

## **Chapter 2: Licensing of Software Engineers and Safety Critical Systems**

### *Objectives*

The material in this chapter has been designed in a manner such that, on completion, the participant will be able to

1. Understand what software engineering is
2. Clarify the role of a software engineer in the development of a computer system.
3. Understand the ramifications of being a licensed professional
4. Realize that there are pros and cons with regard to the licensing of software engineers
5. Understand the ongoing issues with regard to the licensing of software engineers
6. Learn what the prominent professional organizations' stances are on the licensing of software engineers
7. Be able to explore one's opinions on the issue of licensing of software engineers.
8. Understand the different stages of system development
9. Understand how safety measures can and should be incorporated into each component of system development
10. Realize the importance of safety in system development
11. Understand the tradeoffs between safety and expediency in system development
12. Cultivate a comprehension of the ethical responsibility of each professional, particularly the software engineer, when developing a computer system
13. Understand what a safety critical system is
14. Develop a personal moral code with regard to the division of ethical responsibility in the development of a computer system, particularly a safety critical system

15. Enhance critical thinking skills by analyzing case studies
16. Be able to examine one's ideas with regard to the case studies and compare and contrast them with those of others