Master of Science (M.S.) Coursework-only Program
Electrical and Computer Engineering Department

**Digital IC Design Track**

All master's students must complete a tentative degree plan, which is approved by the adviser, no later than the second quarter of residence at PSU. NOTE: all changes must be initialed and dated by both the student and the adviser. All Pre-admission and Transfer credits MUST be approved by both the ECE Department and the Graduate School. Use the columns on the right to indicate approved (P) Pre-admission (taken at PSU before formal admission) and (T) Transfer credits (taken at another institution). Master's students may apply no more than three credits of ECE 507 Graduate Seminar toward degree elective requirements. Courses with a grade of C+ or lower can be used toward elective requirements only, and only with advisor approval.

| | TERM | GRADE | Credits | P | T |
|---|---|---|---|---|---|
| **Core – 16 credits required** | | | | | |
| ECE 525 Digital Integrated Circuit Design I | | | | | |
| ECE 526 Digital Integrated Circuit Design II | | | | | |
| ECE 530 Physical Design of Digital Integrated Circuits | | | | | |
| ECE 581 ASIC Modeling and Synthesis | | | | | |
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| **Depth and Breadth Course list - 16 credits required** | | | | | |
| ECE 515 Fundamentals of Semiconductor Devices | | | | | |
| ECE 516 IC technologies | | | | | |
| ECE 521 Analog Design Integrated Circuit I | | | | | |
| ECE 522 Analog Design Integrated Circuit II | | | | | |
| ECE 527 High-Performance Digital Systems | | | | | |
| ECE 528 VLSI-Computer-Aided Design | | | | | |
| ECE 529 Advanced VLSI Computer-Aided Design | | | | | |
| ECE 531 Microwave Circuit Design I | | | | | |
| ECE 540 System on a Chip Design with FPGAs | | | | | |
| ECE 544 Embedded System Design with FPGAs | | | | | |
| ECE 575 Introduction to Integrated Circuit Test | | | | | |
| ECE 582 Formal Verification of HW/SW Systems | | | | | |
| ECE 583 Low Power IC Design | | | | | |
| ECE 585 Microprocessors System Design | | | | | |
| ECE 586 Computer Architecture | | | | | |
| ECE 587 Advanced Computer Architecture I | | | | | |
| ECE 588 Advanced Computer Architecture II | | | | | |
| ECE 590 Digital Design Using Hardware Description Languages | | | | | |
| **One additional ECE lecture class – 4 credits required** | | | | | |
| Write in course number and name | | | | | |
| ECE | | | | | |
| **Electives – 9 credits required** | | | | | |
| Write in subject, course number and name | | | | | |
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| | | | | | |
| | | **TOTAL CREDITS:** | | | |

Notes: _____

Email: _____ ID#: _____

Student Name: _____ Signature: _____
(Last) ( First)

Adviser: _____ Signature: _____
(Last) ( First)

Date:

**ECE Graduate Director Signature:** _____ _____