

# ECE Undergraduate Education

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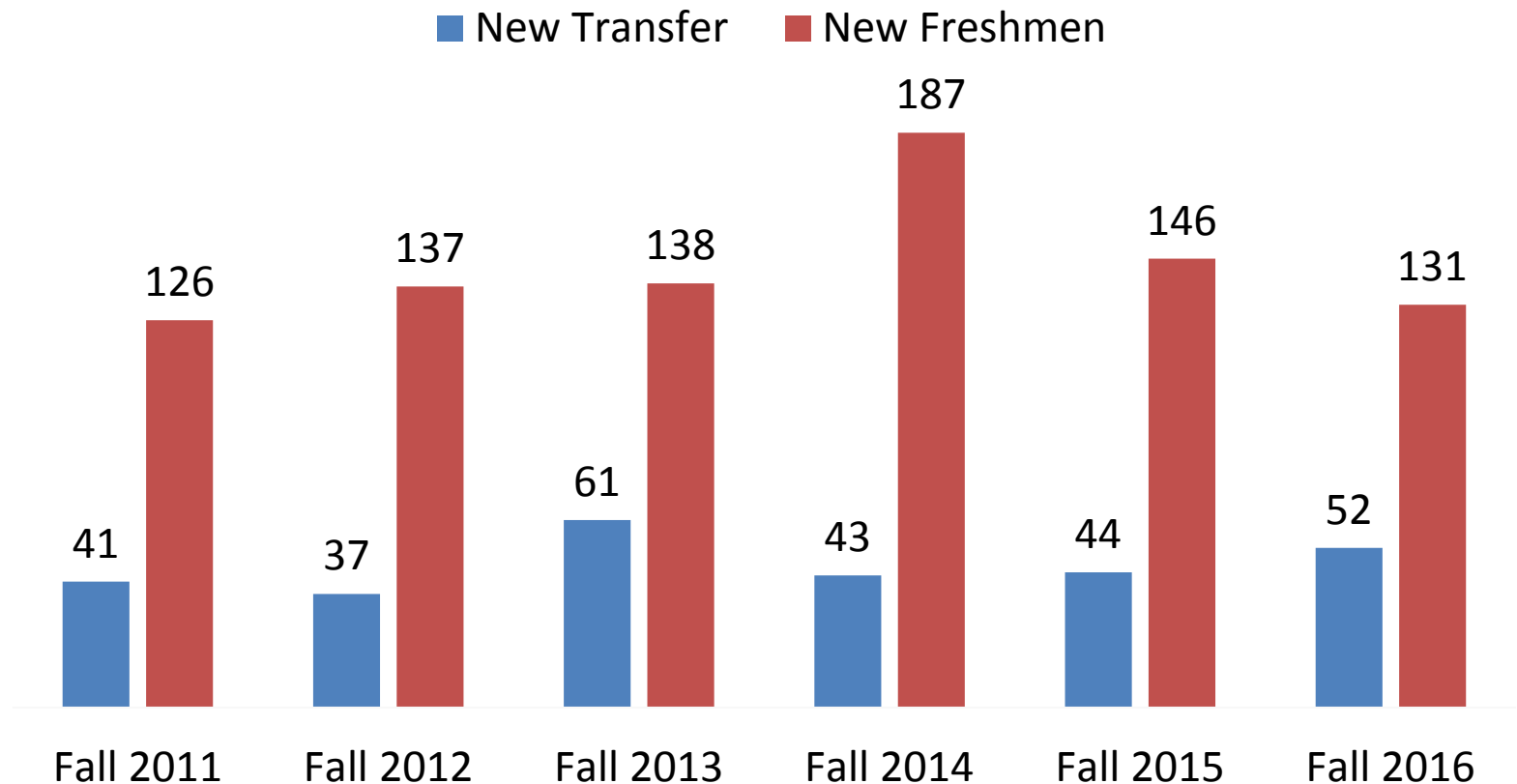
# Progress Report to Advisory Board

## Undergraduate Education

- Enrollment Data
- Freshman Data
- Graduation Data
- Employment Survey
- ENEE101 Update
- New Courses
- ABET
- Shady Grove/Southern MD

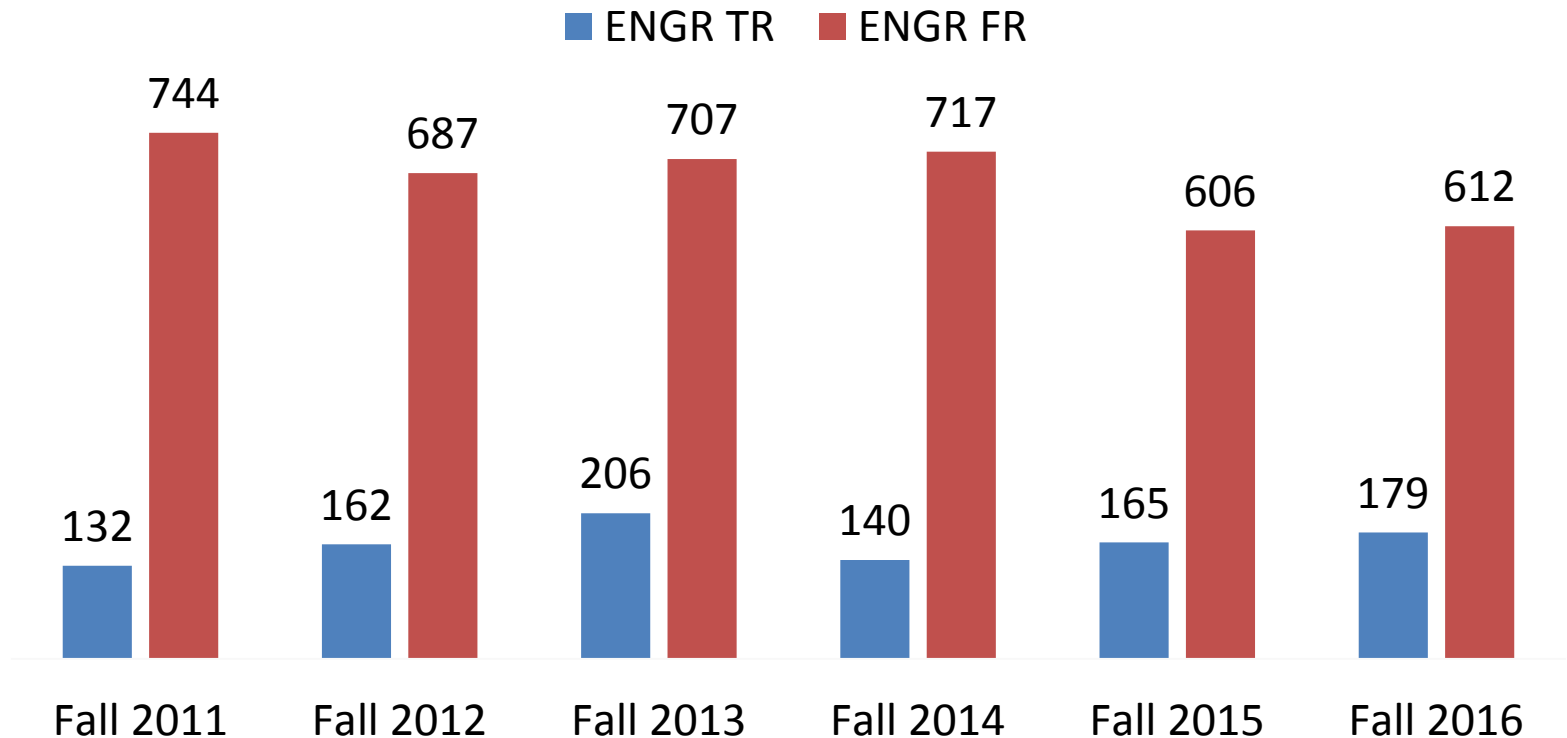
# Freshmen/Transfer Enrollment

## ECE Freshman/Transfer Enrollment 2011-2016



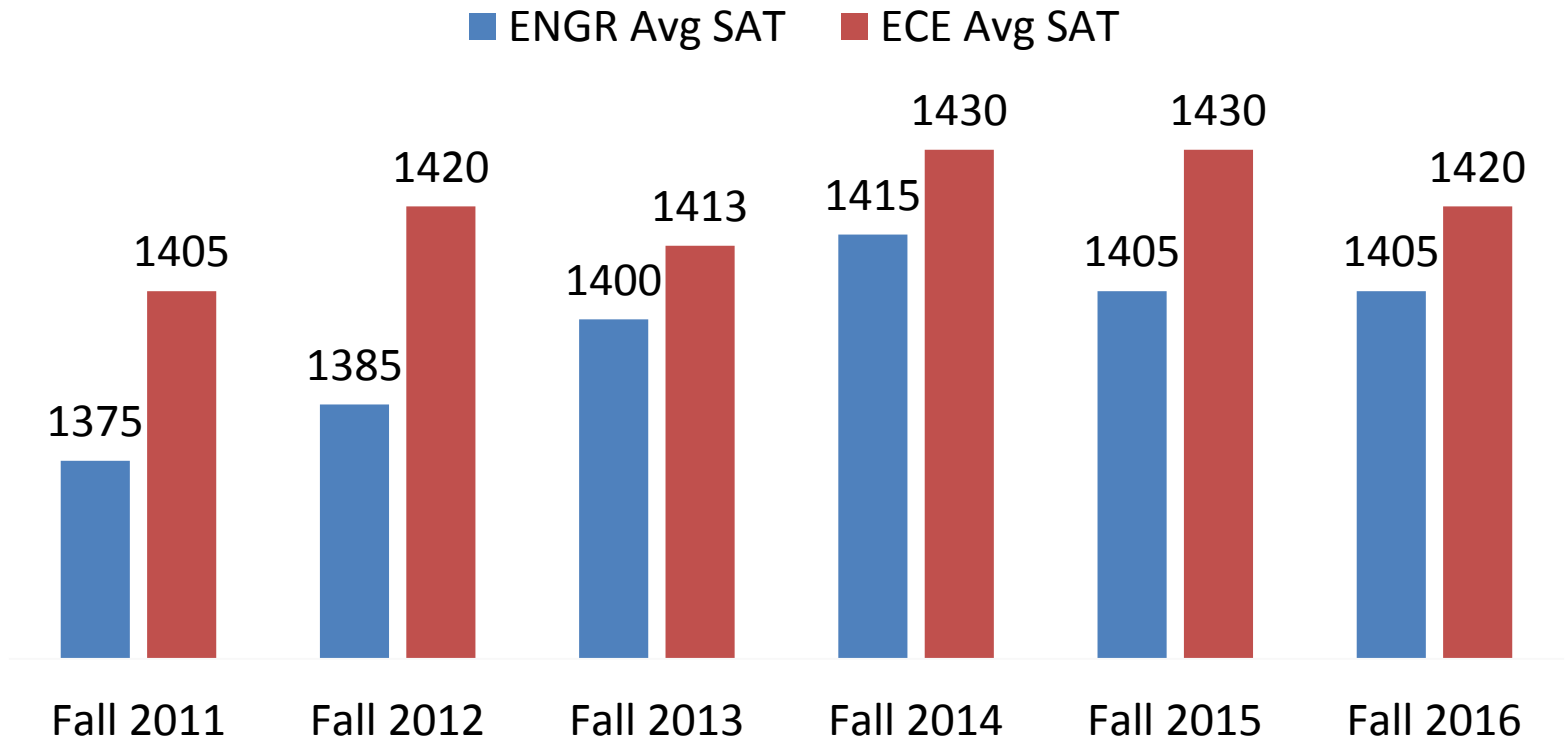
# Freshmen/Transfer Enrollment

## School of ENGR Freshman/Transfer Enrollment 2011-2016

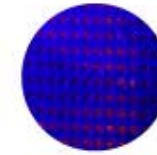


# Freshman SAT Scores

## School of ENGR/ECE Avg SAT Scores 2011-2016

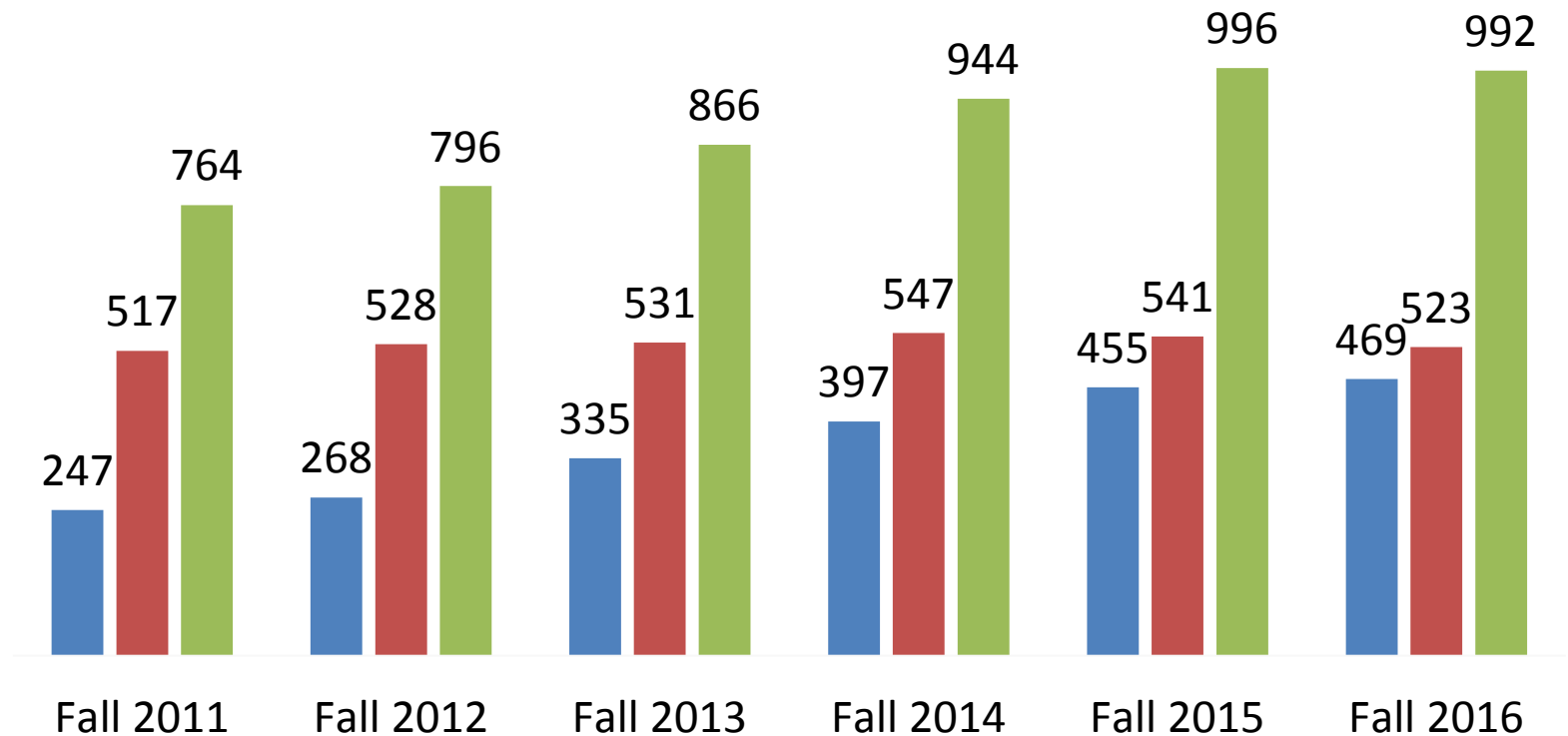


# ECE Enrollment

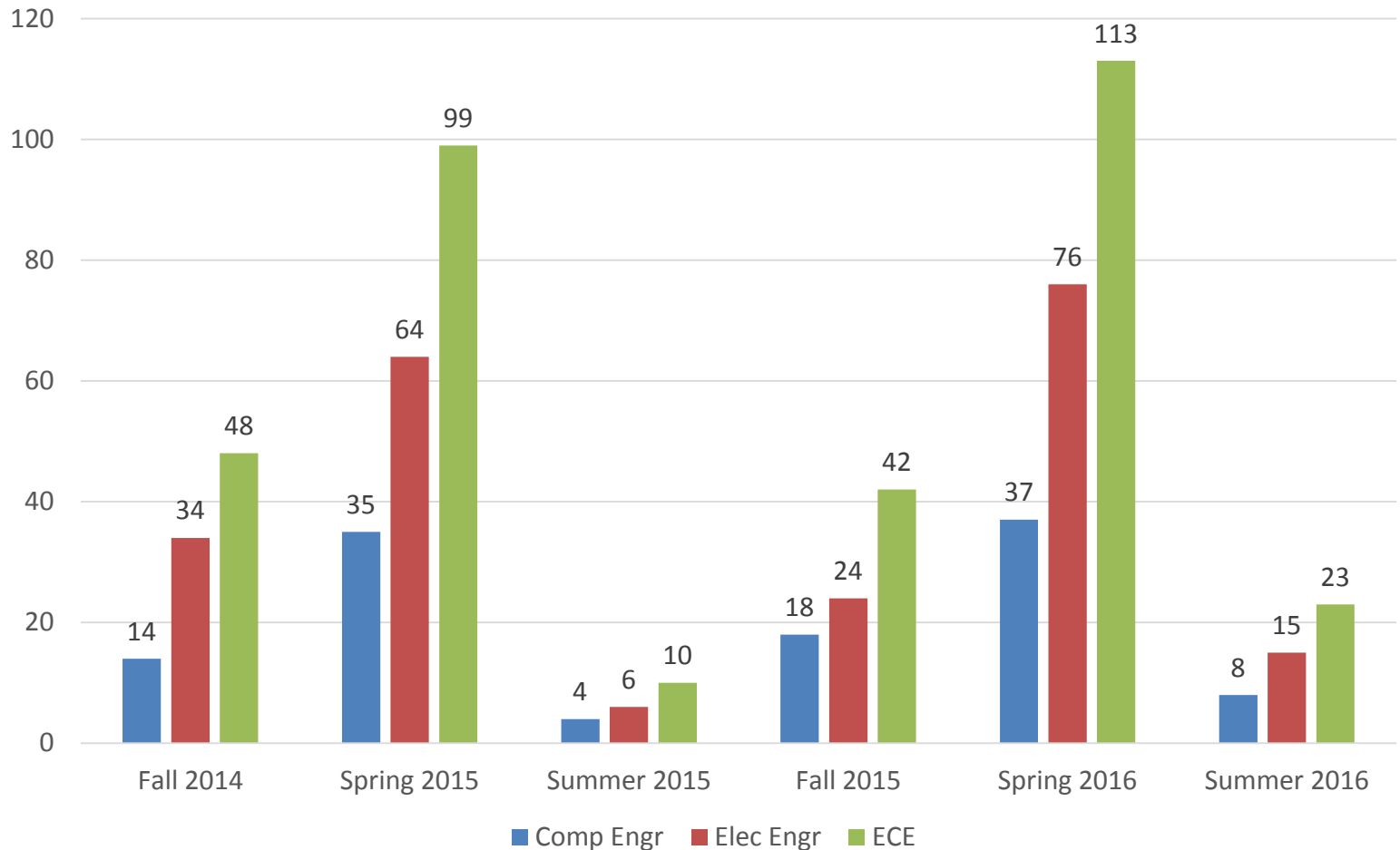


## ECE Undergraduate Enrollment 2011-2015

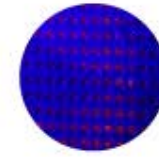
■ Computer Engineering ■ Electrical Engineering ■ Total ECE Enrollment



# ECE Graduation Data AY 2014-2015 & 2015-2016



# Employment Data

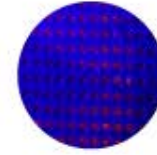


Based on May 2016 Graduation Survey

- Computer Engineering
  - Starting salary \$90,400 (#1 in ENGR)
  - Employment Placement 90%
- Electrical Engineering
  - Starting Salary \$73,800 (#2 in ENGR)
  - Employment Placement 72%



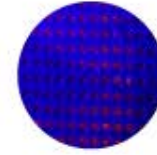
# Employment Data



## Top Employers (May 2016 Survey)

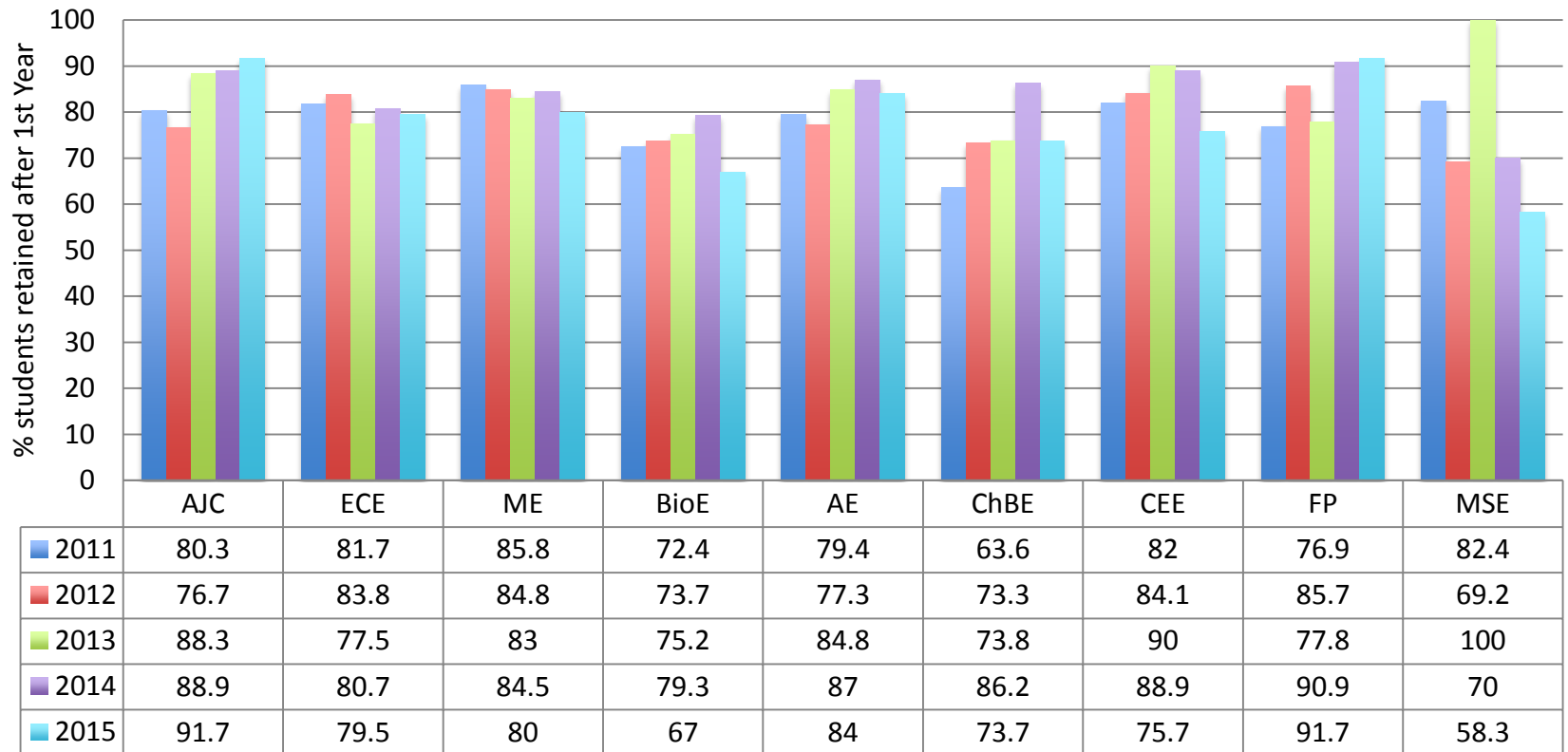
- Computer Engineering
  - Amazon (5)
  - Booz Allen Hamilton (4)
  - JHU Applied Physics Lab (3)
- Electrical Engineering
  - JHU Applied Physics Lab (7)
  - Northrop Grumman (7)
  - Texas Instrument (5)

# Impact of ENEE101 on 1<sup>st</sup> Year Retention



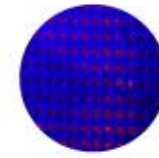
1<sup>st</sup> Year Student Retention  
Transfer to EE and CpE programs

# 1st Year Retention (2012-2015 cohorts) – Data: IRPA

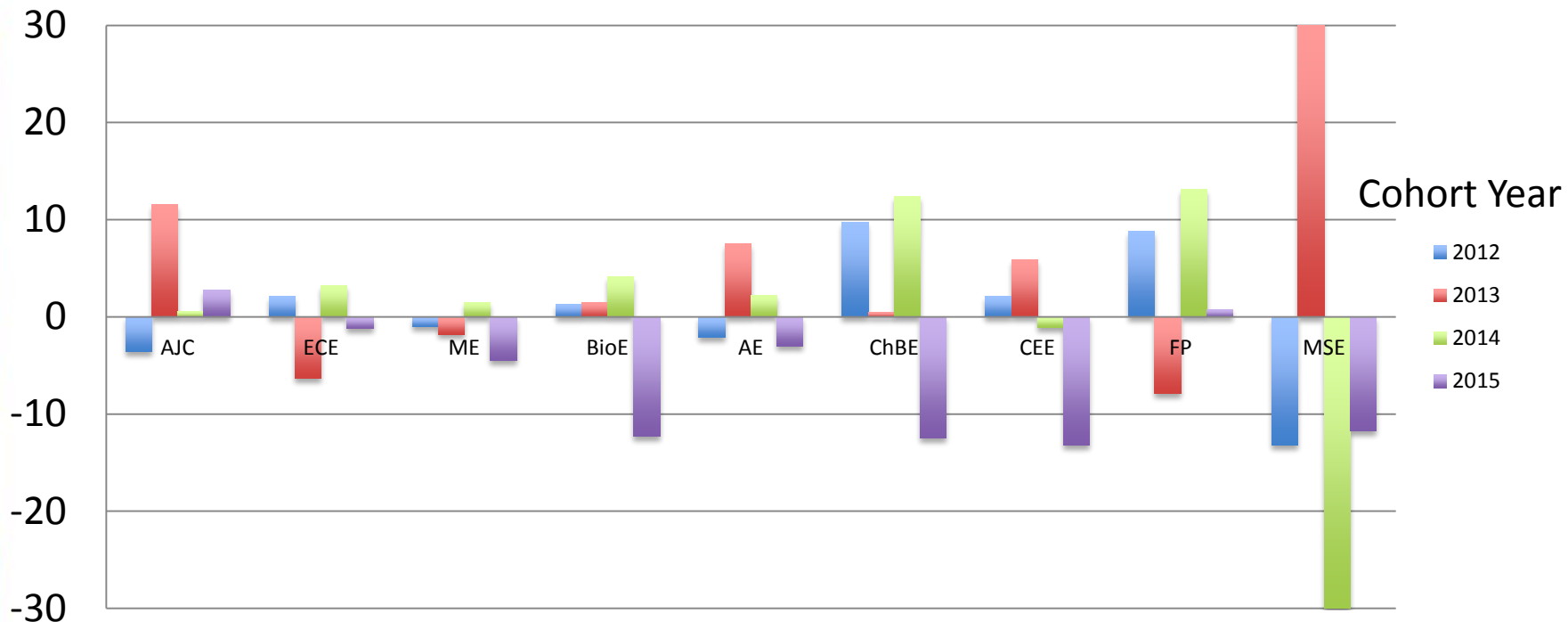


Note: ENEE101 Offered Starting Fall 15, affecting 2015 cohort

# Retention Rates (2012-2015 cohorts)



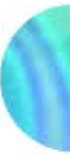
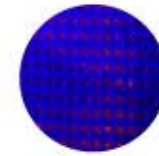
## Year-to-Year Change in 1st Year Retention Rate



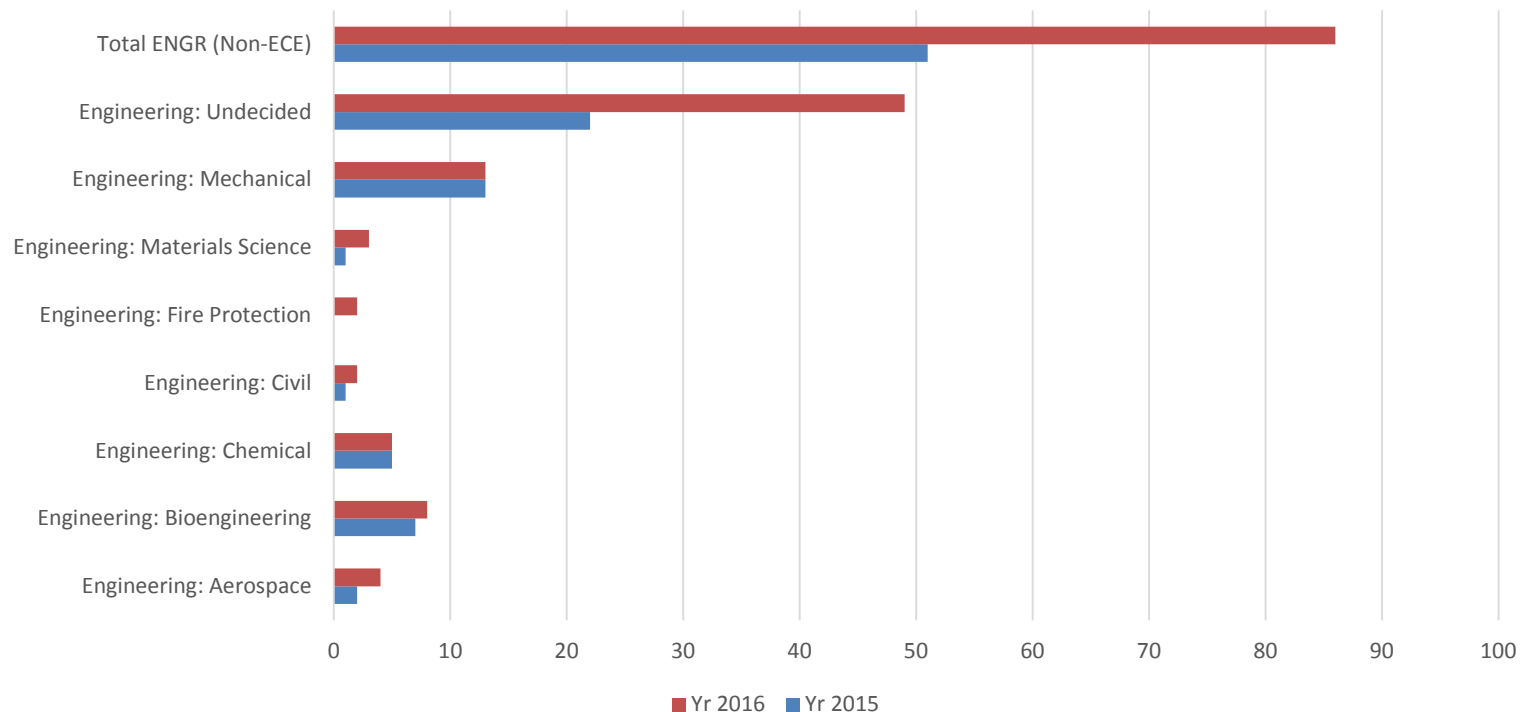
Note: ENEE101 Offered Starting Fall 15, affecting 2015 cohort

# Net Transfer to ECE

(2015 & 2016 comparison)



Major Change from Non-ECE ENGR Depts



Note: ENEE101 Offered Starting Fall 15, affecting 2016 transfers



# New Courses

- ENEE 489Z (F16) – Electromagnetic Compatibility
- ENEE 408R (S17)– Electric Bikes
- ENEE439M (S17 – Introduction to Machine Learning



# ABET Advisory Board Involvement

- ABET Process Review and Scheduling
- Revision to PEO
- Reactions to Survey (TBA later)

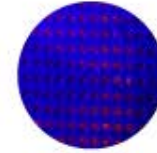


# Proposed Revision of PEOs

- Old PEO
- New PEO
- Motivation for changes
  - Too broad
  - Difficult to Access
  - Includes items that we are suppose to be doing anyway

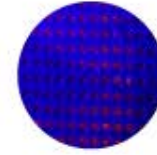


# Current PEOs



- **Technical Accomplishments:** Have our graduates establish a reputation for technical expertise and excellence among colleagues and achieve professional recognition for their work, in graduate or professional school and/or the technical workforce.
- **Invention, Innovation, and Creativity:** Have our graduates utilize their skills and resourcefulness to invent, design and realize novel technology; to find creative and innovative solutions to engineering problems; and to identify, research and solve new technical challenges in electrical engineering and related fields.
- **Professional Development:** Have our graduates stay abreast of emerging technologies, continually learn new skills, and actively participate in professional communities to nourish ever-developing careers.
- **Professionalism & Citizenship:** Have our graduates embrace cultural societal, environmental, and ethical issues in their work to help fulfill their professional responsibilities to themselves, employers, employees, co-workers, and the local and global communities.
- **Communication & Teamwork:** Have our graduates excel on multi-disciplinary and multi-cultural teams, demonstrate leadership, and effectively employ their oral and written communications skills to resolve problems and inform, educate and persuade diverse audiences.

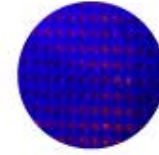
# New PEOs



Within 3 to 5 years from graduation, graduates of EE and CPE will engage life long learning and will have achieved any of the following program educational objectives:

1. Achieve a supervisory position in a reputable industry or government institution.
2. Achieve a graduate degree in a higher ranking graduate program in EE or CPE or related field.
3. Become innovators and creative entrepreneurs in EE or CPE or related field.

# New Program Updates



- Southern Maryland
  - BSEE at Southern MD Higher Education Ctr
  - Fall 2017 goal
- New Program at Shady Grove
  - B.S. in Mixed Signal and Embedded Systems
  - Proposal Update