JOIN NOW

Goldenbarrel
Technologies Private Limited

ARE YOU AN ENGINEERING GRADUATE?

STUCK IN A NON-IT JOB?

GOLDENBARREL TECHNOLOGIES PRIVATE LIMITED OFFERS SPECIALIZED VLSI TRAINING PROGRAMS WITH BOTH ONLINE AND OFFLINE CLASSES, ENSURING QUICK COMPLETION AND 100% PLACEMENT. WE ARE DEDICATED TO HELPING ENGINEERING GRADUATES TRANSITION INTO THRIVING CAREERS IN THE ELECTRONICS INDUSTRY.

Break into a Thriving Career in the VLSI Industry!

PROGRAM HIGHLIGHTS

Quick Completion ✓
24/7 Support ✓
Proven Success ✓
Hands-On Training ✓

WHY CHOOSE US?

- **QUICK COMPLETION:** FINISH YOUR COURSE SWIFTLY AND EFFICIENTLY.
- **24/7 SUPPORT:** GET HELP WHENEVER YOU NEED IT.
- **PROVEN SUCCESS:** JOIN OUR SUCCESSFUL ALUMNI IN THE VLSI INDUSTRY.
- **HANDS-ON TRAINING:** GAIN PRACTICAL, REAL-WORLD SKILLS.
- **100% PLACEMENT:** SECURE A JOB UPON COMPLETION OF THE PROGRAM.

Contact Us
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Visit Our Website
www.goldenbarreledu.com

APPLY NOW

Who Can Apply? BE in ECE, BE in EEE

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VLSI DESIGN FLOW OVERVIEW

- REQUIREMENTS DEFINITION
- DESIGN SPECIFICATION & ARCHITECTURE
- RTL CODING
- RTL INTEGRATION
- FUNCTIONAL VERIFICATION
- SYNTHESIS
- DESIGN FOR TEST (DFT)
- PHYSICAL DESIGN
- STATIC TIMING ANALYSIS (STA)
- CUSTOM LAYOUT
- PHYSICAL VERIFICATION
- POST-SILICON VALIDATION

ESSENTIALS OF UNIX/LINUX

- ▶ LINUX/UNIX OPERATING SYSTEM AND SHELL
- ▶ WORKING WITH FILES AND DIRECTORIES
- ▶ COMMONLY USED COMMANDS

CMOS & FINFET BASICS

- ✓ MOSFET BASICS, OPERATIONS, SIMPLE CIRCUITS, AND SECOND-ORDER EFFECTS
- ✓ DETAILED FABRICATION PROCESS OF MOSFETS
- ✓ FINFET WORKING PRINCIPLE, FABRICATION TECHNIQUES, ADVANTAGES, AND DISADVANTAGES

CMOS & FINFET BASICS

- ✓ CONDUCTOR, SEMICONDUCTOR, AND INSULATORS
  - OVERVIEW OF THEIR PROPERTIES
  - DIFFERENCES BETWEEN INTRINSIC AND EXTRINSIC SEMICONDUCTORS
- ✓ BASIC PASSIVE AND ACTIVE DEVICES
  EXAMPLES OF EACH TYPE AND THEIR FUNCTIONS
- ✓ OHM'S LAW AND KIRCHHOFF'S LAWS
  PRINCIPLES AND APPLICATIONS IN CIRCUITS
- ✓ FUNDAMENTALS OF CIRCUIT UNDERSTANDING
  KEY CONCEPTS AND RELATIONSHIPS IN CIRCUIT ANALYSIS

LAYOUT TOOL ESSENTIALS

- LAYOUT EDITOR TOOL
- UNDERSTANDING THE SCHEMATIC SYMBOLS AND PARAMETERS
- CREATING AND MANAGING LIBRARIES AND CELLS
- COMMANDS FOR LAYOUT EDITING
- COMMANDS FOR SCHEMATIC EDITING
- VERIFICATION: DRC AND LVS

- ANTENNA EFFECT, LATCHUP, ELECTROMIGRATION, IR DROP
- ANALOG LAYOUT OF OPAMP, CURRENT MIRROR, ADC, AND DAC
- RESISTOR, CAPACITOR LAYOUT TECHNIQUES
- CMOS AND BICMOS LAYOUT TECHNIQUES
- STANDARD CELL LAYOUT: INVERTER, AND, OR, NAND, NOR, AOI, OAI, LATCHES, AND FLOP

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SYLLABUS

VLSI - CUSTOM ANALOG LAYOUT TRAINING

ADVANCED LAYOUT CONCEPTS

- MISMATCHES & MATCHING
- FAILURE MECHANISMS: ELECTROMIGRATION, IR DROP, LOD & STRESS EFFECTS, WPE, ANTENNA EFFECTS, LATCH-UP, ESD (WITH HIGH VOLTAGE RULES, EOS EFFECTS)
- NOISES & COUPLING
- DIFFERENT TYPES OF PROCESSES – ADVANTAGES & DISADVANTAGES:
    - PLANAR CMOS
    - FDSOI
    - SOI
    - BI-CMOS
    - GALLIUM ARSENIDE
    - SILICON-GERMANIUM
    - FINFET
- FULL CHIP CONSTRUCTION, SCRIBE SEAL, PAD FRAME, INTEGRATION, AND GUIDELINES
- PACKAGING

PHYSICAL VERIFICATION CONCEPTS

- ☑ DESIGN RULE CHECKS (DRC)
- ☑ LAYOUT VERSUS SCHEMATIC (LVS)
- ☑ ELECTRICAL RULE CHECKS (ERC)
- ☑ ANTENNA CHECKS
- ☑ LATCH–UP
- ☑ RELIABILITY CHECKS LIKE EM AND IR ANALYSIS
- ☑ DESIGN FOR MANUFACTURABILITY (DFM) CHECKS

ANALOG AND MIXED SIGNAL LAYOUT

- HIGH-SPEED ANALOG LAYOUT
- HANDLING CLOCKS
- ANALOG CIRCUITS & LAYOUT GUIDELINES
- SINGLE & MULTI-STAGE DIFFERENTIAL OP-AMP LAYOUT
- CURRENT MIRROR LAYOUT
- PLL, DLL, AND OSCILLATORS
- LDO AND OTHER REGULATORS
- ADCS & DACS
- BANDGAP, TEMPERATURE SENSORS & BIASES: CURRENT & VOLTAGE BIAS LINES
- LARGE DRIVERS
- INPUT PAIR, DIFFERENTIAL ROUTING, POWER ROUTING, OFFSET MINIMIZING
- POWER/SIGNAL IR DROP
- CROSS-TALK AND COUPLING
- ELECTROSTATIC DISCHARGE (ESD)
- DEEP SUB-MICRON LAYOUT ISSUES
- SHALLOW TRENCH ISOLATION (STI)
- WELL PROXIMITY EFFECT (WPE)

ASSIGNMENTS AND HANDS-ON PROJECTS

- ☑ ASSIGNMENTS AND MULTIPLE HANDS–ON PROJECTS
- ☑ BEST PRACTICES & INTERVIEW QUESTIONS

BY THE END OF TRAINING STUDENTS WILL BE FAMILIAR WITH

COMPLETE LAYOUT FLOW INCLUDING

- FLOOR PLANNING
- SCHEMATIC
- LAYOUT

AND ALSO

- STANDARD CELL LAYOUT OF DIGITAL GATES
- LEVEL SHIFTER
- SCHMITT TRIGGER
- SINGLE STAGE OP-AMP
- 4-BIT FLASH ADC
- 4-BIT DAC
- BANDGAP REFERENCE WITH START-UP CIRCUIT
- LOW DROP-OUT REGULATOR CIRCUIT

Trainee Engineers
TESTIMONIAL

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VLSI Triumph

★★★★★

I recently completed a course on VLSI (Analog Layout) training at Golden Barrel Technologies. The course was incredible and covered everything from starting with the fundamentals and progressing to real-world layout projects. I had opportunity of learning from highly experienced mentor who provided invaluable guidance. Especially the mock interview sessions were particularly helpful in preparing me for real-world job interviews, ultimately leading to me securing a position in the industry.
I am now well-prepared to embark on a rewarding career in the exciting field of VLSI ,Thank you.

NAVEEN M
Physical design Engineer
Placed in :
Zilika Technologies Pvt Ltd

Professional Growth

★★★★★

I am grateful for the training I received at Golden Barrel and got placed in Endivite Technologies PVT limited and now working for client company NXP. The skills and knowledge I acquired have prepared me well for my career. The balance between theoretical knowledge and practical application was particularly beneficial. I would highly recommend this program to anyone seeking comprehensive and practical training in this field.

S HARSHA VARDHANAN
Design Trainee Engineer
Placed in :Endivite Technologies Pvt Ltd

During my training at Golden Barrel Institution in VLSI, I went deep into the domain of Analog layout design engineering. Through a comprehensive period, I gained proficiency in custom IC design, circuit optimization, and layout extraction. With hands-on experience in layout design I improved my skills in layout and floorplanning, I executed various projects and innovation within a team environment. This experience not only facilitated personal and professional growth but also built a sense of confidence in tackling design challenges. Now I am excited to start my Career at NXP semiconductors as Design engineer

VIKRAM SHARMA S
Design Trainee Engineer
Placed in :Endivite Technologies Pvt Ltd

Skills Mastery

★★★★★

Goldenbarrel was the best training institute to learn the best technology/skills on Quality analyst which is required for the best in market.
I personally thank all the trainers helped me to increase my confidence to crack the interview. And even presentation helped me to increase my communication level and mocks helped me to overcome interview fear .Goldenbarrel is one of the best platform to start career in the industry ,Thank you Goldenbarrel helped me to get placed in "Karmic semiconductors Manipal

SYED RAFIQSHA
Analog Layout Engineer
Placed in :karmic semiconductors

Journey to Placement

★★★★★

My name is jairama student of golden barrel institute I'm glad to provide you all feedback about the institute overall my experience to date has been amazing this institute has provide me with a number of opportunities to grow and explore my skills the teachers are highly supportive.I Got placed in Karmic semiconductor pvt limited I am working from past 1 year .Thanks for Trainer

JAIRAMA
Analog Layout Engineer
Placed in :karmic semiconductors

Career Success

★★★★★

I am grateful for the training I received at Golden Barrel and got placed in Green semiconductors As Analog Layout Engineer.

HARIPRIYA
Analog Layout Engineer
Placed in : Green semiconductors

Path to Success

★★★★★

I learned about the Golden Barrel through a college friends who had started their course a few days before I joined. Following the completion of my BE in ECE, and not securing a placement through my college campus, this training institution proved invaluable. It provided me with the opportunity to restart from the basics and acquire layout skills from experienced industrial trainers. The supportive environment fostered valuable insights, practical knowledge, and debugging skills, facilitating a seamless transition from theoretical concepts to hands-on experience in real-world applications. I am grateful for their support, as it ultimately led to my role as an analog layout engineer at MMRFIC.

DHANANJAYA N
Analog Layout Engineer
Placed in :MMRFIC Technologies pvt limited

★★★★★

I had a fantastic experience at Golden Barrel Technologies. And i have placed at Green Semiconductors, The instructors were highly knowledgeable and delivered the course content effectively. The hands-on practical sessions were particularly valuable, allowing me to apply theoretical concepts in a real-world setting. The institute's emphasis on industry-relevant skills and the latest technologies in Analog Layout design greatly enhanced my learning experience. I would highly recommend Golden Barrel Technologies to anyone looking to deepen their understanding of Analog Layout design and advance their career in this field.

MANJUNATH PUJAR
Analog Layout Engineer
Placed in : Green semiconductors

Career Placement

★★★★★

I am grateful for the training I received at Golden Barrel and got placed in Green semiconductors As Analog Layout Engineer.

DARSHINI C N
Analog Layout Engineer
Placed in : Green semiconductors

Analog Layout Success

★★★★★

I recently completed an analog layout internship at Golden Barrel Private Limited , which was a great experience. Throughout the internship , I have learned many of the basic foundational concepts of Analog Layout Design which were found to be very helpful during the interview sessions . The training by the professional mentors provided enhanced my skills and knowledge . Many of the mock interview sessions were carried out the internship period which boosted my confidence and prepared me for the actual job interviews . Through this internship , I have not only gained extensive knowledge but also got placed at HCLTech Ltd . I thank everyone who were been a great support during this journey of mine . I also strongly recommend anyone looking to create a career in VLSI analog layout domain .

RACHANA GOWDA D PATIL
Analog Layout Engineer
Placed in : Green semiconductors

My Journey at Golden Barrel

★★★★★

I recently completed an analog layout internship at Golden Barrel Private Limited, which was an incredibly valuable experience. The program offered thorough training in VLSI design, emphasizing analog layout using tools like Cadence. The curriculum combined theoretical learning with practical application, allowing me to work on real projects. The mentorship from experienced professionals was outstanding, greatly enhancing my skills. The collaborative environment fostered teamwork and innovation, preparing me well for a career in VLSI design. Additionally, I secured a placement at HCLTech Ltd, thanks to the robust training and support from Golden Barrel. This internship significantly boosted my confidence and capabilities, and I highly recommend it to anyone looking to advance their career in VLSI analog layout design.

RAKASHITA B
Analog Layout Engineer
Placed in :HCL Tech

CONTACT US

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