BSE 4101 Software Reliability and Testing (4 CU)

Course Objectives Upon successful completion of this course the student will have ability to: (i) Understand the software reliability process and reliability growth models; (ii) Show techniques to improve and predict software reliability; and (iii) Appreciate concepts such as operational pro- files, techniques to improve and predict software reliability, preparing and executing test, black box testing, white box testing, unit testing, system testing, and integration testing.

Course content: This course introduces software reliability process, reliability growth models and shows techniques to improve and predict software reliability. Concepts such as defining necessary

reliability, developing operational profiles, techniques to improve and predict software reliability, preparing and executing test, black box testing, white box testing, unit testing, system testing, and integration testing will be explained.

References

• Software Reliability Engineering: More Reliable Software Faster and Cheaper, John D. Musa, (632 p.), Authorhouse, 2nd edition, 2004.ISBN 1418493872.

• Handbook of Software Reliability Engineering, Michael R. Lyu (Editor), McGraw Hill (1996).ISBN:

0-07-039400-8.

• Software Reliability: Measurement, Prediction and Application, J.D. Musa, A. Iannini, K. Okumoto, (621 p.), McGraw-Hill (1987).ISBN 0-07-044093-X.

• Effective Methods for Software Testing, William E. Perry, 2nd edition, John Wiley and Sons

(2000). ISBN: 0-471-35418-X.