INVENTATEQ

MASTER SYSTEM VERILOG
COURSE With Placement

Mode:In - Demand Professional Experience with Real- Time Hands- on System Verilog Training

WHAT'S ON OFFER FOR YOU

COURSE BENEFITS

- 100% Practical & Real- Time Hands- on Labs
- Industry Expert Trainers with 10+ Years Experience
- Interview Readiness & Resume Preparation
- 100% Dedicated Placement Support (HR's & Top Recruiters)

18+	500+	25K	10K
Hours of Training	Hands-on Exercises	Learners Worldwide	Success Stories

Enroll at Member FREE Limited Seats Available

STARTS : STARTS HERE !

How Inventateq Helps You

- Starting Jobs, Internships & Freelancing
- Team Expertise, Experience & Collaboration
- Brand New Products & Services
- Technological Confidence to Innovate
- Technological Infra Challenges
- Idea to Launch

ABOUT INVENTATEQ

Inventateq is a leading training and consulting company committed to transforming business into digital enterprises.

Our Mission
To empower individuals and businesses with cutting-edge technology solutions and training, fostering innovation and driving digital transformation.

Our Vision
To be a global leader in technology education and consulting, recognized for our excellence, innovation, and impact on the digital landscape.

Why Thousands Choose Inventateq?

15+	500+	25,000+	15,000+
Years of Experience	Hands-on Exercises	Learners Worldwide	Success Stories

We Collaborate With :

Deloitte. Capgemini Accenture Microsoft FACTSET Mindtree

WHY LEARN SYSTEM VERILOG ?

Enterprises worldwide are actively hiring certified System Verilog professionals to drive critical verification projects. Here's why learning System Verilog can accelerate your career:

Learners can look at Industries such as :

- Automotive Industry Demand
- Professional Salary Compensation
- Cross- industry Opportunities
- Future- Proof Career Growth
- Global Certification Pathways
- Worldwide Job Opportunities

Average System Verilog Engineer Salary in India

₹5. 5 LPA - ₹18 LPA

WHY INVENTATEQ ?

We are here to help you with your career growth and we can place you as well

STUDENT TESTIMONIALS

COURSES & PLACEMENT VIDEOS

GUARANTEED PLACEMENT SUPPORT

We Are Can't Stand, we are ready for the next moment

OUR RECRUITMENT PARTNERS

TATA Infosys Wipro

Tech Mahindra Capgemini Accenture

IBM HCL Cognizant

OUR PLACEMENT STATS

10,000+	500+	95%	4LPA
Students Placed	Hiring Partners	Placement Rate	Highest Package

Check Our Recent Placements

CAREER PROGRESSION

Our training is designed to help you achieve your career goals, whether you're looking to start a new career or advance in your current role.

Role/Position	Typical Responsibilities	Training Provided
System Verilog Engineer	Design and verify digital circuits, write testbenches, and debug issues.	Practical System Verilog exercises, real- world projects, and industry- standard tools.
Verification Specialist	Develop verification plans, create testbenches, and ensure design quality.	Advanced verification techniques, coverage- driven verification, and best practices.
Design Engineer	Design digital circuits, write RTL code, and collaborate with verification engineers.	Digital design principles, System Verilog for design, and hands- on projects.
Technical Lead	Lead a team of engineers, provide technical guidance, and manage projects.	Leadership skills, project management, and advanced System Verilog techniques.

SKILLS ROADMAP

Progress from foundational to expert-level mastery, ready at every workflows.

Milestone	Practical Output	Mini-Assessment
Module 1: Digital Design and RTL Foundations	Create a simple digital circuit, implement basic logic gates, and understand fundamental concepts.	Quiz on digital logic fundamentals and RTL basics.
Module 2: Data Types and Operators	Work with different data types, operators, and expressions in System Verilog.	Practical exercises on data manipulation and operator usage.
Module 3: Procedural Statements and Control Flow	Implement procedural blocks, control flow statements, and understand their behavior.	Debugging exercises on procedural statements and control flow.
Module 4: Tasks, Functions, and Modules	Create reusable code blocks, organize code into modules, and understand hierarchy.	Design and implement a modular system using tasks, functions, and modules.
Module 5: Interfaces, Clocking Blocks, and Verification Basics	Use interfaces for communication, implement clocking blocks, and start verification.	Create a basic testbench using interfaces and clocking blocks.
Module 6: Object- Oriented Verification	Apply object- oriented programming concepts to verification, create classes and objects.	Develop a class- based testbench for a simple design.
Module 7: Assertions and Functional Coverage	Write assertions to check design properties, implement functional coverage models.	Create assertions and coverage models for a complex design.
Module 8: Constrained Random Verification	Generate random stimulus, apply constraints, and achieve coverage goals.	Develop a constrained random testbench and analyze coverage results.
Module 9: Advanced Verification Techniques	Explore advanced topics like UVM, formal verification, and low- power verification.	Research and present on an advanced verification topic.

DETAILED MODULE PLAN

Here's a detailed breakdown of what you'll learn in each module of your training:

Module 1: Digital Design and RTL Foundations

- Introduction to digital design concepts and RTL abstraction
- Overview of Verilog and System Verilog
- System Verilog's role in design and verification
- Understanding the design flow: from specification to implementation
- Introduction to simulation and synthesis

▸ LESSON 1.01
Introduction to digital design concepts, abstraction levels, and design flow overview.

▸ LESSON 1.02
Introduction to System Verilog, its role in design and verification, and basic syntax.

Module 2: System Verilog Syntax and Core Data Types

- Variables, nets, logic types, arrays, structures, and enumerations in System Verilog
- Operators, expressions, and their precedence in System Verilog
- Literal values, constants, and parameters in System Verilog
- Type casting and conversions in System Verilog

▸ LESSON 2.01
Working with variables, nets, and logic types in System Verilog, including arrays, structures, and enumerations.

▸ LESSON 2.02
Using operators, expressions, and literal values in System Verilog.

Module 3: Procedural Statements and Control Flow

- Procedural blocks: initial, always, always_comb, always_ff, always_latch
- Control flow statements: if- else, case, loops (for, while, do- while)
- Blocking and non- blocking assignments: understanding the differences
- Sensitivity lists and event control
- Debugging techniques for procedural statements and control flow

▸ LESSON 3.01
Implementing procedural blocks and control flow statements in System Verilog, including if- else, case, and loops.

▸ LESSON 3.02
Understanding and using blocking and non- blocking assignments correctly.

Module 4: Tasks, Functions, and Modules

- Creating and using tasks and functions for code reusability
- Passing arguments by value, reference, and constant reference
- Defining and instantiating modules
- Module hierarchy and port connections
- Parameterized modules for flexible designs

▸ LESSON 4.01
Creating and using tasks and functions to encapsulate and reuse code.

▸ LESSON 4.02
Defining modules, instantiating them, and connecting their ports.

Module 5: Interfaces, Clocking Blocks, and Verification Basics

- Introduction to interfaces for communication between modules
- Defining and using clocking blocks for synchronization
- Modports for controlling access to interface signals
- Basic verification concepts: testbenches, stimulus, and checking

▸ LESSON 5.01
Introduction to interfaces and their benefits for communication between modules.

▸ LESSON 5.02
Creating and using clocking blocks for synchronization and modports for controlling access.

Module 6: Simulation and Testbench Foundations

- Introduction to simulation tools and their role in verification
- Building simple testbenches: clocks, resets, stimulus, and checks
- Using display statements and waveforms for debugging
- Introduction to self- checking testbenches and basic assertions

▸ LESSON 6.01
Introduction to simulation tools and their role in verification.

▸ LESSON 6.02
Building simple testbenches: clocks, resets, stimulus, and checks.

Module 7: Object- Oriented Verification Basics

- Classes, objects, and inheritance in System Verilog
- Introduction to constrained random verification
- Randomization and constraints
- Coverage- driven verification: concepts and basic implementation
- Introduction to assertions: immediate and concurrent assertions

▸ LESSON 7.01
Introduction to classes, objects, and inheritance in System Verilog.

▸ LESSON 7.02
Introduction to constrained random verification and coverage- driven verification.

Module 8: Coverage and Verification Metrics Awareness

- Functional coverage: defining coverage points and bins
- Code coverage: statement, branch, and toggle coverage
- Cross coverage and coverage options
- Analyzing coverage reports and identifying verification gaps
- Writing coverage- driven tests to improve coverage

▸ LESSON 8.01
Defining coverage points and bins for functional coverage and analyzing results.

▸ LESSON 8.02
Understanding code coverage metrics and identifying verification gaps.

Module 9: Design and Verification Workflow Awareness

- Design- for- verification principles and best practices
- Interview- oriented understanding of RTL, testbench, and simulation usage
- Debugging techniques for common design and verification issues
- Career opportunities

▸ LESSON 9.01
Design- for- verification principles and best practices.

▸ LESSON 9.02
Debugging techniques for common design and verification issues.

Module 10: Real- Project Workflow

- Working on a real RTL design with corresponding verification tasks and checks
- Applying constrained random verification to a real- world design
- Planning and implementing verification for the mini- project or capstone assignment
- Project review, debugging support, and guidance
- Final project submission
- Resume building for VLSI roles
- Mock interviews
- Job support
- Certificate issued, to continue the journey to the next level of mastery

REAL- WORLD PORTFOLIO PROJECTS

Hands-on projects that mirror real industry challenges

Project 1 : verification- entry- view

Objective: Gain a deep understanding of the verification process and its importance in ensuring design correctness.
Methodology: Utilize industry- standard verification methodologies and tools.
Tools Used: Verilog, System Verilog, UVM, and simulation tools.
Outcome: Develop a comprehensive verification plan and execute it to identify and fix design bugs.

Project 2 : Verification Engineer Trainee

Objective: Gain hands- on experience in verification engineering tasks.
Methodology: Work on real- world projects under the guidance of experienced engineers.
Tools Used: Industry- standard verification tools and methodologies.
Outcome: Develop practical skills and build a strong foundation for a career in verification.

Project 3 : System Verilog Trainee

Objective: Learn and apply System Verilog for verification.
Methodology: Hands- on coding exercises, projects, and mentorship.
Tools Used: System Verilog, UVM, and simulation tools.
Outcome: Develop proficiency in System Verilog and its application in verification.

Project 4 : Verification Trainee

Objective: Gain foundational knowledge and skills in verification.
Methodology: Learn through theoretical concepts, practical exercises, and projects.
Tools Used: Various verification tools and methodologies.
Outcome: Develop a solid understanding of verification principles and practices.

Project 5 : RTL Design Engineer Trainee

Objective: Learn and apply RTL design principles.
Methodology: Hands- on coding exercises, projects, and mentorship.
Tools Used: Verilog, System Verilog, and simulation tools.
Outcome: Develop proficiency in RTL design and its application in real- world projects.

Project 6 : VLSI Engineer

Objective: Gain comprehensive knowledge and skills in VLSI engineering.
Methodology: Combination of theoretical concepts, practical exercises, and projects.
Tools Used: Various VLSI design and verification tools.
Outcome: Develop a well- rounded understanding of VLSI engineering principles and practices.

Project 7 : System Verilog Engineer

Objective: Gain in- depth knowledge and skills in System Verilog.
Methodology: Hands- on coding exercises, projects, and mentorship.
Tools Used: System Verilog, UVM, and simulation tools.
Outcome: Develop expertise in System Verilog and its application in complex verification projects.

ASSESSMENT FRAMEWORK

Multiple ways to showcase your skills and demonstrate your expertise to employers.

Assessment Type	Description	Skills Demonstrated
Module Knowledge Checks	Short multiple- choice quizzes, coding challenges, and practical exercises after each module.	Understanding concepts, applying knowledge, and problem- solving.
Lab Submissions & Practice Reports	Hands- on RTL, Modeling implementation, verification, and debugging exercises.	Practical skills, problem- solving, and attention to detail.
Mid- Term Project Evaluation	Independent problem- solving and application of concepts learned in the first half of the course.	Comprehensive understanding, design skills, and verification skills.
Final Practical Examination	End- to- end System Verilog implementation and verification of a complex design.	Complete application of learned concepts, problem- solving, and debugging.
Viva/Oral Presentation	Technical discussion, troubleshooting, and explanation of design decisions.	Communication skills, technical knowledge, and confidence.

RESUME, GITHUB & LINKEDIN

Build a professional online presence to showcase your skills and attract opportunities.

- Resume Optimization
Get your resume reviewed and optimized with industry- standard templates and keywords.
- Detailed Digital Design, Linkedin, and Portfolio Development
Create a professional LinkedIn profile and a portfolio website to showcase your projects.
- Project Documentation & Learning Path Mapping
Learn how to document your projects effectively and create a learning path.
- Recommendations for showcasing your projects, and gain access to networking opportunities.

YOUR STUDENT COMMUNITY

Connect with fellow learners, share knowledge, and grow your network together.

READ REVIEWS

WATCH VIDEOS

CONTACT US

Start your career with us and become a leading company that gets your Dream Job!

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