

**TO:** The Faculty of the College of Engineering

**FROM:** The Elmore Family School of Electrical and Computer Engineering of the College of Engineering

**RE:** Adding Indianapolis Location to all ECE graduate level courses

The faculty of the School of Electrical and Computer Engineering has approved the following changes to all ECE graduate level courses. This action is now submitted to the Engineering Faculty with a recommendation for approval.

**From:** **Course Location**  
West Lafayette only

**To:** **Course Location**  
West Lafayette and Indianapolis

**Reason:** With the split of IUPUI, it is imperative that all ECE graduate level courses be eligible to be offered at both West Lafayette and Indianapolis locations. The list of courses needing both available locations is located on pages 2-5 of this document.



*Mithuna Thottethodi, Associate Head for Teaching and Learning*  
Elmore Family School of Electrical and Computer Engineering

Course Number	Title
ECE 50024	Machine Learning
ECE 50616	Physics and Manufacturing of Solar Cells
ECE 50631	Fundamentals of Current Flow
ECE 50632	Introduction to Quantum Transport
ECE 50633	Boltzmann Law: Physics to Machine Learning
ECE 50836	Introduction to Data Mining
ECE 50863	Computer Network Systems
ECE 51012	Electromechanics
ECE 51018	Hybrid Electric Vehicles
ECE 51032	Computational Methods for Power System Analysis
ECE 51100	Psychophysics
ECE 51214	CMOS Analog IC Design
ECE 51220	Applied Algorithms
ECE 51300	Diffraction, Fourier Optics and Imaging
ECE 52600	Fundamental of BioMEMS and Micro-Integrated Systems
ECE 55200	Introduction to Lasers
ECE 55700	Integrated Circuit/MEMS Fabrication Laboratory
ECE 56200	Introduction to Data Management
ECE 56300	Programming Parallel Machines
ECE 56800	Embedded Systems
ECE 57700	Engineering Aspects of Remote Sensing
ECE 59500	Advanced Lithography
ECE 59500	Application Oriented Computational Nanotechnology - Part 1
ECE 59500	Applied Quantum Computing I-Fundamentals
ECE 59500	Applied Quantum Computing II-Hardware
ECE 59500	Applied Quantum Computing III-Algorithm and Software
ECE 59500	Architectures and Algorithms for Autonomy
ECE 59500	Computational Lithography
ECE 59500	Computer Vision for Embedded Systems
ECE 59500	Data Analysis, Design of Experiments and Machine Learning
ECE 59500	Deep Learning for Computer Vision
ECE 59500	EUV Lithography
ECE 59500	Food and Energy Farms: Challenges to Sustainable Production on a Crowded Planet
ECE 59500	Fundamentals of Transistors
ECE 59500	Integrated Circuit/MEMS Fabrication
ECE 59500	Introduction to Applied Cryptography
ECE 59500	Introduction to Compilers I: Compiler Basics
ECE 59500	Introduction to Compilers II: Code Generation
ECE 59500	Introduction to Compilers III: Optimization
ECE 59500	Introduction to Deep Learning

ECE 59500	Introduction to Electronics Packaging and Heterogeneous Integration
ECE 59500	Introduction to Game Theory
ECE 59500	Introduction to Nanolithography
ECE 59500	Introduction to Quantum Science and Technology
ECE 59500	MEMS I: Microfabrication and Materials for MEMS
ECE 59500	MEMS II: Fundamentals of MEMS Design
ECE 59500	MEMS III: Applications in MEMS
ECE 59500	Microfabrication Fundamentals
ECE 59500	MRI Theory
ECE 59500	Natural Language Processing
ECE 59500	Optical Imaging System Design
ECE 59500	Plasmas and Electric Discharges
ECE 59500	Power Systems Distribution Analysis
ECE 59500	Reinforcement Learning: Theory and Algorithms
ECE 59500	Reliability Physics of Advanced Packaging
ECE 59500	Semiconductor Device Integration Through Simulation
ECE 59500	Semiconductor Fundamentals
ECE 59500	Semiconductor Manufacturing
ECE 60022	Wireless Communication Networks
ECE 60146	Deep Learning
ECE 60270	Structure and Dynamics of Large-Scale Networks
ECE 60281	Introduction to Mathematical Fundamentals for Systems and Control Theory
ECE 60282	Epidemic Processes
ECE 60283	Networked Epidemic Processes
ECE 60420	Radio Frequency Integrated Circuits
ECE 60421	Nanophotonics and Metamaterials
ECE 60422	Primer on RF Circuit Design
ECE 60423	RF System Design
ECE 60424	RF Design: Passive/Active Components
ECE 60431	Fiber Optic Communications
ECE 60432	Nanophotonic Modeling
ECE 60614	Reliability Physics of Nanoelectronic Transistors
ECE 60645	High-speed Semiconductor Devices
ECE 60800	Computational Models and Methods
ECE 60827	Programmable Accelerator Architectures
ECE 60872	Fault-Tolerant Computer System Design
ECE 61010	Time Domain Simulation and Optimization for Design
ECE 61014	Electromagnetic and Electromechanical Component Design
ECE 61016	Power Electronic Converters and Systems
ECE 61020	Operation of Modern Power Systems
ECE 61025	Finite Element Analysis of Electric Machines
ECE 61200	Advanced VLSI Devices (Nanoscale Transistors)
ECE 61500	Nonlinear Optics

ECE 61600	Ultrafast Optics
ECE 61700	Antennas: Design and Application
ECE 61800	Numerical Electromagnetics
ECE 62400	Multimedia Systems
ECE 63400	Digital Video Systems
ECE 63800	Principles of Digital Color Imaging Systems
ECE 63900	Error Control Coding
ECE 64100	Digital Image Processing II: Model-Based Image and Signal Processing
ECE 64500	Estimation Theory
ECE 64700	Performance Modeling of Computer Communication Networks
ECE 65600	Electronic Transport in Semiconductors
ECE 66300	Compiler Code Generation, Optimization, and Parallelization
ECE 66400	Formal Languages, Computability, and Parallelization
ECE 67300	Distributed Computing Systems
ECE 67500	Introduction to Analysis of Non-Linear Systems
ECE 67800	Radar Engineering
ECE 67900	Advanced Digital Communications
ECE 68800	VLSI Testing and Verification
ECE 69500	Advanced Internet of Things Design and Applications
ECE 69500	Advanced VLSI Design
ECE 69500	AI Hardware
ECE 69500	Big Data for Reliability and Security
ECE 69500	Computational Bioelectromagnetics
ECE 69500	Datacenter and Cloud Networks
ECE 69500	Flexible and Stretchable Electronics
ECE 69500	Hardware and Software Security
ECE 69500	High-Speed Mixed Signal IC
ECE 69500	Holistic Software Security
ECE 69500	Hybrid Systems: Theory and Applications
ECE 69500	Inference and Learning in Generative Models
ECE 69500	Introduction to Operating Systems
ECE 69500	Machine Learning for Bioinformatics and Healthcare
ECE 69500	Machine Learning in Cloud Computing
ECE 69500	Machine Learning-Driven Computer Networking
ECE 69500	Optimization for Deep Learning
ECE 69500	Probabilistic Causal Inference
ECE 69500	Quantum Circuits and Systems
ECE 69500	Quantum Detectors and Sensors
ECE 69500	Quantum Optics & Quantum Information
ECE 69500	Stochastic Processes in Information Systems
ECE 69500	System-on-chip Design
ECE 69500	Topological Electrodynamics
ECE 69500	Types and Programming Languages

