

The Engineer and her/his responsibility

Levels B2 – C2

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The engineer is the most important human on earth, and this has been true practically since the beginning of the industrial revolution in 1752 when Samuel Twilling invented a water pump that prevented flooding and kept the coal mines open a lot, lot longer.



But does working to produce missiles exempt you from the responsibility for how they are used? Does working in highly speculative, mathematically determined financial markets free you from all responsibility for the crisis that ensues once the bubble bursts?

To what extent do you hold yourself accountable or can you expect to control the results of your work. Where would you work and where wouldn't you?

To what extent would these considerations compromise 'progress'?

Objectives and Coursework

The goal of this course is to allow the student to consider the possibility that his or her responsibility will be called into play in their work as a professional engineer, a teacher and as a human being, on a day to day basis.

Students will be expected to work in small groups on a specific example of scientific development, invention or discovery involving long and short-term consequences, anything from the invention of plastic to developments in neurology; as in 'the brain explains everything', or 'the hormones', or 'the genes' or a felicitous 'combination of the three.'



They will be expected to research and present their work. There will be a fair amount of reading including philosophic considerations, the story of discovery (ies) and inventions and the actions and reactions inventors had or did not have consequent to the uses made of their work.

One of the earliest objections to our technocratic society came from Jacques Ellul, a Frenchman who more than 40 years ago said that the age of the technical appears to have allowed people to no longer consider consequences. In other words the engineers who developed the automobile didn't really imagine that their invention would be the greatest devastator of the planet since the comet that wiped out the dinosaurs. That sort of consideration is just not in the works. Why?

Evaluation

Students will be graded on participation, there may be a few spot quizzes to see whether or not you are doing the reading, and of course your research project and presentation will count for a good portion of the grade.

Participation and course preparation - 40%

Personal work (oral and written) - 60%