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## **KASHI NATH SAHA**

**Jadavpur University, Mechanical Engineering Department, India**

# **EVOLVING APPROPRIATE COMMON ENGINEERING SOFTWARE: A CASE STUDY**

### **Abstract:**

The present paper considers the subject for under graduate engineering students in the Mechanical Engineering Department of Jadavpur University and briefly reports the findings. The changes in the curriculum are tracked for the last 40 years (1978 - 2018) and first a historical account of the engineering softwares, taught during this period, is presented. The under graduate mechanical engineering curriculum first introduced Fortran programming for the final year students. The new curricula, introduced in 1978, were in line with the overall change in the secondary and higher secondary education system of the country. During the first 3-4 years a central main frame Cyber computing system was used and in 1984, the department had arranged an in-house computational laboratory. With gradual development in computational facilities, necessity of introducing a graphics software was felt. However, this was initiated in production specialization, as part of CAD/CAM laboratory. A separate computer aided drafting laboratory was formed in 1992 and later in 1998 the computational and drafting laboratories were integrated. During all these years, Fortran and AutoCAD were taught in the first and second year of the common curricula, and other softwares like MatLab, AutoLisp, Ansys, etc. was used in the final year project work, in stand-alone mode. Afterwards in 1998 another solid modelling software was introduced in third year design sessional subject. By this time, the need of introducing an object oriented software was felt but could not be introduced due to lack of able faculty members. Many elective subjects came up in the new century as elective theory. Subjects like FEM, CFD, CAD, Data Structure, Optimization, etc. were introduced, but all of them suffered due to lack of support from supplementary computer laboratory. Finally in 2018, Fortran has been replaced by C programming language, again in line with the overall change in the under graduate engineering education system of the country. It is expected that future changes in curricula will focus on using object oriented softwares, in the existing subjects.

### **Keywords:**

Engineering curriculum, Computational software, Case study.