MICHIGAN STATE UNIVERSITY

Electrical & Computer Engineering New Graduate Student Orientation

Agenda

ECE, New Graduate Student Orientation

Welcome from the ECE Department Chairperson

- Professor John Papapolymerou, MSU Foundation Professor and Chairperson

Introductions

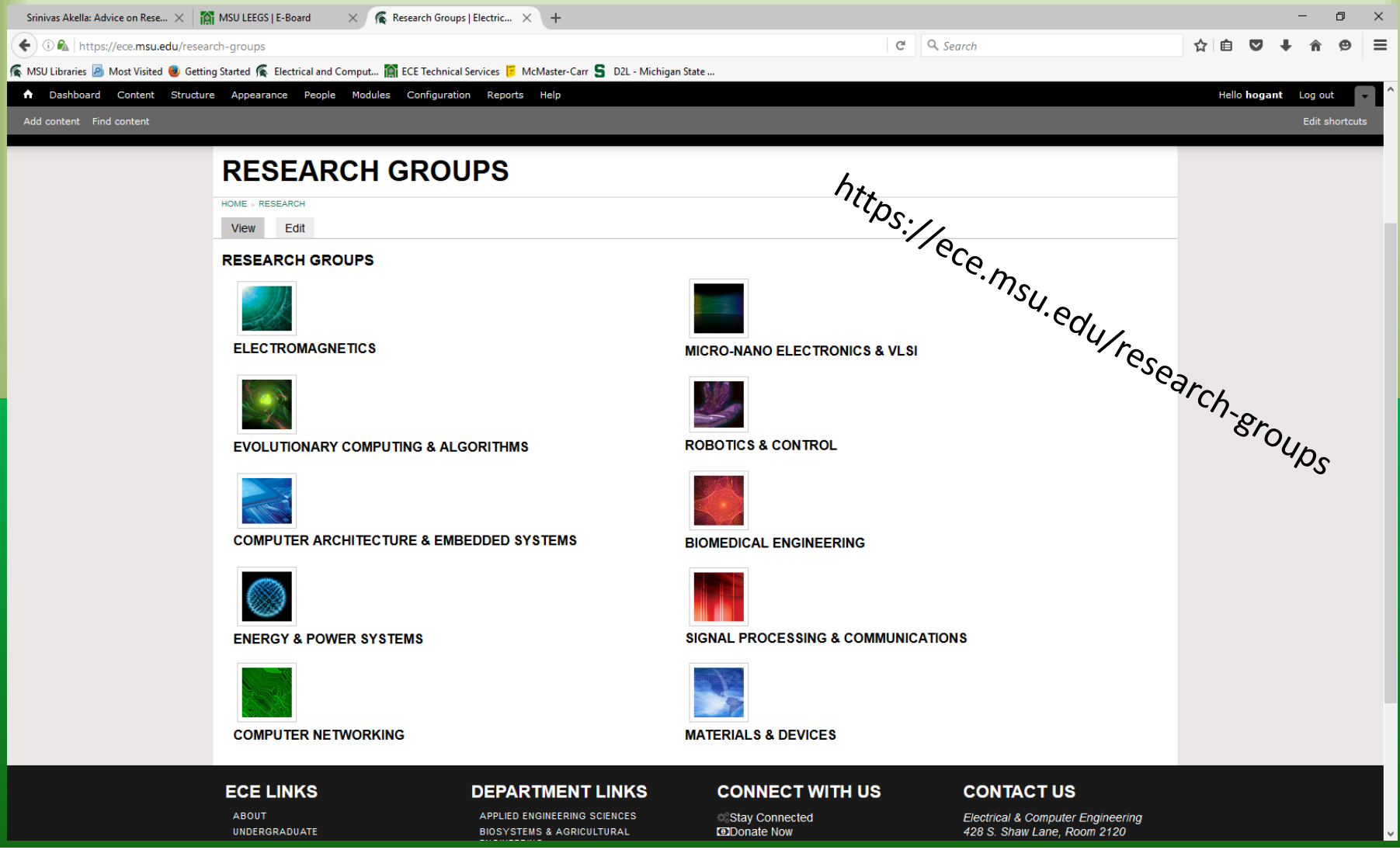
- Mr. Michael Craton, Graduate Employees Union
- Professor Tim Hogan, Associate Chairperson for Graduate Studies
- Ms. Meagan Kroll, ECE Graduate Secretary (room 2120 Engineering Bldg.)

Pathway to a Successful ECE Graduate Career

- Professor Tim Hogan, Associate Chairperson for Graduate Studies
  - Taking advantage of world-class research and education in ECE at MSU
  - Contributing to the ECE Department's research productivity
  - Following high-standard work ethics
  - Graduate Degree Requirements

Pathway to a Successful ECE Graduate Career

Taking advantage of world-class research and education in ECE at MSU



Pathway to a Successful ECE Graduate Career

Contributing to the Department's research productivity and reputation

- Building a sound analytical foundation
- Conducting high quality research
- Disseminating your results through journal publications and conference publications

Received Best Paper Award!

Wrote a journal article that is highly cited!

Published in a top journal in the field of study!

Journal cover story!

You will be known for the research you conduct

Pathway to a Successful ECE Graduate Career

Contributing to the Department's research productivity and reputation

- Be self driven
  - Engage in discovery early, and often
  - Be a voracious consumer of literature
  - Do not be limited to your lab (seek what you need across campus, across the nation, then talk with your advisor)
  - Your competition is worldwide (so is your network)
  - An excellent resource is: http://webpages.uncc.edu/sakella/advice.html
- Disseminate your work
  - Publications (journal & conference)
  - Network with colleagues outside
  - Clear and readable images, good writing skills, take-home messages clearly highlighted, etc.
- Grad school is NOT an extension of UG
  - Your UG prepared you for grad school
  - You NEED to use grad school to prepare for the next stage in your career

Pathway to a Successful ECE Graduate Career

Following high-standard work ethics

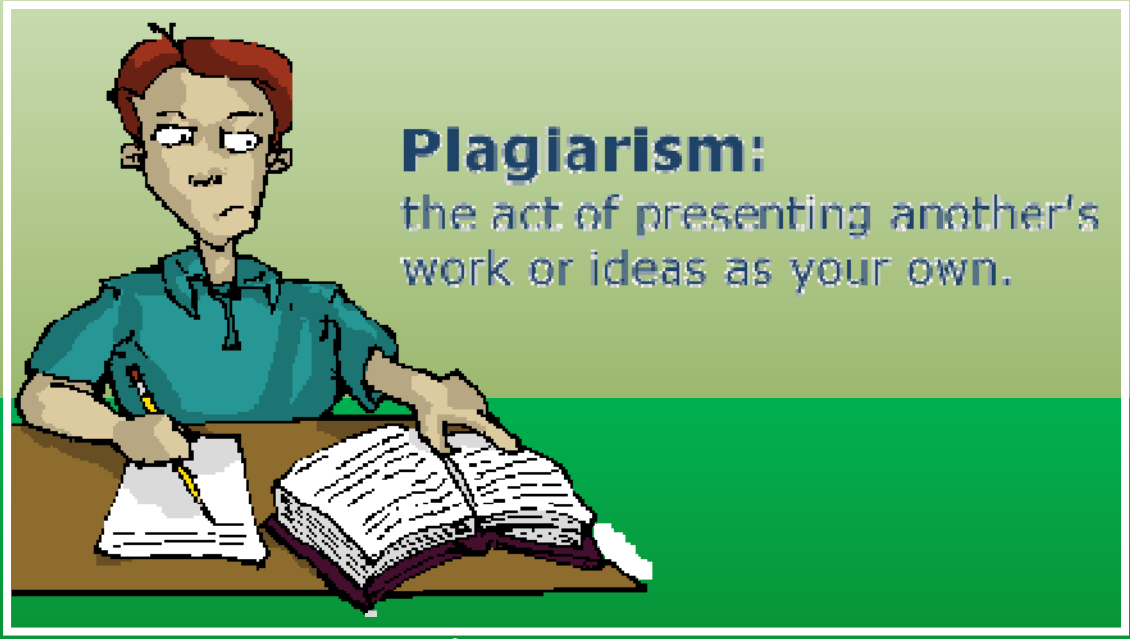
- Working hard
- Working smart
- Working with honesty and integrity
- RCR Training (must be completed each calendar year and logged online at www.egr.msu.edu/rcr)
  - First year students must complete 5 hours of RCR training by December 31st of the first full calendar year enrolled at MSU.
  - After the first year, there is a minimum of 3 hours of RCR training each year. (https://www.egr.msu.edu/academics/graduate/rcr)
- Must NOT engage in any form of

  Plagiarism, Forgery, Cheating
- Each of these is an offence that could result in dismissal from the program.
- Additional resources and workshops: https://grad.msu.edu/rcr

Pathway to a Successful ECE Graduate Career

Following high-standard work ethics

- What is plagiarism?



http://libguides.rockhurst.edu/collegereadiness/plagiarism

Pathway to a Successful ECE Graduate Career

Following high-standard work ethics

https://msu.edu/unit/ombud/academic-integrity/

GENERAL STUDENT REGULATIONS

1.00 PROTECTION OF SCHOLARSHIP AND GRADES The principles of truth and honesty are fundamental to the educational process and the academic integrity of the University; therefore, no student shall:

1.01 claim or submit the academic work of another as one's own.

1.02 procure, provide, accept or use any materials containing questions or answers to any examination or assignment without proper authorization.

1.03 complete or attempt to complete any assignment or examination for another individual without proper authorization.

1.04 allow any examination or assignment to be completed for oneself, in part or in total, by another without proper authorization.

1.05 alter, tamper with, appropriate, destroy or otherwise interfere with the research, resources, or other academic work of another person.

1.06 fabricate or falsify data or results.

MICHIGAN STATE UNIVERSITY

Electrical & Computer Engineering Graduate Degree Requirements

Pathway to a M.S. Degree in EE

The Master of Science degree consists of successfully completing the following:

(1) Obtain an advisor from the ECE Department faculty.
(2) Form a program plan. The Master's Degree Program Plan is to be submitted by the end of your first semester at the website: https://www.egr.msu.edu/grs/
(3) Complete coursework and research.
(4) Write a thesis {Plan A only}.
(5) Defend the thesis in an oral examination {Plan A only}. Provide a hard copy of your thesis to the graduate secretary.
(6) Submit application for graduation and complete exit survey at: https://reg.msu.edu/StuForms/GradApp/gradapp.aspx

M.S. Degree – Plan A (Thesis Option)

The Plan A (thesis option) master's degree requires a total of 30 credits, including 24 credits of course work at the 400 level or above, as approved by the faculty advisor. The Plan A program must include the following:

- Four ECE courses (12 credits minimum) at the 800 or 900 level (excluding ECE 801: Independent Study) with at least two core classes from the following list:
  1. ECE 813: Advanced VLSI Design
  2. ECE 820: Advanced Computer Architecture
  3. ECE 821: Advanced Power Electronics and Applications
  4. ECE 835: Advanced Electromagnetic Fields and Waves I
  5. ECE 851: Linear Control Systems
  6. ECE 863: Analysis of Stochastic Systems
  7. ECE 874: Physical Electronics
- A minimum of six (6) credits in supporting classes from outside the College of Engineering. Examples of approved courses for this requirement include:
  - MTH 415, 421, 424, 425, 428H, 443, 451, 452, 461, 472
  - MTH 810, 828, 829, 841, 842, 848, 849, 850, 851, 852, 881
  - STT 441, 442, 844, 861, 862
  - PHY 425B, 471, 472, 810, 841, 842, 851, 852
- A minimum of 4 credits and no more than 8 of ECE 899 (thesis research)
- A minimum of 20 credits at the 800 level or above (including thesis credits)
- First year graduate students must attend a minimum of 7 seminars from the graduate seminar series

M.S. Degree – Plan B (Non-Thesis Option)

The Plan B (non-thesis option) master's degree requires a total of 30 credits, including 24 credits of course work at the 400 level or above, as approved by the faculty advisor. The Plan B program must include the following:

- Four ECE courses (12 credits minimum) at the 800 or 900 level (excluding ECE 801: Independent Study) with at least two core classes from the following list:
  1. ECE 813: Advanced VLSI Design
  2. ECE 820: Advanced Computer Architecture
  3. ECE 821: Advanced Power Electronics and Applications
  4. ECE 835: Advanced Electromagnetic Fields and Waves I
  5. ECE 851: Linear Control Systems
  6. ECE 863: Analysis of Stochastic Systems
  7. ECE 874: Physical Electronics
- A minimum of six (6) credits in supporting classes from outside the College of Engineering. Examples of approved courses for this requirement include:
  - MTH 415, 421, 424, 425, 428H, 443, 451, 452, 461, 472
  - MTH 810, 828, 829, 841, 842, 848, 849, 850, 851, 852, 881
  - STT 441, 442, 844, 861, 862
  - PHY 425B, 471, 472, 810, 841, 842, 851, 852
- A minimum of 18 credits at the 800 level or above
- First year graduate students must attend a minimum of 7 seminars from the graduate seminar series

Pathway to a M.S. Degree in EE

Any questions about your ECE Degree Requirements?

- First review the ECE Graduate Student Handbook (https://ece.msu.edu/academics/graduate-programs)

Ask ECE Graduate Secretary
Ms. Meagan Kroll

Associate Chairperson
Tim Hogan

Ask your main advisor
Professor XYZ

MICHIGAN STATE UNIVERSITY

COLLEGE OF ENGINEERING

Master's Degree Program Plan

Name: Student, Joe

Date: 09/01/05

PID: **A0000000**

First Semester in Master's Program: **FS05**

Major: **Electrical Engineering**

Status: **Regular**

Plan: **Plan A Thesis Work (MS:Thesis)**

New Plan:

Added	Course	Title	Semester	Credits	Grade	Remarks
*	ECE 466	Digital Signal Processing and Filter Design	FS05	3		
*	ECE 863	Analysis of Stochastic Systems	FS05	3		
*	MTH 428H	Honor Analysis I	FS05	3		
*	ECE 864	Detection and Estimation Theory	SS06	3		
*	MTH 828	Real Analysis	SS06	3		
*	ECE 867	Information Theory and Coding	SS06	3		
*	ECE 899	Masters Thesis Research	US06	3		
*	ECE 865	Digital Communication Systems	FS06	3		
*	ECE 899	Master's Thesis Research	FS06	3		
*	ECE 851	Linear Control Systems	FS06	3		

Credits 500 Level and Above	Thesis Credits	Total Credits
24	6	30

Removed Courses:

None

Joe Student — 9/2/05 Date

Jane Faculty — 9-2-05 Date

Jack Coordinator — 9/3/05 Date
Dept Chair / Grad Coordinator

Jill Dean — 9-8-05 Date
Associate Dean

SAMPLE

MICHIGAN STATE UNIVERSITY

COLLEGE OF ENGINEERING

Master's Degree Program Plan

Name: Student, Joe

Date: 09/01/05

PID: **A0000000**

First Semester in Master's Program: **FS05**

Major: **Electrical Engineering**

Status: **Regular**

Plan: **Plan A Thesis Work (MS:Thesis)**

After you submit your Master's Degree Program Plan online (through GRS), the Graduate Secretary will review the program and then initiate the approval process for each committee member's approval, the Associate Chairperson for Graduate Studies approval, and the Associate Dean's approval. You can track the approval process through GRS.

*	ECE 899	Masters Thesis Research	US06	3		
*	ECE 865	Digital Communication Systems	FS06	3		
*	ECE 899	Master's Thesis Research	FS06	3		
*	ECE 851	Linear Control Systems	FS06	3		

Credits 500 Level and Above	Thesis Credits	Total Credits
24	6	30

Removed Courses:

None

Joe Student — 9/2/05 Date

Jane Faculty — 9-2-05 Date

Jack Coordinator — 9/3/05 Date
Dept Chair / Grad Coordinator

Jill Dean — 9-8-05 Date
Associate Dean

SAMPLE

MICHIGAN STATE UNIVERSITY

COLLEGE OF ENGINEERING

Master's Degree Program Plan

Name: Student, Joe

Date: 09/01/05

PID: **A0000000**

First Semester in Master's Program: **FS05**

Major: **Electrical Engineering**

Status: **Regular**

Plan: **Plan A Thesis Work (MS:Thesis)**

After you submit your Master's Degree Program Plan online (through GRS), the Graduate Secretary will review the program and then initiate the approval process for each committee member's approval, the Associate Chairperson for Graduate Studies approval, and the Associate Dean's approval. You can track the approval process through GRS.

*	ECE 899	Masters Thesis Research	US06	3		
*	ECE 865	Digital Communication Systems	FS06	3		
*	ECE 899	Master's Thesis Research	FS06	3		

See the handbook regarding limitations to changing the program once it is filed.

Removed Courses:

None

Joe Student — 9/2/05 Date

Jane Faculty — 9-2-05 Date

Jack Coordinator — Dept Chair / Grad Coordinator — 9/3/05 Date

Jill Dean — Associate Dean — 9-8-05 Date

SAMPLE

Pathway to a Ph.D. in EE

- Gain admission to the program with financial support. For most of our admitted students, the support is in the form of a graduate assistantship.
- Obtain an academic advisor. Your advisor will be a member of the Department faculty and will serve as the chairperson of your doctoral guidance committee.
- Pass the doctoral qualifying examination part A at the beginning of the second semester (January) in the program.
- Form a guidance committee and design a program of coursework with your guidance committee before the end of your second semester. The Doctoral Degree Program Plan is accessed at the web site: https://gradplan.msu.edu/
- Pass part B of the doctoral qualifying examination by the end of the calendar year that you took part A in.
- Pass the comprehensive examinations, including a successful presentation of a dissertation proposal. This is done when coursework is finished, or substantially finished (typically ~1 year prior to graduation). This must be done more than 6 months before graduation.
- Complete your research, write your dissertation, and defend it in an oral examination. Provide a hardcopy of your dissertation to the graduate secretary.
- Submit an Application for Graduation with the Office of the Registrar by the first week of the semester you expect to complete your degree requirements. The application may be done on line at: https://reg.msu.edu/StuForms/GradApp/gradapp.aspx

Ph.D. Credit Requirements

The doctoral program must minimally include thirty-six (36) semester credits, in addition to ECE 999 and exclusive of any independent study credits, beyond the B.S. degree in 800/900 level courses.

- Courses will be prescribed by your guidance committee to ensure you have a comprehensive knowledge of a major research field and related subjects. The required courses will depend upon the student's academic background in relation to the selected research specialization.
- There are no core course requirements for the doctoral degree program plan. Courses are prescribed by the guidance committee.
- Any courses that you include on your program cannot be courses that were taken to complete an M.S. degree. All courses taken to complete the M.S. degree need to be written on the supplement form.
- A minimum of three (3) credits of 800/900 level courses must be taken outside the Engineering College in areas such as Mathematics, Statistics, or Physics.
- At least 24 credits of ECE 999 (Doctoral Dissertation) are required.

GradPlan

MICHIGAN STATE UNIVERSITY — COLLEGE OF ENGINEERING

Doctoral Degree Program Plan

Name: **Student, Jane** Date: 03/01/05 PID: **A00000000**

First Semester in Doctoral Program: **FS04** Major: **Electrical Engineering**

Status: **Regular**

New Plan:

Added	Course	Title	Semester	Credits	Grade	Remarks
	PHY 810	Methods of Theoretical Physics	FS06	3		
	EGE 929B	Antenna Theory	SS06	3		
	EGE 871	Micro-electro-mechanical Systems	SS06	3		
	ECE 931C	Properties of Semiconductors	FS05	3		
	ECE 836	Electromagnetic Fields and Waves II	SS05	3		
	ECE 875	Electronic Devices	FS04	3	3.5	
	ECE 859	Optimal Multivariable Control	FS04	3	4.0	

Credits 500 Level and Above	Thesis Credits	Total Credits
21		21

Removed Courses:

None

Jane Student — 3-1-05 Date

Ann Advisor — 3/2/05 Date

George Guidance1 — 3/3/05 Date

George Guidance2 — 3/4/05 Date

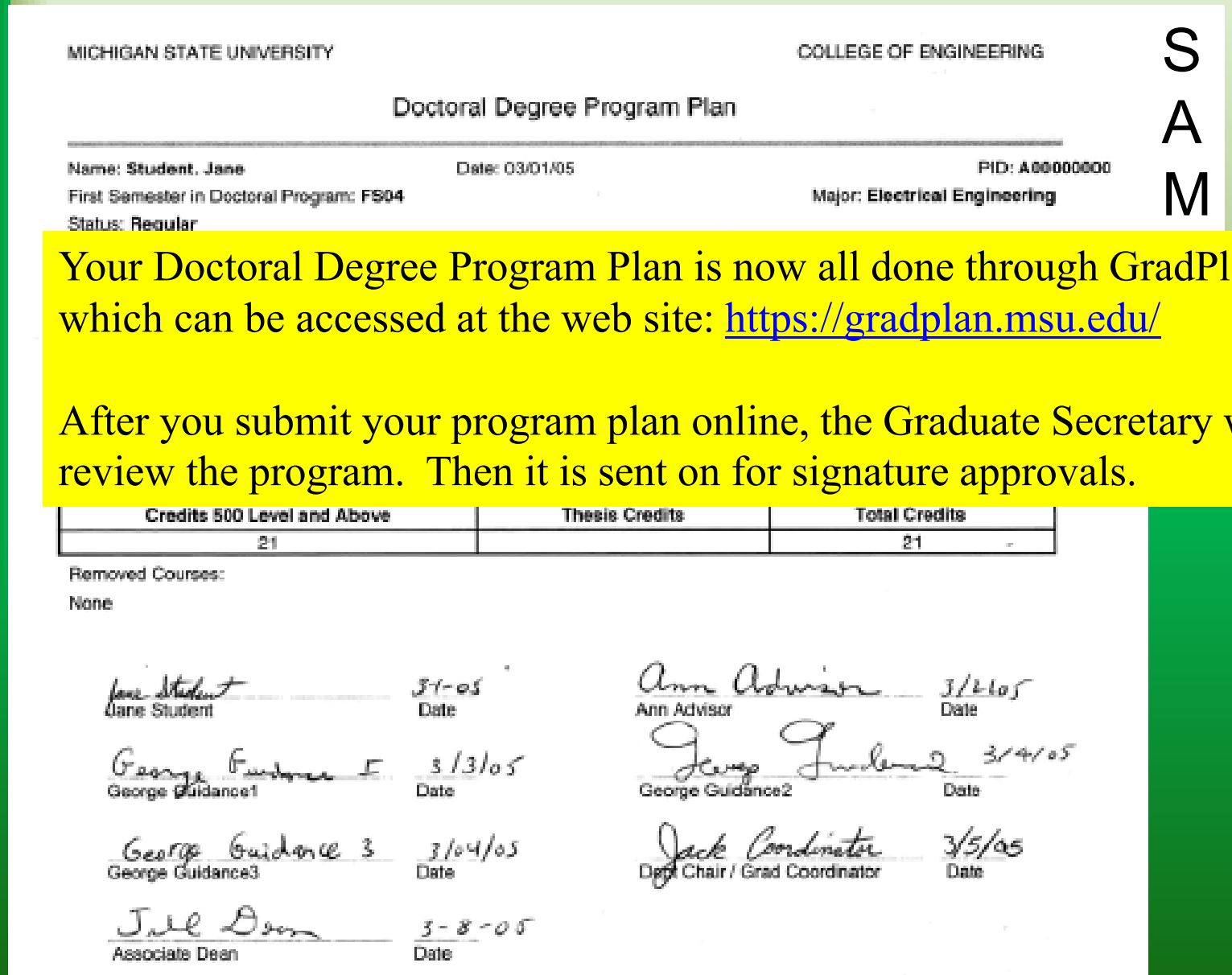
George Guidance3 — 3/04/05 Date

Dept Chair / Grad Coordinator — 3/5/05 Date

Associate Dean — 3-8-05 Date

SAMPLE

GradPlan



MICHIGAN STATE UNIVERSITY — COLLEGE OF ENGINEERING

Doctoral Degree Program Plan

Name: **Student, Jane** Date: 03/01/05 PID: **A00000000**

First Semester in Doctoral Program: **FS04** Major: **Electrical Engineering**

Status: **Regular**

S A M

Your Doctoral Degree Program Plan is now all done through GradPlan which can be accessed at the web site: https://gradplan.msu.edu/

After you submit your program plan online, the Graduate Secretary will review the program. Then it is sent on for signature approvals.

Credits 500 Level and Above	Thesis Credits	Total Credits
21		21

Removed Courses:

None

Jane Student — 3-1-05 Date

Ann Advisor — 3/2/05 Date

George Guidance1 — 3/3/05 Date

George Guidance2 — 3/4/05 Date

George Guidance3 — 3/04/05 Date

Dept Chair / Grad Coordinator — 3/5/05 Date

Associate Dean — 3-8-05 Date

Supplement Form

Sample Supplementary Report.

SAMPLE

Department of Electrical and Computer Engineering

SUPPLEMENT to the REPORT OF THE GUIDANCE COMMITTEE Form

Use this form to list post-bachelor's courses accepted by the Doctoral Guidance Committee towards the Departmental minimum Ph.D. course credit requirement (36 credits). The form is to be attached to the MSU College of Engineering Doctoral Degree Program Plan.

COURSE NUMBER	TITLE	CREDITS
EE 511	Engineering Electromagnetics	3
EE 512	Integrated Optics	3
EE 518	Manufacturing Methods in Microelectronics	3
EE 530	Adaptive and Learning Systems	3
EE 566	Robust Control Theory	3
MATH 521	Complex Analysis	3

Supplement Form

Sample Supplementary Report.

SAMPLE

Department of Electrical and Computer Engineering

SUPPLEMENT to the REPORT OF THE GUIDANCE COMMITTEE Form

Use this form to list post-bachelor's courses accepted by the Doctoral Guidance Committee towards the Departmental minimum Ph.D. course credit requirement (36 credits). The form is to be attached to the MSU College of Engineering Doctoral Degree Program Plan.

COURSE NUMBER	TITLE	CREDITS
EE 511	Engineering Electromagnetics	3
[illegible]		
[illegible]		
[illegible]		
[illegible]		
MATH 521	Complex Analysis	3

Courses listed on this form are those from previous graduate programs at MSU or elsewhere. The courses must be graduate level, not "dual level" (i.e. senior/graduate classes).

M.S. Degree – What must be done your first year?

- Advisor selection - at start of program.
- File an approved program - before 6 credits are finished.
- Fulfill seminar attendance requirement. First year graduate students are required to attend 7 seminars from the graduate seminar series.
- Fulfill proficiency requirement if appropriate. Master's degree students whose undergraduate degree is not in Electrical or Computer Engineering must demonstrate proficiency in 3 out of the following courses; ECE 302, ECE 305, ECE 313, ECE 366.

Ph.D. Degree – What must be done your first year?

- Advisor selection.
- Qualifier Exam - first offering (January) after completion of one semester.
- Form a Guidance Committee and file an approved doctoral program within the 1st two semesters in the program
- Fulfill seminar attendance requirement. First year graduate students are required to attend 7 seminars from the graduate seminar series.
- Fulfill proficiency requirement if appropriate. Doctoral degree students whose undergraduate degree is not in Electrical or Computer Engineering must demonstrate proficiency in 3 out of the following courses; ECE 302, ECE 305, ECE 313, ECE 366.

Enrollment

- Discuss course selection with your advisor.
- Enroll using STU-INFO computer enrollment. (STU-INFO may be found at https://stuinfo.msu.edu/AppLogin.Asp)
- If a course you want is full, send email to the instructor, or go to the first class. Only the instructor may authorize over-enrollment.
- STU-INFO is the most up-to-date source of course information, such as time and location.

Other Resources

The Graduate School
(https://grad.msu.edu/)

The Council of Graduate Students (COGS)
(http://cogs.msu.edu/)

The Graduate Employee Union (GEU)
(http://geuatmsu.org/)

Academic Calendar

The academic calendar found at:
https://reg.msu.edu/ROInfo/Calendar/Academic.aspx

Includes such things as:

- Start of classes
- Close of free add period
- End of tuition refund
- Midterm and last day to withdraw from a class without a grade.
- End of classes
- Final exams (these are now shown in the Schedule of Courses)
- Holidays and breaks
- RA and TA appointment periods.

Additional TA Information

From the Graduate School's website:

- Information for Teaching Assistants
  http://grad.msu.edu/gradasst.htm
- TA Program resources
  http://www.msu.edu/unit/taprog/resources.htm
- MSU TA: A Handbook for TAs
  http://www.msu.edu/unit/taprog/handbook2001/index.htm
- Appendix B: MSU Policies (very important)
  - MSU Policies on Discrimination (including sexual harassment)
  - Code of teaching responsibility
  - Rights and responsibilities of the student
  - Protection of Scholarship and Grades
- The GEU
  http://www.msu.edu/user/geu

Questions?

- Check the Graduate Handbook at our web site
  https://ece.msu.edu/academics/graduate-programs
- Check the Graduate School web site
  https://grad.msu.edu/
- Consult the Graduate Secretary, Ms. Kroll
  (517-355-5066, krollm@msu.edu).
- Consult your Academic Advisor
- Consult the Associate Chairperson for Graduate Studies