

## **Required Courses for Nuclear Graduate Programs: Could One Fit for All?**

A.A.Canella  
Universidade Federal de Minas Gerais  
Mail Box 567 Belo Horizonte 30123-970, Brazil

*Email address of main author : avelara@cdtn.br*

Certainly two research jobs in Nuclear area may differ as black differs from white. Accordingly, the development of a common academic background for different scientists involved in Nuclear studies have been a challenge for academic boards in institutions where graduate programs are available in Nuclear or Nuclear-related fields. Taking a look at some of them, we can identify Nuclear graduate programs having one only compulsory course – workload from 60 to 120 hours to introduce and to form the foundations of Nuclear Sciences for a wide range of professional backgrounds - physicists, engineers, chemists, biologists, physicians, dentists, veterinarians, pharmacists and agronomists. Consequently Nuclear Theory itself, its concepts and ideas have been presented by this induction course covering the general background on introductory level intending to be more friendly comprehensible for heterogeneous student bodies. Additionally, following a current directive emphasised in the last years in many countries, graduate programs generically have limited coursework requirements in order to reduce the time expectation of earning degree. Occasionally deeper courses in Nuclear Theory have not been taught due to their non-compulsory status that has resulting in low demand, not enough to set up classes. The sum of these facts sometimes may hold back physicists, chemists and engineers to deepen their knowledge on specific matters of Nuclear Sciences especially those demanding significant skills on Differential calculus and Physics. Although graduate programs on Nuclear Sciences vary from an University to another, there is a common question to be replied by Nuclear Community: What actions should be taken to improve on quality in Nuclear graduate programs forming Nuclear scientists whose are expected to carry out research that will make a significant contribution within one area of Nuclear Sciences?