COURSE CODE	COURSE TITLE	L	T	P	C
1152IT131	SOFTWARE QUALITY ASSURANCE	3	0	0	3

Course Category:

~~Foundation (0)/ Program Core (1) /~~ **Program Elective (2)** ~~/ Allied Elective (3) / University Elective (4) / Value Education Elective (5) / Independent Learning (6) / Industry - Higher Learning Institute Interaction (7)~~

a. Preamble :

This course covers the principles of software development emphasizing processes and activities of quality assurance.

b. Prerequisite:

Sl. No	Course Code	Course Name
1		Software Engineering
2		Software Testing

c. Link to other Course:

Sl. No	Course Code	Course Name
1		Minor Project
2		Major Project

d. Course Educational Objectives:

- This course introduces concepts, metrics, and models in software quality assurance.
- The course covers components of software quality assurance systems before, during, and after software development.
- It presents a framework for software quality assurance and discusses individual components in the framework such as planning, reviews, testing, configuration management, and so on.

e. Course Outcomes:

Upon the successful completion of the course, learners will be able to

CO Nos	Course Outcomes	Level of learning domain (Based on revised Bloom's taxonomy)
C01	Relate Quality Assurance Plan	K2
C02	Understand how to conduct formal inspections, record and evaluate results of inspection	K3
C03	Apply quality tools and technique in their projects	K3
C04	Establish software development with quality plan	K3
C05	Explain about standard and certification	K2

K2 – Understand, K3 - Apply

f. **Correlation of COs with Programme Outcomes:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M											
CO2	M		L		M							
CO3	M	M	L		M							
CO4	M		L		M							
CO5	M											

H- High; M-Medium; L-Low

g. Course Content:

UNIT I FUNDAMENTALS OF SOFTWARE QUALITY ASSURANCE 9

The Role of SQA – SQA Plan – SQA considerations – SQA people – Quality Management – Software Configuration Management

UNIT II MANAGING SOFTWARE QUALITY 9

Managing Software Organizations – Managing Software Quality – Defect Prevention – Software Quality Assurance Management

UNIT III SOFTWARE QUALITY ASSURANCE METRICS 9

Software Quality – Total Quality Management (TQM) – Quality Metrics – Software Quality Metrics Analysis

UNIT IV SOFTWARE QUALITY PROGRAM 9

Software Quality Program Concepts – Establishment of a Software Quality Program – Software Quality Assurance Planning – An Overview – Purpose & Scope.

UNIT V SOFTWARE QUALITY ASSURANCE STANDARDIZATION 9

Software Standards–ISO 9000 Quality System Standards - Capability Maturity Model and the Role of SQA in Software Development Maturity – SEI CMM Level 5 – Comparison of ISO 9000 Model with SEI's CMM

TOTAL: 45 periods

h. Learning Resources

i. Text Books

1. Mordechai Ben-Menachem / Garry S Marliss, "Software Quality", Vikas Publishing House, Pvt, Ltd., New Delhi.
2. Watts S Humphrey, "Managing the Software Process", Pearson Education Inc.

ii. Reference Books

1.Gordon G Schulmeyer, "Handbook of Software Quality Assurance", Third Edition, Artech House Publishers 2007
2. Nina S Godbole, "Software Quality Assurance: Principles and Practice", Alpha Science International, Ltd, 2004

iii. Online References

1.www.ou.ac.lk/science/.../277-cpu3147-software-quality-assurance
2.www.site.uottawa.ca/~awilliam/seg3203/May02.ppt
3.www.slideshare.net/.../sdpm-lecture-8-software-quality-assurance
4. ceng482.cankaya.edu.tr/.../CENG%20482_W1_publish_RLSD.pdf