MICROELECTRONICS

(Materials, Processes and Devices)

Advisor: Dr. S. Saddow

1. MATHEMATICS	EGN 5422	3 HRS	Engin App's of Partial Diff. Eq.
And, ONE of the following two courses			
	EGN 5424	3 HRS	Engin App's of Complex Analysis
	EEL 6545	3 HRS	Random Processes (**PR - Mandatory - Statistics)**
2. SOLID STATE	**THESE FOUR COURSES**		
	EEL 5344	3 HRS	DIGITAL CMOS VLSI DESIGN
	EEL 5382	3 HRS	PHYSICAL BASIS OF MICROELECTRONICS
	EEL 5356	3 HRS	INTEGRATED CIRCUIT TECHNOLOGY
	EEL 6353	3 HRS	SEMICONDUCTOR DEVICE THEORY I
3. ELECTIVES		**6 HRS**	**SEE BELOW****
4. THESIS	**EEL 6971**	**6 HRS**	**NEED PRIOR APPROVAL FROM MAJOR PROF.**

TYPICAL ELECTIVES INCLUDE:

EEL 5357	3 HRS.	ANALOG CMOS VLSI DESIGN
EEL 5935	3 HRS.	PLASMA PROCESSING
EEL 6734	3 HRS	INTRODUCTION TO NANOTECHNOLOGY
EEL 6354	3 HRS.	SEMICONDUCTOR DEVICE THEORY II
EEL 6386	3 HRS.	SEMICONDUCTOR DEVICE MODELING
EEL 6447	3 HRS.	OPTOELECTRONICS
EEL 6448	3 HRS.	INTEGRATED OPTICS
EEL 6345	3 HRS.	VLSI FOR DSP
EEL 6355	3 HRS.	COMPOUND SEMICONDUCTOR TECHNOLOGY
EEL 6318	3 HRS.	CHAR. OF SEMICONDUCTORS
EEL 6346	3 HRS.	INTEGRATED CIRCUIT AND SYSTEM DESIGN
EEL 6935	3 HRS.	ADVANCED IC TECHNOLOGY
EEL 6486	3 HRS.	ELECTROMAGNETIC FIELD THEORY
EEL 6487	3 HRS.	ADVANCED EM FIELD THEORY
EEL 6434	3 HRS.	ACTIVE MICROWAVE STRUCTURE/DEVICE
EEL 6534	3 HRS.	DIGITAL COMMUNICATION SYSTEMS
EEL 6535	3 HRS.	COMMUNICATION SYSTEMS II
EEL 6502	3 HRS.	DIGITAL SIGNAL PROCESSING I
EEL 6752	3 HRS.	DIGITAL SIGNAL PROCESSING II
EEL 5631	3 HRS.	DIGITAL CONTROL SYSTEMS
EEL 6613	3 HRS.	MODERN CONTROL THEORY
EEL 6614	3 HRS.	SYSTEM AND CONTROL THEORY I
EEL 6615	3 HRS.	SYSTEM AND CONTROL THEORY II
EEL 6150	3 HRS.	ADVANCED CIRCUIT THEORY I
EEL 6151	3 HRS.	ADVANCED CIRCUIT THEORY II
EEL 5935	3 HRS.	SPECIAL ELECTRICAL TOPICS
EEL 6935	3 HRS.	SELECTED ELECTRICAL TOPICS
EEL 6935	3 HRS	SYSTEM ON A CHIP
PHZ 5405	3 HRS.	SOLID STATE PHYSICS
PHZ 6426	3 HRS.	SOLID STATE PHYS. I.

A STUDENT MAY ALSO PURSUE THE NON-THESIS OPTION, IN WHICH CASE THEY NEED TO TAKE THREE ADDITIONAL COURSES (IN PLACE OF THESIS HOURS) FROM THE LIST OF TYPICAL ELECTIVES (INCLUDING A "CAPSTONE" COURSE).

Students MUST take the appropriate number of 6000 level courses and the sequence requirement. See General Option.