

ENCS 521
Computer Engineering Ethics

Honesty

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Truthfulness

- Forbids lying, but also forbids:
 - Intentional distortion and exaggeration
 - Withholding relevant information (except when confidential)
 - Claiming undeserved credit
 - Any misrepresentation designed to deceive...
 - Failing to investigate relevant information
 - Allowing one's judgment to be corrupted

Trustworthiness

- Deceit is a form of manipulation that undermines human's ability to make up their own minds...
- Deceit coerces people into acting against their will!
- Deceit deprives people of their own moral autonomy.

Case: Toyota Runaway Cars

- Watch this Youtube video:

https://www.youtube.com/watch?v=df-N6_eUOGQ

- Toyota settled the case for \$1 Billion.

<https://www.youtube.com/watch?v=cNo-alYiVk>

Case: Volkswagen Emissions Cheat

- Watch this explainer:

<https://www.youtube.com/watch?v=CQ4irwe3ZDk>

Academic Integrity

- Forbids cheating, but also forbids:
 - Fabrication (*e.g. experiment results*)
 - Plagiarism
 - Facilitating Academic Dishonesty
 - Misrepresentation (*e.g. false excuse for absence*)
 - Failure to contribute to a collaborative project
 - Sabotage
 - Theft
- Academic Dishonesty cannot be justified in any case!

Research Integrity

- Avoid scientific misconduct, such as (Charles Babbage categories):
 - Forging, deception to establish one's reputation as a researcher
 - Hoaxing, deception intended to last only for a while
 - Trimming, selectively omitting bits of data
 - Cooking, selective reporting of results, falsifying, "massaging data"
- Add one more: "negligence".

Self-Deception and Bias

- Self-Deception: announcing results before peer-reviews...
 - Example: Cold Fusion experiment at the University of Utah in 1989.
- Bias: research funding to promote a product.
 - Example: varying results about second-hand smoking.

Consulting Engineers - Advertising

- Prior to a 1976 U.S. Supreme Court Ruling, competitive advertising in engineering was banned by professional codes of ethics...
- It was deemed unfair to colleagues to win work through one's skills as an advertiser, rather than one's earned reputation as an engineer.

Consulting Engineers – Competitive Bidding

- Prior to a 1978 U.S. Supreme Court Ruling, competitive bidding in engineering was banned by professional codes of ethics...
- Engineers were only allowed to apply a fee structure to the contracts.
- Clients have to rely on reputation and proved qualifications...
 - The new and young consultants are disadvantaged

Consulting Engineers – Contingency Fees

- NSPE code of ethics: “Engineers shall not request , propose, or accept a commission on a contingent basis under circumstances in which their judgment may be compromised.”
- Example: The fee is due if the consultant finds cost-saving methods that will save 10% on an already contracted project. Otherwise, no fee!

Honesty especially needed when engineers act as...

- Expert witnesses in courts.
- Advisors in public planning and policy-making.

End of Lecture