

TO: The Faculty of the College of Engineering

FROM: School of Electrical and Computer Engineering of the College of Engineering

RE: ECE 65400 Change in Course Description

The faculty of the School of Electrical and Computer Engineering has approved the following changes in ECE 65400. This action is now submitted to the Engineering Faculty with a recommendation for approval.

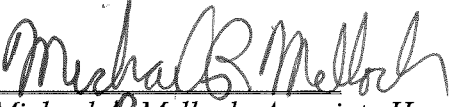
From: **ECE65400 – Solid State Devices II**
Sem. 2. Class 3, cr. 3.
Prerequisite: ECE 60600. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and co-requisites.

Introduction to advanced concepts in semiconductor devices as an extension and continuation of ECE 60600. Topics include charge storage and transfer in deep depletion MOS devices (CCDs and DRAMs); negative differential mobility and transit time effects in microwave oscillators (Gunn and IMPATT diodes); spontaneous and stimulated emission, quantum efficiency, and charge confinement in photonic devices (LEDs and double heterojunction lasers); and quantum efficiency and spectral response in conventional and avalanche photodiodes.

To: **ECE 65400 – Solid State Devices II**
Sem. 2. Class 3, cr. 3.
Prerequisite: ECE 60600. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and co-requisites.

Introduction to advanced concepts in semiconductor devices as an extension and continuation of ECE 60600. The course is divided into three segments. The first segment introduces students to charge storage and charge transfer in deep-depletion MOS devices (CCDs and DRAMs). The second segment covers optical process in semiconductor devices, including absorption (photodiodes), spontaneous emission (LEDs), and stimulated emission (semiconductor lasers). Depending on student interest, the third segment covers either (i) transferred-electron and transit-time effects in microwave oscillators (Gunn and IMPATT diodes), or (ii) power MOSFETs and high-level injection in PIN diodes, IGBTs, and thyristors.

Reason: The course description has been changed to reflect the updated content of the course.


Michael R Melloch, Associate Head
School of Electrical and Computer Engineering