

# Welcome to Electrical and Computer Engineering at the University of Dayton

Electrical and Computer Engineering

# ECE Overview

- ABET Accredited degrees
  - Bachelor of Electrical Engineering (BEE)
  - Bachelor of Science in Computer Engineering (BSCE)
- Master of Science Degrees in Electrical Engineering (MSEE) and Computer Engineering (MSCPE)
- PhD in Engineering
  
- 323 Undergraduate Students
- 89 MS Students
- 70 PhD Students
  
- College Recruiter “Hidden Gem Index Award” for Electrical & Communication Engineering



# Unique UD ECE Experiences

- Broad-based curriculum prepares you for all areas of Electrical and Computer Engineering
- Concentration areas of Robotics, Electro-Optics, and Electrical Energy Systems
- 106 year history
  - UD Electrical Engineering started in 1911!
- Industry funded multi-disciplinary design experience through Engineering Innovation Center
- 5-year Bachelor-plus-Masters (BPM) dual degree program

# Multi-Disciplinary Senior Design Experience

- ECE students work on senior design projects as part of multi-disciplinary teams in ECE 431L and ECE 432L
- The projects are industry sponsored and run through UD's Innovation Center
- Approximately 40 projects each semester (Boeing, Johnson & Johnson, Honda, FAA, GE, Emerson, etc.)
- Weekly status reports, monthly presentations to industry, and a comprehensive final report





# Some Companies Hiring UD ECEs

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- A.O. Smith
  - AK Steel
  - Agilent Technologies
  - Avery Dennison
  - Barco
  - Battelle and Battelle, Inc.
  - Boeing
  - Booz-Allen Hamilton
  - Bose
  - BMW
  - Cargill
  - CDI Aerospace
  - Chrysler
  - Cincinnati Bell
  - Cinergy Corp.
  - Cooper Tire & Rubber Co.
  - Crown Equipment Corp.
  - Cummins Inc.
  - Delphi
  - Digital Domain
  - DRC
  - DRS
  - Duke Energy
  - Eaton Corp
  - Electronic Data Systems
  - Emerson
  - Ethicon
  - FirstEnergy Corp.
  - General Dynamics
  - General Electric
  - Georgia-Pacific
  - Globe Motors
  - Hewlett-Packard
  - Honda of America
  - Korda/Nemeth Engineering
  - Lafarge
  - Lenovo
  - Level 3 Communications
  - L-3 CE
  - Lexmark, Inc.
  - Lockheed Martin
  - MacAulay Brown
  - Microsoft
  - Midmark
  - Minster Machine
  - Mound Laser & Photonics
  - Motoman
  - Motorola
  - NASA
  - NASIC
  - Nestle
  - Northrop Grumman
  - Procter & Gamble
  - Rex Commercial Tools & Fastening
  - River Consulting, LLC
  - Rockwell Automation
  - SAP Labs
  - SDL
  - Sprint Nextel
  - SRC
  - Standard Register
  - Texas Instruments
  - Toyota
  - TRW, Inc.
  - UDRI
  - UDIT
  - U.S. Air Force
  - United Space Alliance
  - UTC

Some of the most prestigious U.S. and world companies!

# Electrical and Computer Engineering Careers

- More ECE jobs than any other engineering discipline
  - ECE accounts for almost half of all engineering jobs in USA!
- ECEs work in practically all industries
- ECEs are particularly sought after in high-tech companies
- Highest (or second highest) salaries at all education levels
- ECEs enjoy more flexibility in their careers than any other engineering professionals because of the wealth of opportunities
- There is high demand for ECEs
- ECEs do some of the most interesting and rewarding engineering work

# Top 10 Reasons to do ECE at UD

1. Fun and exciting cutting-edge field
2. Great careers all over the country commanding top salaries with excellent placement (98% since 2010)
3. Broad-based curriculum prepares you for all areas of ECE
4. More hands-on lab courses than other engineering majors
5. Hot concentration areas (Robotics, Electro-Optics, Electrical Energy Systems)
6. Top-notch laboratory facilities
7. Smaller classes, lots of personalized attention
8. Capstone design on real-world projects funded by industry
9. Co-op and 5 year MS/BS degree program
10. Funded undergraduate and graduate research project opportunities

# ECE Highlights for 2016-2017 Academic Year

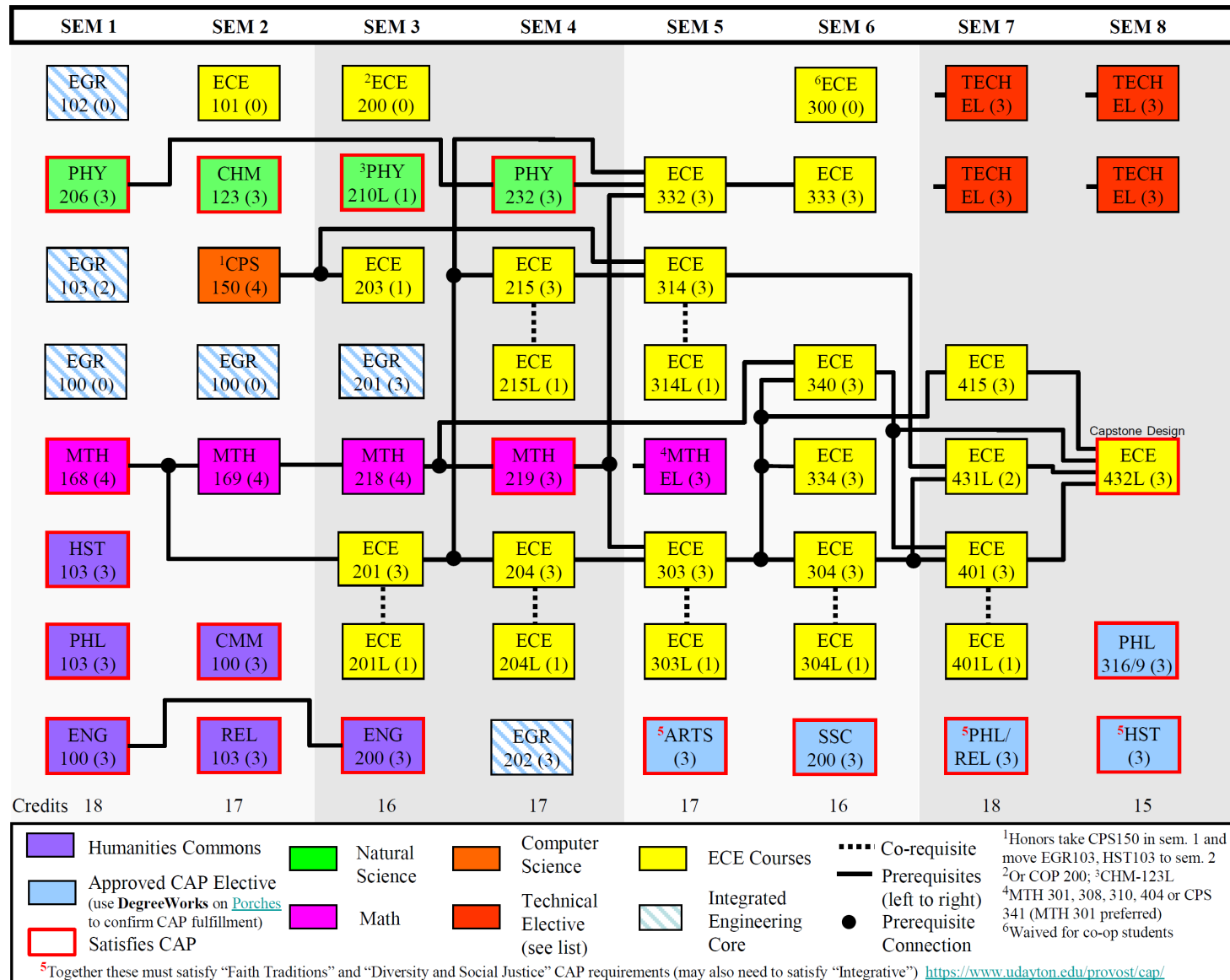
- UD Chapter of Society for Asian Scientists and Engineers runner-up in Inspire Award for Outstanding New Chapter
- Ashish Gogia Awarded the 2017 Krishna M. Pasala Ph.D. Memorial Scholarship
- Devin Spatz received the University Innovation Fellowship Award
- Jitendra Kumar, Paul Kladitis, Nilesh Powar, and Bang-Hung Tsao awarded UDRI professional performance awards
- Dr. Keigo Hirakawa awarded the IEEE National Aerospace Electronics Conference-OIS Sciabica Award
- UD/ECE accreditation report was selected as a model for ABET accreditation
- Professors Vamsy Chodavarapu and Guru Subramanyam launch a new startup company, Prixarc LLC
- New industry funded projects through Samsung, Ford, Spectral Energies, TDKC



# ELE Curriculum

## BACHELOR OF ELECTRICAL ENGINEERING

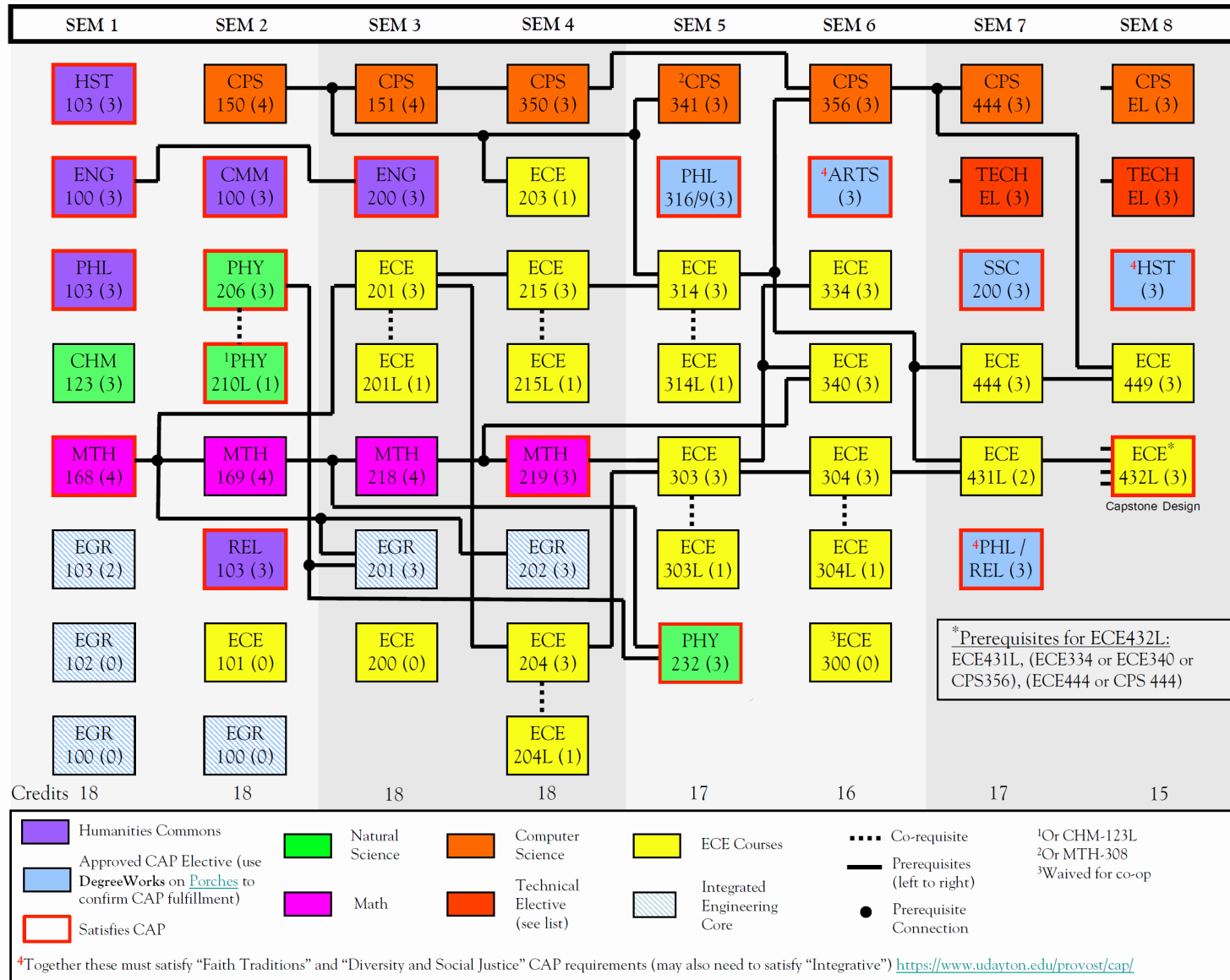
AY 2017-18 V2



# CPE Curriculum

## BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

AY2017-18



# ECE MS Programs

- MSEE (30 Semester Hours Total)
  - ECE 500 (0 semester hours)
  - ECE Core courses (9 semester hours)
    - Choose 3 from: ECE 501, 503, 505, 506, 507, 509
  - Specialization area (9 semester hours)
    - *Computing Systems*
    - *Sensors and Devices*
    - *Signals and Systems*
    - *Aerospace Electronics*
    - *Other*
  - Basic and Engineering Science (6 semester hours)
  - Thesis hours or additional Electrical Engineering graduate courses (6 semester hours)

# ECE MS Programs

## ■ MSCPE (30 Semester Hours Total)

- ECE 500 (0 semester hours)
- ECE Core courses (9 semester hours)
  - *Choose 3 from: ECE501, ECE532, ECE 533, CPS510, CPS 536, CPS570*
- Concentration area (9 semester hours, 12 semester hours non-thesis)
  - *Embedded Systems*
  - *Software Engineering*
  - *Operating Systems and Computer Architecture*
  - *Communications and Networking*
  - *Other*
- Technical Electives (6 semester hours, 9 semester hours non-thesis)
- Thesis hours (6 semester hours, 0 semester hours non-thesis)
- Culminating academic experience fulfilled by
  - *Successful completion of a Master's Thesis*
  - *Successful completion of a non-thesis research or design project*
  - *Successful completion of two approved 3 semester hour courses requiring extensive project-based learning*

# Quotes from Former Students

- “Over the past few years the electrical and computer engineering department at UD has become my home. Small class sizes and friendly professors have created an environment where the students get to know their professors on a personal as well as a professional level.”
- “This academic atmosphere allows for collective learning with other students and friendships that will last for the rest of my life. I have nothing but praise for the department that has molded me into the engineer I am today.”
- David Krivonak, B.S. ELE & CPE 2007





# Quotes from Former Students

- “The professors in ECE are amazing people with an intense enthusiasm to convey their knowledge and experience; while the students benefit from their willingness to take time out to aid individuals.”
- “I would encourage anyone willing to tackle the rigors of undergraduate engineering to enter the Department of Electrical and Computer Engineering at UD; as it is bound to be one of the best decisions of your life. It was for me.”
- Rebecca Ossio, B.S. in ELE 2006

