineers share a greater responsibility while monitoring the projects, identifying the risks, and informing the clients and the public with facts. Based on this, they can take decisions to participate or protest or promote.
- Engineer, as an experimenter, owe several responsibilities to the society, namely,
  - Conscientiousness
  - Comprehensive Perspective
  - Moral Autonomy
  - Accountability

ENGINEERS AS RESPONSIBLE EXPERIMENTERS

1. Ethical Responsibility:

Duty of Care: Engineers must exercise a high level of care in their work, recognizing that their decisions and actions can have significant impacts on public safety, the environment, and society at large.

Informed Decision-Making: Responsible experimenters must make decisions based on thorough analysis and reliable data. They should also consider the potential long-term consequences of their work.

2. Transparency and Accountability:

Open Communication: Engineers should communicate clearly with stakeholders about the risks and uncertainties involved in a project. This includes being transparent about any potential failures or adverse outcomes.

Accountability: Engineers must take responsibility for the outcomes of their projects. This involves not only taking credit for successes but also acknowledging and learning from failures.

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3.Ethical Reflection:

Moral Imagination: Responsible engineers should use moral imagination to foresee the potential impacts of their work on different groups of people. This involves considering the ethical implications of various design choices and project decisions.

Continuous Improvement: Engineers should be committed to continuous learning and improvement, both in their technical skills and in their ethical decision-making processes.

4. Case Studies and Applications:

Safety-Critical Systems: In fields like aerospace, civil engineering, and healthcare, engineers must rigorously test and validate their designs to ensure safety. When unexpected issues arise, they must act swiftly to mitigate risks and protect the public.

ENGINEERS AS RESPONSIBLE EXPERIMENTERS

5. Professional Conduct:

Adherence to Codes of Ethics: Most engineering disciplines have established codes of ethics that guide engineers in their professional conduct. These codes emphasize the importance of honesty, integrity, and a commitment to public welfare.

Peer Review and Collaboration: Engineers should seek peer review and collaborate with others to ensure that their work meets high standards of safety, reliability, and ethical integrity.


Thank
You