College Curriculum Committee, 1420 Lurie Engineering Center Building



Form Number

1358

**Action Requested** 

New Course
 Modification of Existing Course
 Deletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date 2/24/2004 Effective Fall 2004

	A. C	URRENT LISTI	1G			B. RE	QUESTED LIS	STING				
	Home Depa	artment		Dlv#	Course Number	Home Depa EECS	utment		Div# 252	Course Number 385		
<u> </u>	Cross Listed	Course information										
	Closs Esteu	Course anomalor	÷			Cross Listed (	Course Information					
_	<u> </u>											
<u> </u>	Course Title					Course Title Speed Programming						
	TITLE ABBRE-	Time Sched Max = 19 Spaces				TITLE ABBRE-	Time Sched Max = 19 Spaces	Speed Program	nming			
	VIATION	Transcript Max = 20 Spaces				VIATION	Transcript Max = 20 Spaces	Speed Program	nming	W		
LJ	Course Description					Course Description for Official Publication (Max = 50 words)  A course to help students prepare for programming competitions such as the International Collegiate Programming competition. Students will learn fast problem solving and program writing techniques, quick classification of problems, common data structures and algorithms, team strategies, and standard libraries. Students will compete in weekly contests.						
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	Degree Req	ulrements O Degree Re O Core Cou O Free Elect	equirement O Tech se O Other	Elective		Degree Requ	alrements O Degree Re O Core Cour	squirement © Tech Ele se O Other	ective			
	Prerequisites					Prerequisites	© Free Elect EECS 281 ○ Enforced ⊙ Advised					
	Credit Restrictions					Credit	C Elikoroad C Advised	-				
	Level of Cre	edit		Credit Hours	Contact	Restrictions  Level of Creat	lt .	<u>-</u>	l a au	1		
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C.	Is this cours Maximum	ppeatability (Indi Research, Di se repeatable? O Yes O n Hours? Maxim prepeated in the same term?	No um Times?	=		Printing into	primation Print the co	ourse in the Bulletin ourse in the Time Sched	ule			
	Class Type(s)	Graded © I	ec Gradin			Terms &	I D II D IIIa D IIIb i	<b>u</b> in	Ha	if term 1 1st		
		Lec Section OF Rec Sem OF Leto	em ⊠A-E	C KIA	cation on Arbor	Freq. of Offering	Yearly 🖸 Alter Years 📮	Even Years Odd Y	ears	☐ 2nd		
	Ä	us o	ind P/F	□ C	ological Station amp Davis dension	Cognizant Facul Member:	Kevir	Compton	Title Assoc	. Prof.		
						Grad Course: At	ach nomination if Cognizar	nt Faculty is not a regula	ar graduate (aculty			
	Approval  Curriculu	ım Comm.				Sub Name, Signature a Horne Dept	TEOD ALV	A. FLOUY				
	Faculty			<del></del>		Cross-listed Dep	t(s).	· ·				
	] Rackhar ] Cross lis	n sted Unit 1		<u></u> .	<del></del>		***************************************	·····	***************************************			
										54		

Cross listed Unit 2		50tallitätivah (interviewe en	
<del> </del>			709708978048030809999999999999999999999999999999
			Form Number
			1358
SUPPORTING STATEMENT			
This is a specialized course for the programming t	leam members. The tor	oics are specific to the	competitive programming enviorm
and are common to the other top schools. The cou	urse can only the taken	once.	
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Are any special resources or facilities required	d for this course?	☐ Yes ⊠ No	
Detail the Special requirements			•
Detail the Special requirements		•	
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College Curriculum Committee, 1420 Lurie Engineering Center Building



Form Number 1321

56

## **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date <u>2/9/2004</u> Effective Fall 2004

Home Depa		NG				QUESTED I					
	ertment		Div#	Course Number	Home Depa	utment		Div # 252	Course Numb		
Cross Listed	Cross Listed Course Information					Course Information					
Course Title		* ****		41-14	Course Title Control Systems Analysis and Design						
TITLE	Time Sched Max = 19 Spaces				TITLE	Time Sched Max = 19 Spaces	Con Sys Anal	& Des			
ABBRE- VIATION	Transcript Max = 20 Spaces			<del></del> .	ABBRE- VIATION	Transcript Max = 20 Spaces	Con Sys Anal &	& Des			
bioengin domain and Bod design.	istry (e.g., automot leering, power, etc. methods are covere e plot-based techni	) are discussed.  ed. Root locus, l  ques are used as	Both time ar Nyquist stab	nd frequency ility criterion,	bioengine frequency Bode-plot discussion	ering, power, che- domain method techniques are	otive, aerospace, co emical, etc.) are di s are covered. Roc outlined. Compute cluded in the cour	scussed. Bot of locus, Nyer-based exp	h time- and quist- and		
5-7-10-34-0 (-100-) (-100-)	b 🗆 c 🗀 d 🗆	24040757404545465	□h □i	□j □k	⊠a□	COLUMN TERRETARION AND AND AND ADDRESS OF THE PARTY OF TH		□h □i	□j⊠k		
Degree Rec	quirements O Degree O Core Co O Free Ele	Requirement O Tech E ourse O Other ective	Elective		Degree Requirements  O Degree Requirement O Tech Elective O Core Course O Other O Free Elective						
Prerequisites	s (EECS 212/316 or EEC ⊙ Enforced ○ Advised	S 306) or Graduate Star	nding		Prerequisites	EECS 306 or Graduate  © Enforced © Advis	•				
Credit Restrictions					Credit Restrictions						
Level of Cre ☐ Undergrad ☐ Rackham ☐ Non-Rekh ☒ Ugrad or N	ionly □ All-Cr Grad □ Rekhi m Grad	edit types m Grad w/add*l Work	Credit Hours Min Max33	Contact Hrs/Wk 3  Number of Wks 14	Level of Cre Undergrad o Rackham G Non-Rekhm S Ugrad or Ro Ugrad or No	nky □ All( rad □ Rok Grad	Credit types thm Grad w/add'l Work	Credit Hours Min Max 4 4	Contact Hrs/Wk 4 Number of Wks 1		
	epeatability (Indi Research, se repeatable? O Yes of m Hours? Max e repeated in the same term	No imum Times?			Printing Inf (4	ormation	e course in the Bulletin e course in the Time Sched	ule			
		Lec Grading	Loc	ation	Freq. of	I □ II □ IIIa □ III Yearly □ Alter Years	b □ III □ Even Years □ Odd Y		alf term 🔲 1st 🔲 2nd		
Class Type(s)	Lec Section C Rec Sem	Sem ZA-E Lab CR/NK		n Arbor							
Class Type(s)	Lec Section C	Lab CR/No	□ Bio	logical Station mp Davis	Cognizant Facu Member:		S. Meerkov J. Grizzle	Title Profe			
Class Type(s)	Lec Section College Co	OLab □ CR/NK ODis □ S/U Olnd □ P/F	□ Bio	logical Station mp Davis	Member: Grad Course: A	ttach nomination if Cogn		Profe ar graduate faculty	ssor		

SUPPORTING STATEMENT The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.  Approxed by ECE family, 2004-2-10.							
Form Number  [1321]  SUPPORTING STATEMENT  The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.	Out of Batant I last O						
SUPPORTING STATEMENT  The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.	Cross listed Unit 2						
SUPPORTING STATEMENT  The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.		• •					
SUPPORTING STATEMENT  The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.							
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SUPPORTING STATEMENT  The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.							
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The prerequisites are modified because EECS 212 and EECS 316 are no longer offered. The credit hours are changed because the course requires a discussion section, which includes several computer-based controller design experiments.	SUPPORTING S	TATEMENT					
The procequines at discussion section, which includes several computer-based controller design experiments  Applicated by ECE facility, 2004-2-10.	The annualisation and the	adified because PECS	212 and EECS 316	are no longer of	fered. The credit ho	ours are changed beca	use the course
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□ Yes □ No

Are any special resources or facilities required for this course?

Detail the Special requirements

College Curriculum Committee, 1420 Lurie Engineering Center Building



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## **Action Requested**

New Course
 Modification of Existing Course
 Deletion of Course

# Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date <u>2/24/2</u>004

Effective Fall 2004

	A. CURRENT LISTING	B. REQUESTED LISTING					
$\Box$	Home Department Div # Course Number	Home Department Div.# Course Number EECS 252 480					
	Cross Listed Course Information	Cross Listed Course Information					
	Course Title	Course Title Logic and Formal Verificaiton					
	TITLE ABBRE- Max = 19 Speces	TITLE Time Sched ABBRE- Logic Formal Verif					
	VIATION Transcript Max = 20 Spaces	VIATION Transcript Logic Formal Verif					
	Course Description	Course Description for Official Publication (Max = 50 words)  An introduction to current methodologies for verifying computer systems. Topics covered include logic and theorem proving; transition systems; temporal logic and the mu-calculus; modeling sequential and concurrent systems; model checking methods; binary decision diagrams; and controlling state explosion. Students will complete a project using current model checking technology.					
	PROGRAM OUTCOMES: □ a □ b □ c □ d □ e □ f □ g □ h □ l □ j □ k						
	Degree Requirements O Degree Requirement O Tech Elective O Core Course O Other	Degree Requirements O Degree Requirement O Tech Elective O Core Course O Other O Free Elective					
	Prerequisites ○ Enforced ○ Advised	Prerequisites EECS 281 and EECS 376  © Enforced © Advised					
	Credit Restrictions	Credit Restrictions					
	Level of Credit   Contact   Credit Hours   Contact   Hrs/Wk   Rackham Grad   Rickhim Grad w/add*! Work   Min Max   Mumber   Mumber   Min Max   Mumber   Min Max   Min	Level of Credit  Undergrad only Ali Credit types Rackham Grad Rickhm Grad Wadd'l Work Non-Rickhm Grad Ugrad or Rickhm Grad Ugrad or Non-Rickhm Grad Ugrad or Non-Rickhm Grad					
C.	Repeatability (Indi Research, Dir. Study, Dissertation:  Is this course repeatable? O Yes O No  Maximum Hours? Maximum Times?  Can it be repeated in the same term? O Yes O No	Printing information ⊠ Print the course in the Bulletin (Optional) □ Print the course in the Time Schedule					
	Class   Graded   O Lec   Grading	Terms &					
_	Approval  Curriculum Comm.  Faculty Rackham	Submitted By: Home Dept. Cross-listed Dept.  Name, Signature & Department Home Dept.  EECS John. Juve.  Cross-listed Dept(s).					
-	Cross listed Unit 1						

	Form Number
	1357
SUPPORTING STATEMENT	
This course covers various applications of logic in computer science. The larges	t application is formal resitoration of systems - very
important to both hardware (Computer architecture) and software (applications) s	ysterms. It will have a small to moderate enrollment.
and wil be offered in alternate years.	_
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Are any special resources or facilities required for this course?	□ No
Detail the Special requirements	

☐ Cross listed Unit 2

College Curriculum Committee, 1420 Lurie Engineering Center Building



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# **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections: New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C. completely

Date <u>1/23/2004</u> Effective Fall 2004

A. CL	JRRENT LISTIN	<u> </u>			· — —		TED LIS			Course Number	
Home Depar	tment		Div# 252	Course Number 487	Home Depa EECS	utment			252	487	
EECS				407	Cross Listed Course Information						
Cross Listed (	Course Information				Cross Listed C	,ourse intor	magon				
Course Title					Course Title Interactiv	re Com	outer Grap	hics	<u> </u>		
TITLE	Time Sched Max = 19 Spaces	Interac Comp (	Graph		TITLE ABBRE-	Time Sch Max = 19		Interac Comp G	ìraph		
ABBRE- VIATION	Transcript Max = 20 Spaces	Comp Graphic	s	<u> </u>	VIATION	Transcrip Max = 20		Comp Graphics	<u> </u>		
anti-alia projectiv splines, tracing.	Computer graphics hardware, line drawing, rasterization, anti-aliasing, graphical user interface (GUI), affine geometry, projective geometry, geometric transformation, polygons, curves, splines, solid models, lighting and shading, image rendering, ray tracing, radiosity, hidden surface removal, texture mapping, animation, virtual reality, and scientific visualization.				anti-alia: projectiv splines, tracing.	sing, grave geomesolid metalogical metalogical sections in the section of the sec	aphical use netry, geor odels, light y, hidden s	are, line drawing, er interface (GUI) netric transforma ing and shading, surface removal, and scientific vis	), affine ge ation, polyo image rer texture m	ometry, Jons, curve Idering, ray Apping,	
☐ a ☐ Degree Re	oquirements O Degree O Core Co	Requirement O Tech E O Other ective	Elective	]i []j []k	⊠ a □	b 🗵		e f g Requirement Tech Electurse Other			
Prerequisit	es (EECS 281 and senior  © Enforced O Advised	standing) or Graduate St	<b>anorig</b> 		Credit		orced O Advis	_			
Credit Restrictions	;				Restrictions			<u> </u>	1	10.00	
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	<del></del>				Grad Cours			nizant Faculty is not a regu		aunty	
Approva	ulum Comm.				Name, Signa Home I	ature & Depa Dept	artment,	Dept. Cross-listed Dept.		4-1-23	
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☐ Cross listed Unit 2		**************************************

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SUPPORTING	STATE	EMENT											
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processing over-rides.			•••••	•••••••••••				••••••••	••••••		••••••		
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Are any special re	sources	or facilities	require	d for this	course?	,	☐ Yes	□ No					
Detail the Special	requirem	ents											
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College Curriculum Committee, 1420 Lurie Engineering Center Building



Form Number 1284

## **Action Requested**

New Course
 Modification of Existing Course
 Deletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date 1/19/2004

Effective Winter 2004

	A. CI	JRRENT LI	STING			B. <b>R</b> !	EQUESTED LI	STING			
	Home Depa	rtment		Div#	Course Number	Home Dep	ariment		Div#	Course Number	
	EECS			252	495	EECS			252	495	
	Cross Listed	Course Information				Cross Listed	Course Information				
	Course Title Patent F	undamentals	for Engineers			Course Title Patent F	undamentals for E	Engineers			
	TITLE Time Sched Max = 19 Spaces Patent Fund Eng				TITLE	Time Sched Max = 19 Spaces	Patent Fund En	ig			
	ABBRE- VIATION	Transcript Max = 20 Spaces	Patent Fund E	Eng		ABBRE- VIATION	Transcript Max = 20 Spaces	Patent Fund En	g		
	Course Desc	ription	· · · · · · · · · · · · · · · · · · ·			Course Description for Official Publication (Max = 50 words)  This course covers the fundamentals of patents for Engineers. T					
	first part of the course focuses on the rules and codes that govern patent prosecution, and the second part focuses on claim drafting and amendment writing. Other topics covered include litigation, ethics and licensing.				patent part and ame	of the course foci rosecution, and th ndment writing. ( nd licensing.	e second part fo	cuses on c	laim drafting		
		RAM OUTO			: [] : [D] L		RAM OUTCOM	Mark Charles and Assessment		□i⊠k	
	Degree Req	ulrements O D	egree Requirement O Tech is one Course O Other		i □j ⊠k	□ a □ b □ c ⋈ d □ e ⋈ f ⋈ g □ h □ i □ j ⋈ k  Degree Requirements ○ Degree Requirement ○ Tech Elective ○ Other ○ Core Course ○ From Floritus					
	Prerequisite	G F	rae Elective Standing) or Graduate Standi			Prerequisites (Junior or Senior Standing) or Graduate Standing					
	Credit	○ Enforced ⊙	Advised			I Credit	○ Enforced <u>③</u> Advise	ed			
	Restrictions					Restrictions					
Х	Level of Cre  ☐ Undergrad ☐ Rackham ☐ Non-Richn ☒ Ugrad or F	only □ Grad □ m Grad	All Credit types Rokhm Grad w/add'i Work	Credit Hours Min Max 4 4	Contact Hrs/Wk 4 Number of Wks 14	Level of Cn Undergrad Rackham ( Non-Rckhr Ugrad or P	only ⊠ All Cre Grad □ Rickhin in Grad	edit types n Grad w/addīl Work	Credit Hours Min Max 4 4	Contact Hrs/Wk 4  Number of Wks 14	
C.	is this cours Maximur	e repeatable? O	earch, Dir. Study, Dissertation: Yes ③ No Maximum Times?	:		Printing in	formation S Print the c Optional) S Print the c	course in the Bulletin course in the Time Schedu	le		
	0	Grade Lec Section Rec Section	on ORec OSem SIA-E OLab □CR/N	Lo	cation nn Arbor	Freq. of	II □ II □ IIIa □ IIIb Yearny ■ Alter Years □			alf term 1st 2nd	
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		~-~·				Grad Course:	Attach nomination if Cogniz	ant Faculty is not a regular	r graduate facult	y	
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Are any special resources or facilities required for this course?	-								
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Detail the Special requirements	Are any special resources	s or facilitie	es require	d for this co	urse?	□ Yes □ No			
	Detail the Special requiren	nents							
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College Curriculum Committee, 1420 Lurie Engineering Center Building



Form	Number
131	7

# Action Requested

New CourseModification of Existing CourseDeletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely Deletions - A & C completely

Date <u>2/5/2004</u>

A. CI	URRENT LISTI	ING			B. RI	EQUESTED LI	STING		
Home Depa			Div#	Course Number	Home Dep.			Div# 252	Course Nu
Cross Listed	Course Information				Cross Listed	Course Information			
Course Title				<del></del>	Course Title				
<del></del>	s and Time-Frequ	<del></del>				atical Methods for	<del>-</del>	<del></del>	
TITLE ABBRE- VIATION	Max = 19 Spaces Transcript	Wavelets & T	·		TITLE ABBRE- VIATION	Max = 19 Spaces Transcript	Math Meth Sig		
Course Desc	Max = 20 Spaces				<u> </u>	Max = 20 Spaces iption for Official Publication	Math Meth Sig	rioc 	
Littlewood compres	scaling and basis od-Paley, Daubec ssion applications time-frequency d	hies, Battle-Ler Spectrogram,	marie. Deno , Wigner-Vill	oising and le, Cohen's	least-squ	tation in vector sp lares approximati e methods. Appl	ions. Eigendeco	mpositions	and sign
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# :l:(e)c)	RAM GUTCON b c d c	IES:	☐ <b>ih</b> ☐ i	i		b C d C	e f g		
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PROG a  Degree Req Prerequisites Credit Restrictions	PAN OUTCON  b	IES:	☐ <b>ih</b> ☐ i	i	Degree Req Prerequisites Credit Restrictions	ulrements O Degree R O Core Cou O Free Elec Preceded or eccompanied O Enforced O Advisec	e f g lequirement O Tech Ele arse O Other ctive		
PROG  a   Degree Req  Prerequisites  Credit  Restrictions  Level of Cre  Undergrad Rackham ( Rackham ( Nor-Redrin  Vor-Redrin	RAM OUTCON  b	IES:	☐ <b>ih</b> ☐ i		Degree Req Prerequisites  Credit Restrictions  Level of Cre Undergrad of Rackham C	b C Degree R Cone Cou Free Elec Preceded or eccompanied Enforced Advised  All Creating Indicated	e f g equirement O Tech Ele rise O Other titive		Contact Hrs/Wk
PROG  a	BLAN CUTCON  b C d    ulinements	Requirement O Tech urse O Other crive O Other crive	Elective  Credit Hours Min Max	i	Degree Req Prerequisites Credit Restrictions Level of Cre Undergran G Non-Richm Ugrad or Ne Ugrad or Ne	b C d C  uirements O Degree R C Core Cou C Free Elec Preceded or accompanied Enforced O Advised  Oldt  only S All Cre irad I Grad Cothm Grad	e f g  Requirement O Tech Ele urse O Other citive  I by EECS 501  d  adit types m Grad w/add*i Work	Credit Hours Min Max 3 3	Contact Hrs/Wk
PROG  a  Degree Req  Prerequisites  Credit Restrictions  Level of Cre Undergrad Rackhamr ( Non-Rekhr Ugrad or R Ugrad or R Is this cours Maximum Can it be	PAN BUTCON    Degree   Core Cr   Cor	Requirement O Tech urse O Other crive O Other crive	in   i	i	Degree Req Prerequisites  Credit Restrictions  Level of Cre Don-Richm Ugrad or Red Ugrad or Ne Printing In  (  Terms & Freq. of Offering  Cognizant Fact Member:	b C Degree R C Core Cou C Free Elec Preceded or eccompanied Enforced Advised All Cre Grad Grad Grad Grad Grad Grad Grad Grad	e f g  tequirement O Tech Ele urse O Other ctive O Other I by EECS 501 d  edit types m Grad w/add¹ Work  course in the Bulletin course in the Time Sched  I III  I Even Years Odd Y  chrew Yagle J.Fessler S.Prachan	Credit Hours Min Max 3 3  ule  H  /ears  Title Profe Asst.	Contact Hrs/Wk Number of Wks

Cross listed Unit 2	 ***************************************

SUPPORTING STATEMENT  EECS 551 used to be called "deterministic signal processing" and was the leader course for graduate SP courses. Around 1998 we changed the title to "wavelets and time frequency distributions" to emphasize the wavelet topic which was particularly popular at the time. We have since found that students need more linear algebra preparation for subsequent signal processing topics (including wavelets) so we wish to return to having 551 serve as the leader course that introduces the mathematical foundations for graduate signal processing courses.  We very much wish to use the same course number (551) because there are many undergrad/graduate course pairs (401/501 451/551 460/560 455/555) on related topics in the Systems area and it is desirable to preserve this symmetry for advising purposes.
Appoind by ECE Faculty 2004-2-10
Are any special resources or facilities required for this course?   Detail the Special requirements

College Curriculum Committee, 1420 Lurie Engineering Center Building



Form Number 1318

## **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date 2/5/2004

Effective Winter 2005

	A. CI	URRENT LISTII	NG			B. RE	EQUESTED LIS	STING		
	Home Depa	rtment		Div# 252	Course Number 556	Home Depa EECS	artment		Div# 252	Course Number 556
	Cross Listed	Course Information				Cross Listed	Course Information			
х	Course Title	rocessing				Course Title Image Pi	rocessing			
	TITLE ABBRE- VIATION	Time Sched Max = 19 Spaces Transcript Max = 20 Spaces	Image Processin	g		TITLE ABBRE- VIATION	Time Sched Max = 19 Spaces  Transcript Max = 20 Spaces	Image Process	<u>.                                  </u>	
	Course Desc	<u> </u>	1			Theory a models of enhancer reconstrution Application	ription for Official Publication and application of differences. Samplingment, restoration, section of pictures from include biomediand optics.	igital image process, quantization, in egmentation, sha om their projecti	nage comp pe descript ions, patten	ression, ion, n recognition.
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			Requirement O Tech Electionse O Other	ve		Degree Re	quirements O Degree Re O Core Cour O Free Elec	equirement © Tech Electrics  O Other	dive	<u> </u>
х	Prerequisite					Prerequisites				
	Credit Restrictions					Credit Restrictions				
		donly □ All Cr Grad □ Rokh	edit types n Grad w/add'i Work	edit Hours n Max — ——	Contact Hrs/Wk Number of Wks	Level of Cr Undergrad Rackham Non-Rickh Ugrad or N	lonly ⊠AllCre Gred □ Rckhm m Grad	dit types n Grad w/addīl Work	Credit Hours Min Max 3 3	Contact Hrs/Wk 3  Number of Wks 14
С	ls this cour Maximu	Repeatability (Indi Research, rise repeatable? O Yes or me Hours? Mexon repeated in the same term	No imum Times?		-		nformation Print the co	ourse in the Bulletin ourse in the Time Schedu	ule	
	Class Type(s)	Graded Gr	D Lec Grading D Rec D Sem SI A-E D Leb CR/NC D Dis SI SI D Ind P/F D Other Y	⊠ Ar □ Bik □ Ca	cation on Arbor ological Station amp Davis tension	Freq. of Offering Cognizant Fa Member:		Even Years Odd Your Fessler Neuhoff	Title Prof	
		lum Comm.				Name, Signatu Home Do		pt. D Cross-listed Dept.	2004-7	-  2
	☐ Faculty ☐ Rackha ☐ Cross I					Cross-listed D				66

Cross listed Unit 2	 20020000000000000000000000000000000000
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1318

SUPPORTING STATEMENT The revised EECS 551 will become the leader course for graduate signal						
processing courses.						
Approved by ECE faculty 2004-2-10						
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Are any special resources or facilities required for this course?						
Detail the Special requirements						
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College Curriculum Committee, 1420 Lurie Engineering Center Building



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131	9

## **Action Requested**

New CourseModification of Existing CourseDeletion of Course

# Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely Deletions - A & C completely

Date 2/5/2004 Effective Winter 2005

	A. CI	Jillieni Eloii	1G			B. Ri	EQUESTED L	ISTING		
	Home Depa	rtment		Div# 252	Course Number 559	Home Dep	artment		Div # 252	Course Number 559
		Course Information					Course Information			
	Course Title					Course Title Advance	d Signal Processi	ing		
	TITLE	Time Sched Max = 19 Spaces				TITLE	Time Sched Max = 19 Spaces	Adv Signal Pro	cess	· · · · · · · · · · · · · · · · · · ·
	ABBRE- VIATION	Transcript Max = 20 Spaces				ABBRE- VIATION	Transcript Max = 20 Spaces	Adv Sig Proc		
						nonparan character time-freq asymptot include s	netric and model- ization of output uency representat ic techniques and	properties of rand based techniques of statistics for nonlitions. Performance Monte Carlo sim s, signal extrapola eamforming.	of spectral en inear system evaluation ulation. App	stimation, as, using plications
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	Degree Rec	O Core Cou O Free Ele	ctive	Elective			O Core C O Free El	ective	ctive	
х	Prerequisite		л			Prerequisites	EECS 551 and EECS 56 ○ Enforced ⊙ Advis			
	ı——————	○ Enforced ○ Advised								
	Credit Restrictions					Credit Restrictions				
	Restrictions  Level of Cro  Undergrad Rackham Non-Rekh	adit Ionly ☐ A# Cre Grad ☐ Rckhr m Grad	edit types n Grad w/add'i Work	Credit Hours Min Max	Contact Hrs/Wk Number of Wks	Restrictions  Level of Cro  Undergrad  Rescham of Non-Reiche Ugrad or F	only ⊠AllC Grad □ Rok	Credit types hm Grad w/add'l Work	Credit Hours Min Max 3 3	Contact Hrs/Wk 3 Number of Wks 14
c.	Restrictions  Level of Cri Undergrac Rackham Non-Rickh Ugrad or I Ugrad or I Is this coun	edit only Ali Cre Grad Richtm Grad Richtm Grad Rochm Grad Non-Richtm Grad epeatability (Indi Research, I	Dir. Study, Dissertation  No mum Times?	Min Max	Hrs/Wk	Restrictions  Level of Cn Undergrad Rackham ( Non-Richt) Ugrad or N Ugrad or N Printing In	only Biali C Grad Pick in Grad lokhm Grad lon-Rickhm Grad	hm Gråd w/add'l Work	Min Max 3 3	Hrs/Wk 3
	Restrictions  Level of Cn Undergrace Rackham Non-Rekh Ugrad or I Ugrad or I Is this coun Maximu Can it b  Class Type(s)	odit  only   Ali Cre Grad   Rokhm Grad  Non-Rokhm Grad  epeatability (Indi Research, I se repeatable? Yes G m Hours? Maxin e repeated in the same term  Lec Graded O Rec Sem   O Lab   O Dis   O	Dir. Study, Dissertation  No mum Times?  ? O Yes O No	Min Max	Hrs/Wk	Restrictions  Level of Cn  Undergrad  Rackham  Non-Richa  Ugrad or F  Ugrad or F  Printing Ir  Terms & Freq. of Offering  Cognizant Fac Member:	only SAII C Grad Roke In Grad Information Print the (Optional) Print the I Yearly Alter Years  Sulty	hm Grad w/add'l Work  course in the Bulletin course in the Time Sched	Min Max 3 3  ule  /ears  Title Prote Assc. Profe	Hrs/Wk 3 Number of Wks 14  laft term 1st 2nd  essor clate Professor

Close listed Unit 2	\$1000000000000000000000000000000000000
□ Cross listed Unit 2	

1319

SUPPORTING STATEMENT			
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Are any special resources or fac-	ilities required for this course?	□ Yes □ No	
Detail the Special requirements			
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College Curriculum Committee, 1420 Lurie Engineering Center Building



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## **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date <u>2/23/2004</u>

Effective Fall 2004

	A. CURRENT LISTING	B. REQUESTED LISTING
	Home Department Div # Course No.	ber Home Department Div # Course Number EECS 252 574
	Cross Listed Course Information	Cross Listed Course Information
X	Course Title Theoretical Computer Science	Course Title Computational Complexity
		TITLE Time Sched Computat Complexity
	TITLE ABBRE-VIATION Transcript  Time Sched Theo Comp Sci  Theo Comp Sci  Theo Comp Sci  Theo Comp Sci	ABBRE- Midt = 19 Spaces  VIATION Transcript Computat Complexity
_	Max = 20 Spaces Tried Corrip 3GI	Course Description for Official Publication (Max = 50 words)
		Fundamentals of the theory of computation and complexity theory. Computability, undecidability, and logic. Relations between complexity classes, NP-completeness, P-completeness, and randomized computation. Applications in selected areas such as cryptography, logic programming, theorem proving, approximation of optimization problems, or parallel computing.
	PROGRAM OUTCOMES:	PROGRAM OUTCOMES:    k
	Degree Requirements  O Degree Requirement O Core Course O Other O Other	Degree Requirements  O Degree Requirement O Core Course O O Tree Elective
	Prerequisites  ○ Enforced ○ Advised	Prerequisites EECS 376  ⊙ Enforced ○ Advised
	Credit Restrictions	Credit Restrictions
	Level of Credit  Undergrad only Rackham Grad Rokhm Grad Rokhm Grad w/addfl Work Ugrad or Rokhm Grad Ugrad or Non-Richm Grad Ugrad or Non-Richm Grad Ugrad or Non-Richm Grad	Level of Credit  Undergrad only Rackham Grad Rockham Grad Non-Rockham Grad Ugrad or Rockham Grad Ugrad or Non-Rockham Grad Ugrad or Non-Rockham Grad Ugrad or Non-Rockham Grad
C.	Popostability (Indi Passanth Dir Study Dissertation)	Printing Information (Optional) Print the course in the Bulletin Print the course in the Time Schedule
	Class Type(s) S Lec Section O Rec Grading Type(s) S Lec Section O Rec Location O Sem SI A-E Location O Sem SI A-E Location O Sem SI A-E Sem SI	Terms &
	Lab	Cognizant Faculty W. Rounds Title Prof Asst. Prof.  Grad Course: Attach nomination if Cognizant Faculty is not a regular graduate faculty
	Assessed	Grad Course: Attach nomination in Cognizant Faculty is not a regular graduate faculty  Submitted By:  Home Dept.   Cross-listed Dept.
I	Approval  Curriculum Comm.	Name, Signature & Department  Home Dept
I	□ Faculty □ Rackham □ Cross listed Unit 1	Cross-listed Dept(s).

Cross listed Unit 2	
	Form Number
SUPPORTING STATEMENT  This is a Simple title change based on the actual content of the course.	

☐ Yes ⊠ No

Are any special resources or facilities required for this course?

Detail the Special requirements

College Curriculum Committee, 1420 Lurie Engineering Center Building



Form	Number
124	4

## **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date 2/23/2004 Effective Fall 2004

ļ	Home Department Div # Course Number	Home Dep	EQUESTED LIS		Div#	Course Number
╗	Home Department Div # Course Number	EECS			252	586
	Cross Listed Course Information	Cross Listed	Course Information			
	Course Title	Course Title	ınd Analysis of Alg	orithms		
	TITLE Time Sched	TITLE	Time Sched Max = 19 Spaces	Algorithms		
	ABBRE- VIATION  Max = 19 Spaces  Transcript Max = 20 Spaces	ABBRE- VIATION	Transcript Max = 20 Spaces	Algorithms		
	Course Description	Design of searching technique divide-a randomi	ription for Official Publication of algorithms for no ag, scheduling, gra ues such as appro nd-conquer dynam zation applied to p s of time and spac	onnumeric proble uph theory, and g ximation, branch nic programming, olynomial and Ni	eometry. [ -and-bound greed, and	Design d, I
	PROGRAM OUTCOMES:    a   b   c   d   e   f   g   h   i   j   k    Degree Requirements   O Tech Elective   O Other	□a □		e of g		□j □k
	O Core Course O Other O Free Elective		O Free Ele	ctive		
r		Prerequisites	EECS 281			· · · · · · · · · · · · · · · · · · ·
	Prerequisites  © Enforced © Advised		© Enforced © Advise	sd		
	Prerequisites  © Enforced © AdMsed  Credit Restrictions	Credit Restrictions	○ Enforced ◎ Advise	od .		
х	Prerequisites  © Enforced © AdMsed  Credit	Credit Restrictions Level of C Undergra Rackham Non-Rcki Ugrad or	○ Enforced ○ Advise	redit types m Grad w/addfl Work	Credit Hours Min Max 4 4	Contact Hrs/Wk 4 Number of Wks 15
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c.	Prerequisites  © Enforced © Advised  Credit Restrictions  Level of Credit Undergrad only All Credit types All Credit Hours Rackham Grad Recham Grad Recham Grad All Credit Hours All Credit Hours Recham Grad All Credit Hours All Credit H	Credit Restrictions Level of C Undergra Rackham Non-Rock SU Ugrad or Ugrad or Printing  Terms & Freq. of Offering  Cognizant F Member:	© Enforced © Advise  redit d only □ All Cr. I Grad Non-Rickhm Grad Non-Rickhm Grad Information □ Print the (Optional) □ Print the  □ I ■ II □ IIIa □ IIIb ■ Yearly □ Alter Years aculty	redit types m Grad w/addfl Work  course in the Bulletin course in the Time Sched  III  Even Years Odd Y	Min Max 4 4  ule  tule  Title Pro	Hrs/Wk 4 Number of Wks 15 Half term 1st 2nd
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C.	Prorequisites  Credit Restrictions  Level of Credit Undergrad only Rackham Grad Ugrad or Rochm Grad Ugrad or Non-Rickhm Grad Ugrad or Non-Rickhm Grad Ugrad or Non-Rickhm Grad Sugrad or Non-Rickhm Grad Ugrad or Non-Rickhm Grad Ugrad or Non-Rickhm Grad Credit Hours Hrs./Wk 3 Number of Wks 15  Repeatability (Indi Research, Dir. Study, Dissertation: Is this course repeatable? Yes O No Maximum Hours? Maximum Times?  Can It be repeated in the same term? Yes O No  Class Type(s) Lec Section Rec Grading Type(s) Lec Section Rec Section Rec Section Sem SA-E Sem Sub CRNC Sem Ann Arbor Lab O Dis S/U Biological Station Side O Ind P/F Sections Series Series Subseries Comp Davis	Credit Restrictions Level of C Undergra Reactham Reactham Non-Rock Ugrad or Ugrad or Printing  Terms & Freq. of Offering  Cognizant F Member: Grad Course	© Enforced © Advise  redit d only □ All Ct Grad m Grad Rockhm Grad Non-Rockhm Grad Information □ Print the  □ I ■ II □ IIIa □ IIIb ■ Yearly □ Alter Years aculty □: Attach nomination if Cogni Submitted By: ■ Home D ure & Department	redit types m Grad w/addfl Work  course in the Bulletin course in the Time Sched  I III Even Years Odd Y	Min Max 4 4  ule  /ears  Title Products	Hrs/Wk 4 Number of Wks 15 Half term 1st 2nd

	Form Number				
	1344				
SUPPORTING STATEMENT  This is a very intensive theory course that has traditionally, had a high workload and continuous student complaints about The homework involves 10 take-home problems, each requirering many hours to solve and derives proofs. Professor Stout to teach a weekly discussion section for the class.					
e any special resources or facilities required for this course?	Vec				
etail the Special requirements	Yes □ No				

☐ Cross listed Unit 2

College Curriculum Committee, 1420 Lurie Engineering Center Building



Form	Number
135	9

## **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date 2/24/2004

Effective Fall 2004

	A. CURRENT LISTING		B. RI	EQUESTED LI	STING		
	Home Department	Div # Course Number	Home Dep EECS	artment		Div # 252	Course Number 587
	Cross Listed Course Information		Cross Listed	Course Information			
	Course Title		Course Title	Computing			
	TITLE Time Sched Max = 19 Spaces		TITLE ABBRE-	Time Sched Max = 19 Spaces	Parallel Compu	ting	
	ABBRE- VIATION Transcript Max = 20 Spaces		VIATION	Transcript Max = 20 Spaces	Parallel Compu	ting	
х	Course Description The development of programs for parallel complex concepts such as speedup, load balancing, latent taxonomies. Design of algorithms for idealized Programming on parallel systems such as share memory machines, networks. Performance and includes a substantial term project.	icy, system I models. ed or distributed	The dev concepts taxonon Program memory	elopment of progress such as speedup nies. Design of al nming on parallel machines, netwo	rams for parallel of a load balancing, load balancing, logorithms for idea systems such as sorks. Grid compu	latency, sy lized mod hared or o ting. Perfe	ystem lels. listributed ormance
	PROGRAM OUTCOMES:  a b c d e f g r  Degree Requirements O Degree Requirement O Tech Elective O Core Course O Other	ı 🗀 i 🗀 j 🗆 k	□а□	C Core Co	Requirement O Tech Electrourse O Other	h Ctive	i □j □k
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	Credit Restrictions	<u> </u>	Credit Restrictions				
х		Hours Contact Hrs/Wk 3  Number of Wks 14	□ Undergra □ Rackhan □ Non-Roki Ճ Ugrad or □ Ugrad or	donky □ All C n Grad □ Rok	Credit types hm Grad w/add'l Work	Credit Hours Min Ma	Hrs/Wk4_
C.	Repeatability (Indi Research, Dir. Study, Dissertation:  Is this course repeatable? O Yes O No  Maximum Hours? Maximum Times?  Can it be repeated in the same term? O Yes O No		Printing	information	e course in the Bulletin e course in the Time Sched	ule	
	Class Graded © Lec Grading Type(s) El Lec Section © Rec	Location ⊠ Ann Arbor	Terms & Freq. of Offering	■ Yearly □ Alter Years	b □ III □ Even Years □ Odd \	rears	Half term
	Lab   Dis   SVU     Dis   Olnd   P/F     Ind   Other   Y	□ Lab ○ Dis □ S/U □ Biological Station □ Dis ○ Ind □ P/F □ Camp Davis □ Ind □ Other □ Y □ Extension					of.
	Approval  Curriculum Comm.  Faculty			ture & Department Dept. EECS	Dept. Cross-listed Dept.		
	☐ Rackham ☐ Cross listed Unit 1		•			•	7.4

Form Number
1359
nsidrable software learning curve.
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☐ Cross listed Unit 2

College Curriculum Committee, 1420 Lurie Engineering Center Building



Form Number 1320

# **Action Requested**

New CourseModification of Existing CourseDeletion of Course

Complete the following sections: New Courses - B & C completely

Date <u>2/5/2004</u>

Deletion of Course		Mo	Modifications - A modified information, B & C completely  Deletions - A & C completely  Effective F					ve <u>Fall</u> 2	2004		
			De	iedona A	Q 0 00p.		QUESTED LIS	TING			
	A. CU	RRENT LISTIN	G							Co	ourse Number
	Home Depart	ment		Div#	Course Number	Home Depa EECS	riment		252	659	,
							Course Information				
	ross Listed C	ourse Information				Cross Listed C	Jourse Information				
[X]	Course Title					Course Title				_	
رات	Adaptive Signal Processing			Adaptive	Signal Processin	-					
-	TITLE	Time Sched	Adapt Sig Prod	 ::ess		TITLE	Time Sched Max = 19 Spaces	Adapt Signal Pro	ю 		
	ABBRE- VIATION	Max = 19 Spaces  Transcript Max = 20 Spaces	Adp Sig Proc			ABBRÉ- VIATION	Transcript Max = 20 Spaces	Adapt Signal Pro	ЭС		
	Course Desc					Theory a processin propertie Kalman for impl Applicat beam fo	ng. Iterative methors: transversal filtering and least- ementation; e.g., leading to detection,	adaptive filtering in ods of optimization ors; LMS (gradient) squares algorithms. east-squares lattice noise cancelling, s	and the algorith Special filters,	nr co nms. lized systo	Adaptive structures olic arrays.
	PROC	RAM OUTCO	(ESE)					mice] ∏e Df Dg	пь г	1 i [	j
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	Degree Re	equirements O Degree O Core O O Free E	Requirement O Tech E ourse O Other lective	-Jecuve			O Free E	lective			
х	Prerequisit		<u> </u>			Prerequisite	os EECS 564 or EECS 556 O Enforced © Advit				
		○ Enforced ⊙ Advised	<u> </u>			Credit Restrictions					
	Credit Restrictions				Contact	Level of	Credit		Credit Ho	urs	Contact
	Level of C	odona ⊟AliG	Credit types	Credit Hours	Hrs/Wk	☐ Undergr	CC C C C C	Credit types dnm Grad w/add'l Work		Max	Hrs/Wk
	☐ Rackhar		hm Grad w/add1 Work		Number of Wks	☐ Non-Ro	khm Grad or Rokhm Grad or Non-Rokhm Grad		<u> </u>	3	of Wks
C.	□ Ugrad o	Repeatability (Indi Researd urse repeatable? • Yes		): :				e course in the Bulletin le course in the Time Sched	ule		
	Çan it	t be repeated in the same to	rm? ○ Yes ○ No			Towns 8	■   □    □    a □	III II III		Ha	alf term 1st 2nd
х	Class Type(s)	Graded Section Rec Sem Leb Ind Other	O Lec Gradii O Rec O Sem XI A-E O Lab CR/I O Dis S/I O Ind P/F O Other	NC 1817	ocation Ann Arbor Siological Station Camp Davis Extension	Terms & Freq. of Offering  Cognizant Member:  Grad Coul	☐ Yearly ☐ Alter Years Faculty  se: Attach nomination if Co	A. Hero G. Wakefield A. Yagle gnizant Faculty is not a regu	Title Lar graduate	Prof.	. Prof.
	Approva	ı — — — — — — — — — — — — — — — — — — —				Blass - 0:	Submitted By:  Home nature & Department	Dept. Cross-listed Dep		,	
	Currio	culum Comm.				Name, Sign Home		10h 20	<u> </u>	<u>- [L</u>	·
	☐ Facul					Cross-liste	ed Dept(s).			,,,,,,,,,,,	***************************************

Cross listed Unit 2		
		Form Number
SUPPORTING Both 559 and 564 a	STATEMENT are acceptable paths to 659.	
Approved by	ECE FC- 2004-2-10	
***************************************		
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☐ Yes ☐ No

Are any special resources or facilities required for this course?

Detail the Special requirements

College Curriculum Committee, 1420 Lurie Engineering Center Building



Form	Number
128	2

### **Action Requested**

New Course
 Modification of Existing Course
 Deletion of Course

Complete the following sections:

New Courses - B & C completely

Modifications - A modified information, B & C completely

Deletions - A & C completely

Date\_1/13/2004 Effective Fall 2004

	A. CURRENT LISTING	B. REQUESTED LISTING
	Home Department Div # Course Num	ber Home Department Div # Course Number EECS 252 691
	Cross Listed Course Information	Cross Listed Course Information
	Course Title	Course Title  Mobile Computing
	TITLE Time Sched  ABBRE- ABBRE-	TITLE Time Sched Max = 19 Spaces Mobile Computing
	VIATION Transcript Max = 20 Spaces	VIATION Transcript Mobile Computing
	Course Description	Course Description for Official Publication (Max = 50 words) In-depth study of research issues in mobile and pervasive computing systems. Topics include location and context awareness, mobile data access, resource management, consistency protocols, mobile and ad-hoc networking, networked sensors, security and privacy.
	PROGRAM OUTCOMES:	
	Degree Requirements O Degree Requirement O Tech Elective O Core Course O Other  Prerequisites	Degree Requirements  O Degree Requirement O Tech Elective O Core Course O Other  Prerequisites EECS 582 or EECS 589 or EECS 591 or equivalent
	○ Enforced ○ Advised Credit	○ Enforced ○ Advised  Credit
	Restrictions  Level of Credit  Undergrad only  Rackham Grad  Rocham Grad  Ugrad or Rochum Grad  Ugrad or Nor-Richum Grad  Ugrad or Nor-Richum Grad  Ugrad or Nor-Richum Grad  Ugrad or Nor-Richum Grad	Restrictions  Level of Credit  Undergrad only All Credit types Rackham Grad Rokhm Grad Wadd'l Work Non-Rokhm Grad Ugrad or Rokhm Grad Ugrad or Non-Rickhm Grad Ugrad or Non-Rickhm Grad
C.	Panastahility (Indi Research Dir Shuty Dissertation:	Printing Information Solution (Optional) Print the course in the Time Schedule
	Cless Graded © Lec Grading Type(a) Size Section O Rec Location Sem Size A.E.	Terms &
	Leb	Cognizant Faculty Jason Film Title Asst. Prof.  Member:  Grad Course: Attach nomination if Cognizant Faculty is not a regular graduate faculty
•	Approval  Curriculum Comm.	Submitted By: Home Dept. Cross-listed Dept.  Name, Signature & Department Home Dept. EECS July July
1	☐ Faculty ☐ Rackham ☐ Cross listed Unit 1	Cross-listed Dept(s).

Cross listed Unit 2				
	Form Number			
	1282			
SUPPORTING STATEMENT				
Mobile computing is a very important new research area and critical to have students learn about	it it as soon as possible. The course has been			
taught once with an enrollment of 15. It will be offered in alternate years.	***************************************			
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☐ Yes Ⅺ No

Are any special resources or facilities required for this course?

Detail the Special requirements