
MATHEMATICS FOR ENGINEERS AND ENGINEERING MATHEMATICS, EVOLUTION IN THE FRENCH EDUCATION SYSTEM

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Abstract

In France, the “lycée” (second level of secondary school) used to propose a scientific curriculum where mathematics played an important role. Students training as engineers had then a strong mathematical education during the “classes préparatoires” (first two years of bachelor’s studies after the baccalauréat). During the three remaining years before graduating as an engineer, the level of mathematical education depended strongly on the chosen engineering school. Altogether the French education system provided the industry with a large number of engineers with a very good mathematical background. This is no longer the case, at least not at the same level, for several well analysed reasons.

At the same time, many attempts to build closer links between research in mathematics and business or industry have been led by the mathematical community, and recent initiatives sprang around MSO (modelling, simulation, optimization). Even if engineering mathematicians are not so numerous, applying mathematics to complex real-world problems finds its place in the industry and creates new opportunities for motivated students.

I will try to give some elements of analysis concerning the French education system and examples of recent developments enhancing the interest for engineering mathematics.
