UNIVERSITY of SOUTH FLORIDA

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

MICROELECTRONICS

Our world is filled with amazing electronic machines that provide worldwide communications, enable the detection and treatment of diseases, drive the ability to explore the far reaches of the cosmos and entertain us. These are all fabricated from electronic materials and devices. The Microelectronics Specialty area provides both a curriculum and research opportunities to study and master these essential building blocks An advanced degree in this area will provide students with a strong fundamentals foundation that will enable a career-long ability to participate in and contribute to ongoing technical advances.

Dr. Christos Ferekides
Professor and Department Chair

Research
Electronic Materials and Devices, Solar Energy, Photovoltaics, Optoelectronics

Dr. Andrew Hoff
Professor
Graduate Program Director

Research
Electronic Materials, Plasma, Corona Ions, Metrology

Dr. Don Morel
Advisor
Professor

Research
Electronic Materials and Devices, Solar Energy, Photovoltaics, Optoelectronics

Dr. Rudy Schlaf
Professor

Research
Spray-Based Deposition of Macro-Molecular Thin Films and Interfaces, Thin Film Photovoltaics, Sustainable Energy

Dr. Arash Takshi
Associate Professor

Research
Electronic Materials, Electrochemistry, Wearable Electronics, Energy Harvesting and Storage

Dr. Sylvia Thomas
Associate Professor

Research
Nano membrane technology, biomaterials and device applications, energy harvesting, sustainable environments, drug delivery

MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (MSEE)
MICROELECTRONICS TRACK* OPTIONS

Curriculum Program of Study Advisor Dr. Don Morel

Name		**USF ID #**	
Term/Year Admitted			
Address			
Phone			
Email			
Advisor			

Course Title	Number	Credits	Semester	Grade
1. Core: 4 hours (both required)				
Linear and Matrix Algebra	EEL 6029	2		
Random Processes in Electrical Engineering	EEE 6542	2		
2. Concentration Requirements: 14 hours				
a- Track Math (1 required)				
Engineering Apps of Partial Diff Eq	EEL 6023	2		
b- Track Core (4 required)				
Physical Basis of Microelectronics	EEL 5382	3		
Integrated Circuit Technology	EEE 5356	3		
Integrated Systems Technologies	EEE 6357	3		
Semiconductor Device Theory I	EEL 6353	3		
Semiconductor Device Theory II	EEL 6354	3		
MEMS I/Chem Bio Sensors	EEE 6276	3		
MEMS II	EEE 6278	3		
3. Electives: 3-6 hours (Thesis/Non-Thesis)**				
System on a Chip	EEE 6412	3		
Analog CMOS/VLSI Design	EEL 6357	3		
Introduction to Nanotechnology	EEL 6936	3		
Compound Semiconductor Technology	EEL 6355	3		
Characterization of Semiconductors	EEE 6318	3		
Flexible Electronics & Thin-Film Solar Cells	EEL 6935	3		
4. Thesis/Coursework Options:				
Thesis Option: 6-9 hours				
Non-Thesis Option: combined total of 6 hours of *additional electives,* independent study, internship, project, or out of department.				

*Tracks are for student benefit only. They will not show on transcripts or diplomas.		**Total Credits Outside of Dept.**
		Total credits Independent Study
		Total Credits (30 required)