Progress Report to Advisory Board

Undergraduate Program Update

Don Yeung

Associate Chair for Undergraduate Education

Kathryn Weiland

Director of Undergraduate Studies

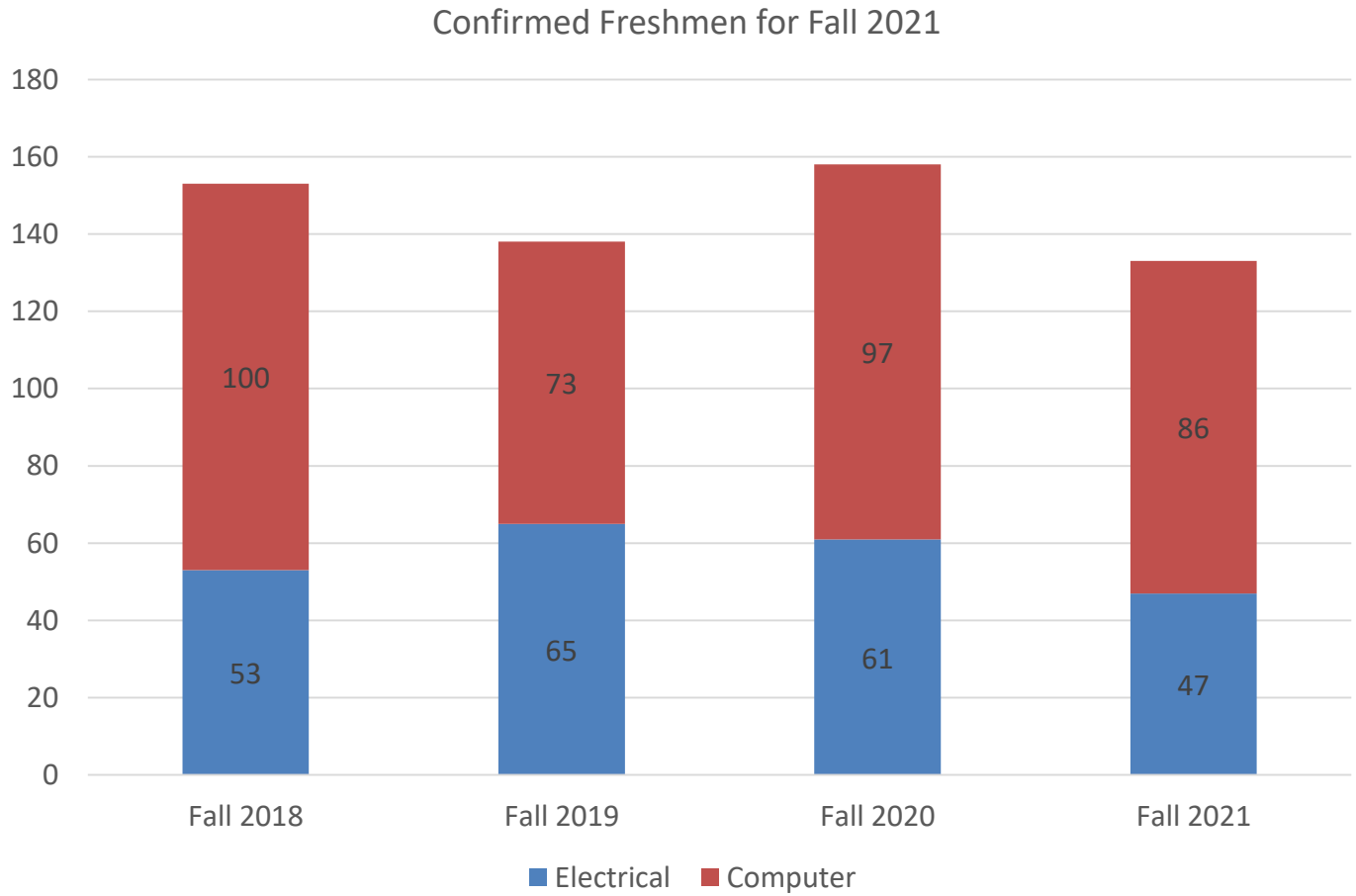
June 11, 2021

UGO Personnel News

- Kathryn Weiland has become the permanent Director of Undergraduate Studies
  - A formal search was conducted in April
  - Kathryn was the most qualified applicant in terms of advising, leadership, and motivation for the position
- The assistant director's position is still vacant
  - Our goal is to eventually fill that position

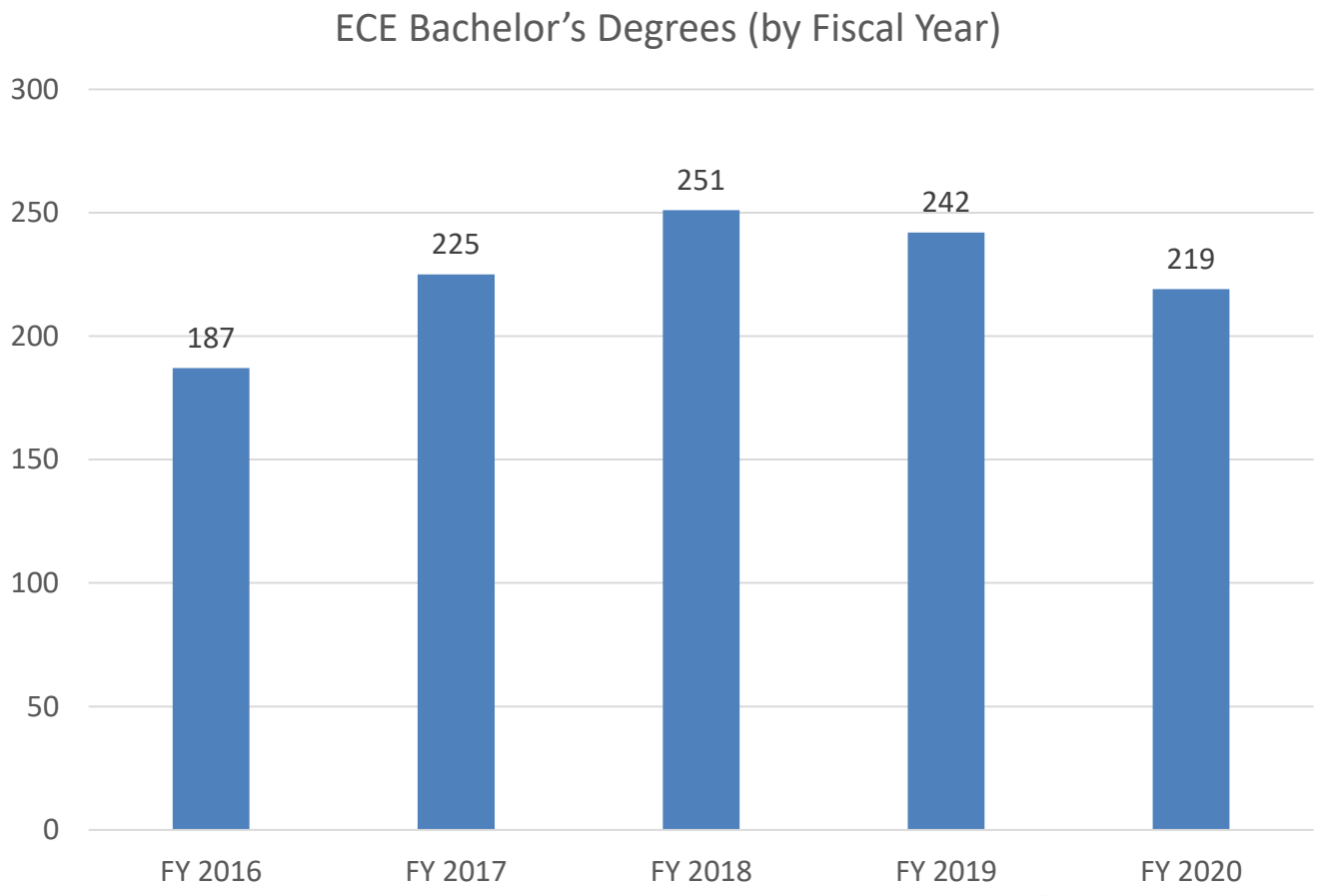
Incoming First-Year (Freshmen) Students

- Fall 2021 freshmen: **133** students
  (expected to increase)



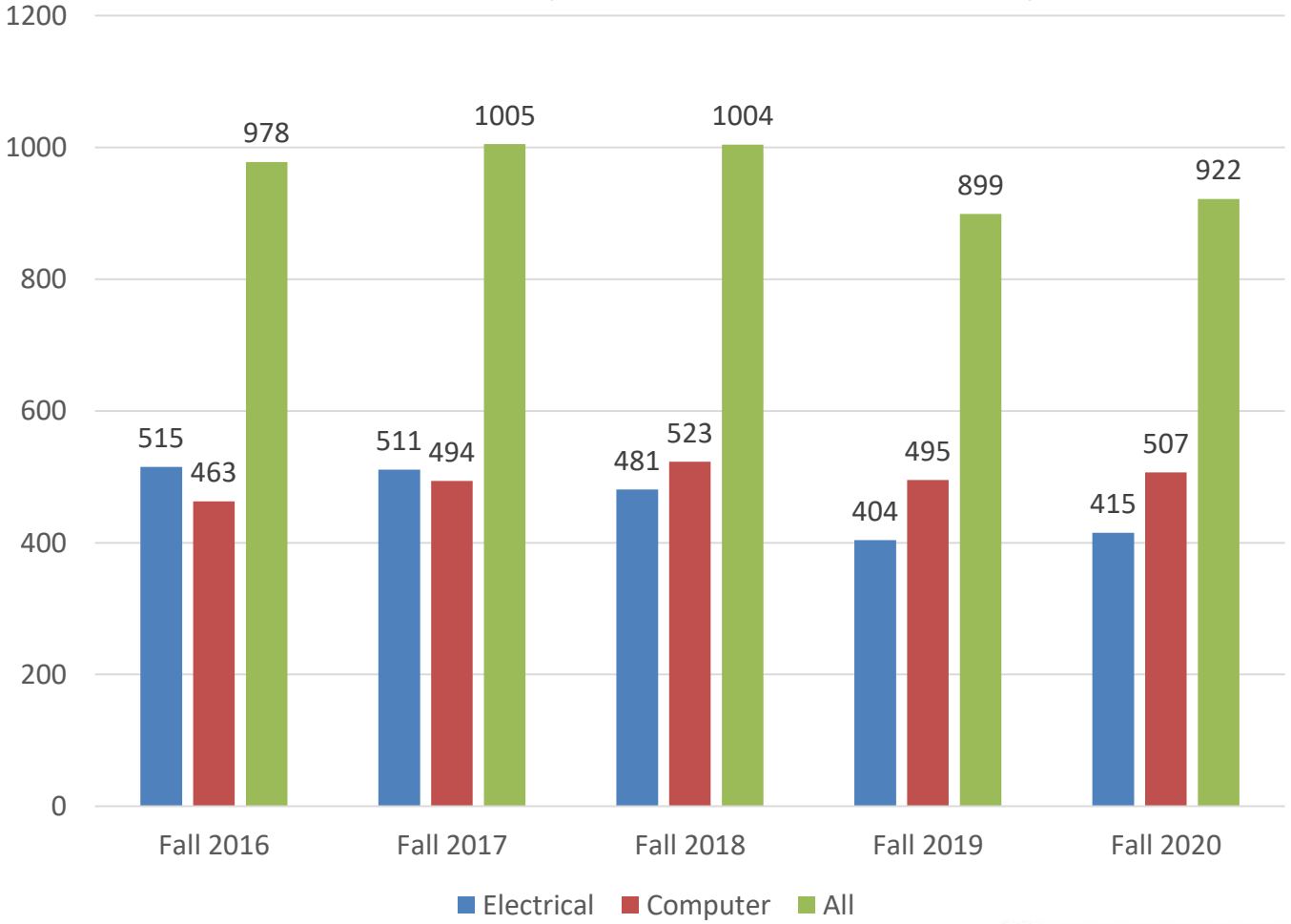
Graduation Numbers

- For Spring 2021: **157** ECE students graduated



ECE Undergraduate Enrollment

- Current Fall 2021 enrollment: 820 students
  (expected to increase, but may be lower than recent years)



ECE Curriculum Revision

- Significant changes to requirements
  - Reducing number of required courses
    - Consolidating circuits (303/313) and E&M (380/381) courses
  - More flexibility to take 400-level electives
- Curriculum was presented at a Spring faculty meeting
- Feedback was given from each group during Spring semester
- Vote on curriculum will occur later today
  - Implementation by Fall 2022

New 400-level Courses

- Need to give Computer Engineering students more options in their technical electives
- New ENEE Technical Electives offered recently:
  - ENEE 459V Intro to Embedded Systems (Spring 2021)
  - ENEE 459D Design and Test w/ Systems Verilog (Fall 2020 + Spring 2021)
  - ENEE 408M Embedded Software Design Capstone (Spring 2021)
- New ENEE Technical Elective upcoming:
  - ENEE 4XX Intro to VLSI Design (Fall 2021)

New Programs in Quantum

- UMD has a strong presence in Quantum Computing
- Prof. Mohammad Hafezi is developing an area of concentration or minor in quantum computing
  - The AOC was requested by President Darryll Pines
- These programs would leverage new courses in the area:
  - ENEE 489B, Introduction to Quantum Technology
  - ENEE 489Q, Quantum Phenomena in EE
  - CMSC 457, Introduction to Quantum Computing
  - Capstone course in Quantum Computing (under development)

Remote Laboratories

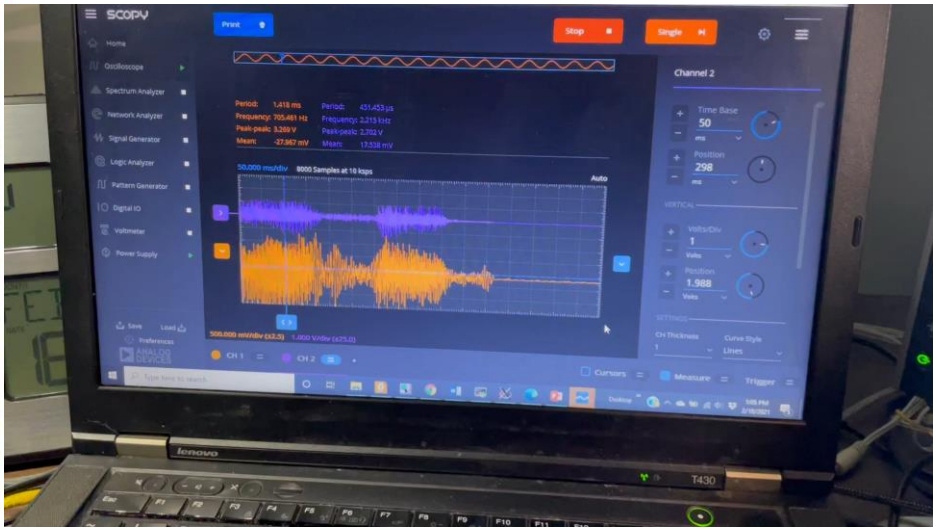
ECE purchased 220 Analog Devices ADALM2000 ($150 each)

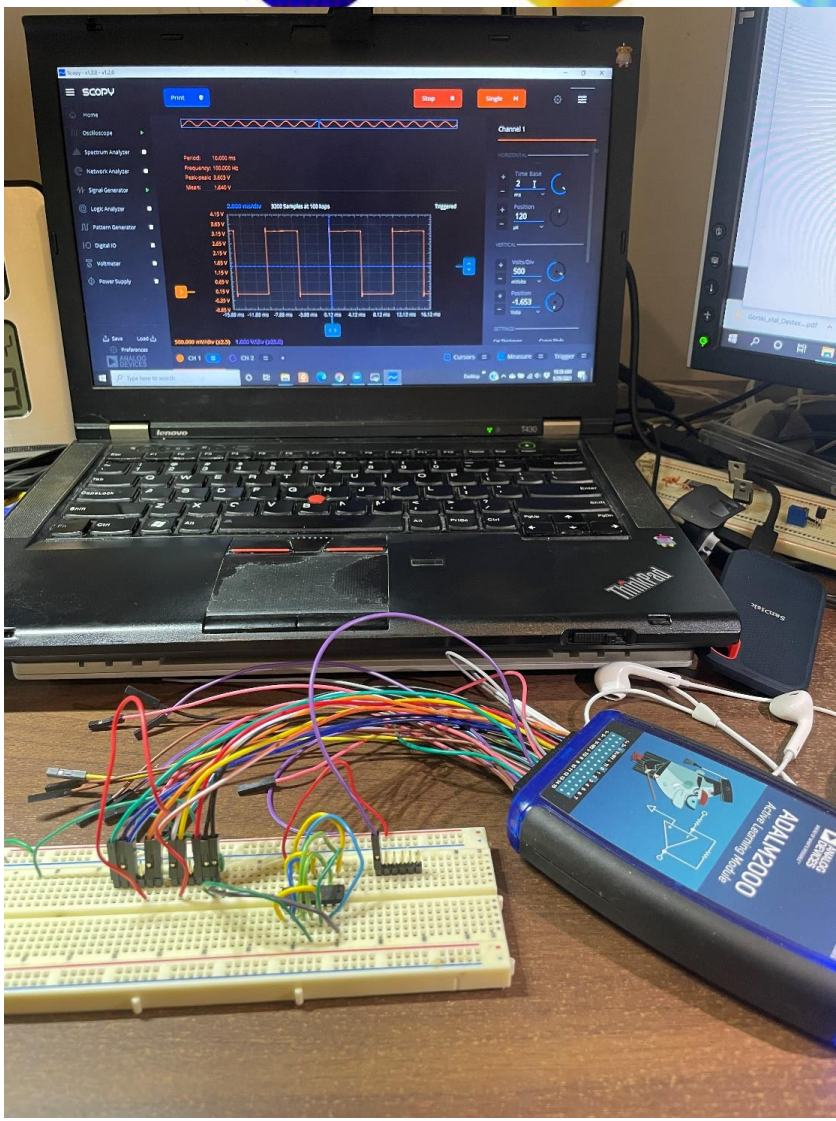
- 2 channel oscilloscope
- Dual adjustable power supply (+5v / -5V)
- 2 analog signal generators
- 16 bit digital I/O

This device was adopted in ENEE 307 and 205 to enable at-home labs (rather than just simulation)

Professor Horiuchi created completely new labs for ENEE 307 that used the ADALM2000 device

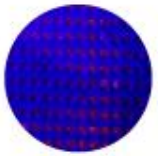
Lab Modules: BJT and MOSFET transistor amplifiers, filters, oscillators, CMOS inverter, ring oscillator, etc.





Remote Laboratories

- Student feedback at the end of the semester was very positive
  - Many students were extremely happy to be able to build circuits at home
  - Some have purchased the devices for themselves so they can continue playing at home
- There could be uses for the devices in the Fall when we are in person
  - Could be used along with in-person labs
  - Could be used for students doing ENEE 307 in the summer
  - Could be used if regular ENEE 307 becomes over-subscribed; could have virtual sections



Questions?