Electrical Engineering and Computer Science Graduate Student Orientation

Cleveland State University January 30, 2009

- 12:15-12:30 Welcome and Introduction Dr. Fuqin Xiong, Department Chair
- 12:30-12:45 Degree requirements Dr. Ana Stankovic and Dr. Yongjian Fu
- 12:45-01:00 Academic matters Dr. Chansu Yu
- 01:00-01:15 Research
 Dr. Nigamanth Sridhar
- 01:15-01:30 Research and Plagiarism Dr. Dan Simon
- 01:30-??? Student Discussion

Welcome and Introduction

Dr. Fuqin Xiong, Department Chair Department of Electrical Engineering and Computer Science

- Washkewicz College of Engineering, 1923
 Cleveland State University, 1964

 College of Business
 College of Education
 College of Engineering
 College of Liberal Arts and Social Sciences
 College of Science
 College of Urban Affairs
 - College of Law

Washkewicz College of Engineering

- Chemical and Biomedical Engineering
- Civil and Environmental Engineering
- Electrical Engineering and Computer Science
- Engineering Technology
- Industrial and Manufacturing Engineering
- Mechanical Engineering

Electrical Engineering and Computer Science Largest of Washkewicz College's six departments Two undergraduate degree programs Bachelor of Electrical Engineering Bachelor of Computer Engineering Two master's degree programs MS in Electrical Engineering **Electrical engineering emphasis Computer engineering emphasis** MS in Software Engineering College-wide doctoral degree

Traditional areas of EECS

- Communications
- Controls
- Power electronics and power systems
- Digital systems
- Recent additions to EECS courses and research
 - Computer engineering
 - Software engineering
 - MEMs
 - Sensors
- Nine research laboratories
- Center for Research in Electronics and Aerospace Technology
- Wright Center for Sensor Systems Engineering

- Blend of practical experience and academic research
 - Collaborations with industry and NASA
- Diverse faculty and students
 - Ohio
 - National
 - International
- Career opportunities
 - Rockwell Automation
 - General Electric
 - Motorola
 - Microsoft
 - ABB
 - Qualcomm
 - NASA
 - Many others

Name	Research Areas	Office & Phone	email
Charles K. Alexander, Ph.D. Professor	Software Environments, Digital System Design Using Register, Transfer Languages, Nonlinear Systems	SH 104 687-2558	<u>c.alexander@ieee.org</u>
Pong P. Chu, Ph.D. Associate Professor	Digital Systems, Computer Architecture and Computer Networks	SH 431 687-2590	p.chu@csuohio.edu
Lili Dong, Ph.D. Assistant Professor	Control Systems and MEMS	SH 334 687-5312	<u>L.Dong34@csuohio.edu</u>

John F. Donoghue, Ph.D. Associate Professor	Control Systems, Digital Signal Processing	SH 341 687-3535	j.donoghue@csuohio.edu
Yongian Fu,Ph.D. Associate Professor	Software Engineering, Data Mining	SH 432 687-5518	<u>y.fu@csuohio.edu</u>
Zhiqiang Gao, Ph.D. Associate Professor	Systems and Control	SH 316 687-3528	<u>z.gao@csuohio.edu</u>
Murad Hizlan, Ph.D. Associate Professor	Robust Communications, Spread Spectrum,Multiple Access Communications	SH 338 687-4826	<u>m.hizlan@csuohio.edu</u>

Vijaya K. Konangi, Ph.D. Professor	Digital Systems, Computer Architecture and Computer Networks	RT 1209 687-3588	<u>v.konangi@csuohio.edu</u>
George L. Kramerich, Ph.D. Professor	Electronics, Forensic Analysis	SH 331 687-2405	<u>g.kramerich@csuohio.edu</u>
Dan Simon, Ph.D. Associate Professor	Control Systems, Signal Processing, Neural Networks, Fuzzy Logic	SH 332 687-5407	<u>d.j.simon@csuohio.edu</u>
Nigamanth Sridhar, Ph.D. Assistant Professor	Software Engineering, Distributed Systems, Component- oriented Systems, Wireless Sensor Networks	SH 435 687-5341	n.sridhar1@csuohio.edu

Ana Stankovic, Ph.D. Associate Professor	Electric Machines, Power Electronics, Digital Control Systems	SH 335 687-2513	<u>a.stankovic@csuohio.edu</u>
F. Eugenio Villaseca, Ph.D. Professor	High-Power Electronics, Power Systems, Systems Control	SH 344 687-2589	<u>f.villaseca@csuohio.edu</u>
Fuqin Xiong, Ph.D. Chair, Professor	Digital Communications, Efficient Modulation and Coding Schemes	SH 342 687-2127	<u>f.xiong@csuohio.edu</u>
Siu-Tung Yau, Ph.D. Associate Professor	Bioelectronics and Molecular Electronics	SH 342 875-9783	s.yau@csuohio.edu

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Chansu Yu, Ph.D. Associate Professor	Mobile Computing, Mobile Ad Hoc Networks and Embedded Systems	SH 437 687-2584	<u>c.yu91@csuohio.edu</u>
Wenbing Zhao, Ph.D. Assistant Professor	Fault-Tolerant Computing, Computer and Network Security, Peer-to- Peer and Grid Computing, Performance Evaluation of Distributed Systems	SH 434 523-7480	wenbingz@acm.org
Ye Zhu, Ph.D. Assistant Professor	Network Security and Privacy, Computer Networking and Distributed Systems, Pervasive Computing	SH 433 875-9749	<u>y.zhu61@csuohio.edu</u>

	Staff		
Name	Title	office & Phone	email
Jan Basch	Secretary for Undergraduate Studies	SH 332 687-2589	j.basch@csuohio.edu
Adrienne Fox	Secretary for Graduate Studies	SH 332 687-2591	<u>a.fox@csuohio.edu</u>

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MSEE Degree Requirements

Dr. Ana Stankovic

Department of Electrical Engineering and Computer Science

Thesis Option

- A minimum of 30 total credit hours, including at least six credit hours of thesis, and at least two 600-level EECS courses.
- Successful completion and defense of a thesis. A graduate committee guides the thesis work.
- Thesis students must give an oral presentation of the thesis.

Non-thesis Option

A minimum of 32 total credit hours, including at least three 600-level EECS courses.

All Students

- Students must take at least <u>four</u> course subjects from their area of specialization, including its core course(s).
- Areas of specialization and their core courses:
 - Communication engineering (EEC 512 and 651)
 - Control engineering (EEC 510)
 - Power systems and power electronics engineering (EEC 571 and 574)
 - Computer engineering (EEC 581 and EEC 584)

Communication Engineering

Core Courses

- EEC 512 Probability and Stochastic Processes
- EEC 651 Digital Communications
- Electives
 - EEC 530 Digital Signal Processing
 - EEC 650 Signal Detection and Estimation
 - EEC 652 Error Control Coding
 - EEC 653 Information Theory
 - EEC 654 Mobile Communications
 - EEC 655 Satellite Communications
 - EEC 693 Special Topics (as appropriate)

Control Engineering

Core Course

EEC 510 Linear Systems

Electives

- EEC 512 Probability and Stochastic Processes
- EEC 517 Embedded Systems
- EEC 542 The Art and Science of Feedback Control
- EEC 640 Advanced Control System Design
- EEC 641 Multivariable Control
- EEC 642 System Identification
- EEC 643 Nonlinear Systems
- EEC 644 Optimal Control Systems
- EEC 645 Intelligent Control Systems
- EEC 646 Dynamics and Controls of MEMS
- EEC 693 Special Topics (as appropriate)

Power Systems and Power Electronics

Core Courses

- EEC 573 Power Systems
- EEC 574 Power Electronics II
- Electives
 - EEC 510 Linear Systems
 - EEC 640 Advanced Control System Design
 - EEC 641 Multivariable Control
 - EEC 643 Nonlinear Systems
 - EEC 644 Optimal Control Systems
 - EEC 670 Power Systems Operation
 - EEC 671 Power Systems Control
 - EEC 673 Power Electronics & Electric Machines
 - EEC 693 Special Topics (as appropriate)

Computer Engineering

Core Courses

- EEC 581 Computer Architecture
- EEC 584 Computer Networks

Electives

- EEC 517 Embedded Systems
- EEC 580 Modern Digital Design
- EEC 587 Rapid Digital System Prototyping
- EEC 680 High Performance Computer Architecture
- EEC 681 Distributed Computing Systems
- EEC 683 Computer Networks II
- EEC 684 Parallel Processing Systems
- EEC 685 Modeling and Perf. Eval. of Computer Systems
- EEC 686 Advanced Digital Design
- EEC 687 Mobile Computing
- EEC 688 Secure and Dependable Computing
- EEC 693 Special Topics (as appropriate)

All Students

Within the first four weeks of the first semester of his or her MSEE program of study, each student must submit a <u>plan of</u> <u>study</u> that requires the approval of the advisor.

1. Formally admitted to Program:	Semester		Year	
2. Area of Specialization:	Course	Semester	Year	Credits
Core				
Core/Elective				
Elective				
Elective			<u></u>	
3. 600-level EEC Courses:	Course 🔊	Sester	Year	Credits
□ Non-thesis Option – Min. 12 credit hours	C			
□ Thesis Option – Min. 8 credit hours		<u></u>		
4. Other Electives:	Course	Semester	Year	Credits
	ν 			
5. EEC 699 Master's Thesis:	Course	Semester	Year	Credits
□ Thesis Option – Min. 6 credit hours				

All Students

- A maximum of eight credit hours of graduate course work outside of the department may be applied toward the degree with advance approval from the student's advisor.
- The seminar course (EEC 601) and 400-level courses may not be applied for credit toward the MSEE degree.

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Programs Offered, College of Graduate Studies - Cleveland State University - Windows Ir	iternet Explorer
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rated 4 + 1 Program in Chemical Engineering	Current Students
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rated 4 + 1 Program in Electrical Engineering	Graduate Faculty Graduate Catalog
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😹 Current Graduate Studen... 🗴

College of Graduate Studies

Current Students

Downloadable Forms

Contains downloadable/printable version of forms needed by Graduate Students or an Undergraduate taking graduate courses.

Academic Regulations

Each student is responsible for meeting the curricular requirements and following the academic regulations of the college and university.

Funding Sources

A list of possible funding sources, including Signature Graduate Assistantships.

Graduate Program Directors

Serve as academic advisor to graduate students and assist in developing individual plans of study.

International Graduate Students

An international student is an individual who holds a visa while enrolled at Cleveland State University.

Graduate and Teaching Assistantships

Graduate Assistantships are regarded as apprenticeships during which students become more effective members of their professions through formal instruction, interaction with faculty, research and administrative experiences.

Thesis/Dissertation

Decree programs determine whether or not a thesis/dissertation is required for a graduate degree. A thesis/dissertation may take any of



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College of Graduate Stud

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Guest Students

- **Graduate Faculty**
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- **College Staff**

Graduate Catalog 2008

Search the Graduate Catalog 2008:



Index / Table of Contents / Academic Regulations / Academic Actions and Exceptions

The University reserves the right to amend its rules and regulations within the limits commonly accepted by colleges and universities. Students must keep themselves informed of amendments.

Print Page Updated:

Academic Actions and Exceptions

Academic Warning and Dismissal

Optional dismissal from, or continued participation with academic warning in a graduate degree, certificate, or licensure program, are recommended by the graduate committee of the program.

Optional Dismissal

If, in 400- to 800-level courses, a student receives:

- a. one grade of F, or
- b. two grades of less than B, or
- c. two grades of NS,

then the individual MUST be reviewed by the Graduate Program Committee to determine his or her ability to continue in graduate school. If the Graduate Program Committee determines that dismissal is in order, this recommendation is made to the Dean of the College of Graduate Studies for review and notification of the student.

Academic Warning

If it is determined that the student may continue in the graduate program, the Graduate Program Committee will notify the Dean of the College of Graduate Studies and the student, in writing, regarding the grounds under which continuation is possible. In addition, an "Academic Warning" notice will be recorded on the student's official grade report for that semester.

Mandatory Dismissal

If, in 400- to 800-level courses, a student receives:

- a. two F grades, or
- b. accumulates a total of nine credit hours of B- or less grades and has a cumulative grade-point average below 3.0,

then the student will be dismissed automatically from the program by the Dean of the College of Graduate Studies.

Re-Admission

An academically dismissed student who is readmitted to the same graduate program, or enters a different graduate program, will again be dismissed by the College of Graduate

Academic Regulations

- Optional Dismissal
 - One grade of F, or
 - Two grades of less than B
- Automatic Dismissal
 - Two F grades, or
 - Nine credit hours below B and a GPA below 3.0

College of Graduate Studies

Search

Current Graduate Students

Funding Sources

Current Funding Sources

- Student Employment
- Graduate Assistantships
- Financial Aid and Scholarships

Please check the Financial Assistance section of the Graduate Catalog for your program.

Signature Graduate Assistantship

- The Andy Miracle Signature Graduate Assistantship in Health Sciences Deadline April 1st, 2009
- The Mareyjoyce Green Graduate Assistantship is awarded annually to the student whose record best exemplifies the ideals of the sociology honorary society, Alpha Kappa Delta. Deadline April 15st, 2009

Past Funding Sources

2008-2009 Ohio Board of Regents Graduate and Professional Fellowship

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			Research	Financial Aid
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Employment Opportunities

On-Campus Jobs

Students can view a list of current job openings on campus.

Off-Campus Jobs

A number of job openings off campus are available through the Student Employment Program. You can also find off-campus opportunities at <u>CSUcareerline</u> or visio the Career Services Center on the second floor in Rhodes West for more off-campus jobs. You may want to ask to see the part-time job book. Other jobs are posted on the job board on the Plaza level of Rhodes West.

Internships

Intereships are related to the students' academic major. Information is available from the student's academic department regarding placement and academic credit for internships. Another resource can be found at <u>CSUcareerline</u>.



¹⁶²¹ Euclid Avenue



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Student Services, Center for International Services and Programs

Student Services

In order to serve you better, please choose one of the following categories:

New Students

- New Student Arrival Information
- Housing
- Hotels

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Current Students

- SEVIS and Student Status
- CPT
- OPT

more ...



News & Announcements

- # Fall 2008 Welcome Letter
- " <u>CPT/OPT Workshop Schedule for</u> Summer 2008
- International Woman Day Event Pictures
- * Special Registration and Travel!

-

Curricular Practical Training(CPT)

All students who are interested in doing CPT or OPT have to attend a practical training workshop conducted by International Students Advisor. All application materials will be given out at the workshop. For more information on CPT and OPT workshops <u>click here</u>.

Click here to go to CPT FAQ

Basic eligibility

- 1. You must be in lawful F-1 status
- 2. You must have been a full time student for at least one academic year
- 3. The proposed employment must be an integral part of your studies.

What is Curricular Practical Training?

DHS defines Curricular Practical Training as employment that is an integral or important part of your curriculum. This may be an internship, an independent study, a thesis, or required practicum. You must receive academic credit for the work experience during the same semester that you are applying for CPT. Permission is granted by the International Student Advisor (ISA) and then reported to the DHS in the SEVIS system.

- If a student uses all 12 months of CPT, he/she will not be permitted to apply for Optional Practical Training (OPT).
- 2. The DHS defines full-time employment as work more than 20 hours per week.
- 3. Registered full-time students may not exceed 20 hours of employment per week.
- It is possible to work full-time if you are not registered as a full-time student. This should occur only in summer semester or near the end of your program of study.
- 5. Curricular Practical Training is not designed for permanent or long-term work opportunities.
- The work period should be as close to the beginning and ending dates of the semester as possible
- 7. An incomplete does NOT allow you to continue to work or to work between semesters.

How to apply?

EEC 602/802 Electrical Engineering Internship

Course description (1-0-1)

- Prerequisites: Graduate standing, completion of at least one full time academic year in MSEE, MSSE, or Doctor of Engineering program, and permission of advisor. Provides students with practical experience in electrical, computer or software engineering. Students will write progress reports on a regular basis in addition to writing a project report at the end of the course. May be taken up to two times for credit. Pass/fail.
- Must obtain a job offer in writing from employer
- 12 months maximum on CPT (only full-time employment counts). Students who use all 12 months of CPT can't do OPT.

Optional Practical Training(OPT)

All students who are interested in doing CPT or OPT have to attend a practical training workshop conducted by International Students Advisor.

For workshop schedule click here. For OPT FAQ click here.

F-1 international students who have maintained their status and have completed one academic year of study in the U.S. may be eligible for Optional Practical Training (OPT).

Approval for OPT is recommended by the International Student Advisor (ISA) and granted by the U.S. Citizenship and Immigration Services (USCIS) in the form of an Employment Authorization Document (EAD). The USCIS may take 60 to 90 days to process your application. Once you receive an EAD from the USCIS, it is impossible to revoke it. You cannot work while you are waiting for the EAD to arrive.

What is Optional Practical Training?

Optional Practical Training is temporary employment related to the area of study indicated on your I-20. You may use your OPT time during your course of study or after the completion of your studies. You are allowed a maximum of 12 months during your entire academic career in the US.

Part time employment is 20 hours per week or less. Full time employment is 21 hours or more per week. You may apply to use your OPT time as you wish during your academic career in the US per the following guidelines:

- 1. While school is in session (part-time only)
- 2. During vacation (part-time or full-time)
- 3. After completion of all course work but before completion of thesis or dissertation (part-time or full-time)
- 4. After completion of your studies (full-time ONLY)

To apply for OPT that will be used before completion of your studies



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Center for International Services and Programs

Practical Training Workshop Schedule

All students who are interested in doing CPT or OPT have to attend a practical training workshop conducted by International Students Advisor. For more information on CPT and OPT <u>click here</u>.

SPRING 2009

Date	Time	Location
Tue 1/27/09	10.30am-12.00pm	BU225
Wed 2/11/09	1.30pm-3.00pm	BU127
Thu 2/26/09	10.30am-12.00pm	BU225
Tue 3/10/09	1.30pm-3.00pm	BU116
Wed 3/25/09	10.30am-12.00pm	BU225
Tue 4/7/09	1.30pm-3.00pm	BU116
Wed 4/22/09	10:30am-12:00pm	BU225
Tue 5/5/09	1:30pm-3:00pm	BU116

Final Advice

DO NOT GUESS!

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