UNIVERSITY OF MICHIGAN
College of Engineering
Curriculum Committee Meeting
Tuesday, February 7, 2023

Attending: Xiaogan Liang (Chair), Achilleas Anastasopoulos, Robert Bordley, Yavuz Bozer, Odest Chadwicke Jenkins, Amir Kamil, Leena Lalwani, Cameron Loutitt, Yulin Pan, Ken Powell, Eric Rutherford, Rachael Schmedlen, Katie Snyder, Roxanne Walker

Support Staff: Stacie Benison, Mercedes Carmona, Betsy Dodge, Matthew Faunce

Call to Order: 1:34pm

Adjourned: 1:56pm

AGENDA
1. Approval of 1.10.2023 Meeting Minutes (Page 2) - APPROVED
2. CSE PhD Program Proposal – Action Item (Page 4) - APPROVED
   a. The proposal seeks to add the one-credit requirement of EECS 601 for CSE Ph.D. students which will replace one of the credits associated with the EECS 699 research requirement.
   b. Students who enter the Ph.D. program, in either the Spring/Summer semesters or Winter term would take the class the following Fall term.
3. Joint CoE/LSA Curriculum Committee on April 4, 2023 from 3-5pm - Informational Item
   a. The LSA Curriculum Committee has sent over their list of names of the individuals to invite to the Joint CoE/LSA Curriculum Committee meeting. Their list of constituents to attend the meeting includes LSA Curriculum Committee members, various members of LSA leadership, as well as representatives from key LSA units (i.e. Math).
   b. A question of discussion for the CCC – Are there any additional constituents in CoE, outside of the CoE Curriculum Committee members, that we wish to invite to attend the Joint CoE/LSA Curriculum Committee meeting?
      i. Xiaogan suggested inviting the Undergraduate and Graduate Chairs within CoE Departments as well as the ADUE/ADGPE.
         1. It was decided after the meeting by the CCC Chair that only the ADUE & ADGPE would be invited at this time due to room capacity restraints.
      ii. CCC members may send an email to the CCC Chair and CCC Support Staff if suggestions arise.
   c. Topics for the CoE/LSA Joint Curriculum Committee Meeting
      i. HLC Annual Audit
      ii. The CoE Incomplete Grade Policy and Course Withdrawals

CARF SUMMARIES

PAGE	SUBJECT	COURSE #	ACTION	SUMMARY	EFFECTIVE TERM	MIN. GRADE REQ. FOR ENF. PREPREQ	APPROVED	NOTES & REVISIONS	TABLED
5	AEROSP	488	MOD	Changes to Course Description, Course Credit Type, Grading Basis, Course Components	FT 2023	B	**CONDITIONAL APPROVAL**	Edit to Supporting Statement to add the justification for the contact hours.	

								Remove the last sentence from the Supporting Statement. Edit Course Description to remove the phrase, "Transformational course on" and begin with, "Leading and managing"	
8	MATH	506	MOD	Removal of IOE as cross listed department	FT 2023	No	APPROVED	Cross-listed with IOE 506	
11	MATH	623	MOD	Removal of IOE as cross listed department	FT 2023	No	APPROVED	Cross-listed with IOE 623	

UNIVERSITY OF MICHIGAN
College of Engineering
Curriculum Committee Meeting
Tuesday, February 7, 2023

Attending:

Support Staff:

Call to Order:

Adjourned:

AGENDA
1. Approval of 1.10.2023 Meeting Minutes (Page 2)
2. CSE PhD Program Proposal – Action Item (Page 4)

CARF SUMMARIES

PAGE	SUBJECT	COURSE #	ACTION	SUMMARY	EFFECTIVE TERM	MIN. GRADE REQ. FOR ENF. PREPREQ	APPROVED	NOTES & REVISIONS	TABLED
5	AEROSP	488	MOD	Changes to Course Description, Course Credit Type, Grading Basis, Course Components	FT 2023	B			
8	MATH	506	MOD	Removal of IOE as cross listed department	FT 2023	No		Cross-listed with IOE 506	
11	MATH	623	MOD	Removal of IOE as cross listed department	FT 2023	No		Cross-listed with IOE 623	

UNIVERSITY OF MICHIGAN
College of Engineering
Curriculum Committee Meeting
Tuesday, January 10, 2023

Attending: Xiaogan Liang (Chair), Achilleas Anastasopoulos, Robert Bordley, Brent Gillespie, Saadet Guralp, George Halow (Zoom), Roman Hryciw, Odest Chadwicke Jenkins, Xianzhe Jia, Amir Kamil (Zoom), Leena Lalwani, Cameron Loutitt, Yulin Pan, Ken Powell, Eric Rutherford, Rachael Schmedlen, Katie Snyder, Roxanne Walker, Steven Yalisove, Won Sik Yang

Support Staff: Stacie Benison, Mercedes Carmona, Betsy Dodge

Call to Order: 1:35pm

Adjourned: 1:55pm

AGENDA
1. Approval of 12.6.2022 Meeting Minutes (Page 3) - APPROVED
2. Robotics SUGS Program Proposal – Action Item (Page 5) - APPROVED
   a. The Robotics Undergraduate degree program currently has 58 declared undergraduate students in the program (19 seniors, 35 juniors, 5 sophomores). The Robotics Master's program has been active since 2015. This academic year, 91 students were admitted to the Robotics Master's program. Currently, there are 19 students enrolled in the Robotics Ph.D. program.
   b. The minimum GPA required for admission to the Robotics SUGS Program will be a 3.5 and the program will begin by only accepting students who are in the Robotics Undergraduate program.
   c. A question was asked regarding what scenario would constitute a student transferring in 3 credits, as mentioned in the proposal as an allowable option. For the Robotics SUGS program, the department wants a student to be able to transfer 3 credits away from their undergraduate degree to go towards their graduate degree program completion.
   d. The Robotics SUGS Program will allow 9 credits to apply towards the master's requirements for double counting. It was also noted that interested students will be asked to apply for SUGS at the start of their senior year. All Robotics SUGS programs will have a Fall start, as the department does not plan to review applications more than once per year. If a student does not have enough credits to double-count graduate credit from their undergraduate degree enrollment, in order to complete the SUGS program, they will need to take graduate courses through their graduate enrollment to complete their degree program.
   e. The Robotics proposal noted that 3 letters of recommendation would be required for application to the SUGS Program; AERO commented that Robotics may wish to consider lowering this number to help eliminate this additional barrier for students and since they have the minimum GPA in place for applicants. BME agreed with lowering the number of recommendations for the SUGS program. The Robotics Department will discuss this within their department and will consider revising proposal materials for submission to the CoE Faculty Meeting.
   f. A suggestion was made for the Robotics Department to add to their website whether Undergraduate coursework can be taken while in the SUGS program.
   g. The Robotics Department was advised to discuss the CCC's suggestions and comments within their department and may submit wish to submit revised proposal materials for submission to the CoE Faculty Meeting.
   h. The CCC Chair called a vote to approve the Robotics SUGS Program proposal and the CCC members voted in its approval.

CARF SUMMARIES

PAGE	SUBJECT	COURSE #	ACTION	SUMMARY	EFFECTIVE TERM	MIN. GRADE REQ. FOR ENF. PREPREQ	APPROVED	NOTES & REVISIONS	TABLED
11	AEROSP	500	DEL		FT 2023	NO	APPROVED		
14	AEROSP	650	NEW		FT 2023	NO	APPROVED		
27	AEROSP	656	NEW		FT 2023	NO	APPROVED		
39	AEROSP	690	NEW		FT 2023	NO	APPROVED		
53	MATSCIE	412	MOD	Change to Enforced Prerequisite.	FT 2023	C-	APPROVED	Cross-listed with CHE 412 & MARCOMOL 412.	
56	MATSCIE	440	MOD	Change to Enforced Prerequisite.	FT 2023	NO	APPROVED		
59	MATSCIE	465	MOD	Change to Enforced Prerequisite.	FT 2023	C-	APPROVED		
62	MECHENG	320	NEW		FT 2023	C	APPROVED	Cross-listed with NAVARCH 320.	
76	MECHENG	320	DEL		FT 2023	C	APPROVED		
79	NAVARCH	320	DEL		FT 2023	NO	APPROVED		
82	NAVARCH	321	MOD	Changes to Course Title, Abbreviated Title, Course Description, Full Term Credit Hours, Advisory Prerequisite	FT 2023	NO	APPROVED		

MICHIGAN ENGINEERING

UNIVERSITY of MICHIGAN ■ COLLEGE of ENGINEERING

EMILY MOWER PROVOST
ASSOCIATE PROFESSOR
COMPUTER SCIENCE AND ENGINEERING

3629 BOB AND BETTY BEYSTER BUILDING
2260 HAYWARD ST.
ANN ARBOR, MICHIGAN, 48109
(734) 647-1802
emilykmp@umich.edu
http://web.eecs.umich.edu/~emilykmp/

College of Engineering Curriculum Committee

Dear committee members,

The Computer Science and Engineering division has approved the following (small) program change to the CSE PhD program and is submitting it for College approval. We would like the change to take effect Fall 2023.

We are adding a new requirement EECS601, Intro to Graduate Research, an introduction for incoming Ph.D. students to a wide range of topics critical to success in their research studies. Rotating speakers, including the course instructors, give perspective on the research process, time management, publishing in CS, managing the highs and lows of grad school, working with your advisor, career paths, etc. The goal is to give students the background knowledge and perspective needed to be successful in grad school, as well as help develop non-technical skills such as presenting and self-promotion. Additionally, this course offers an opportunity for incoming students to meet their cohort and connect with the wider CSE research community.

The course is one credit and takes the place of one of the credits associated with EECS 699 (research). There is no change to the number of credits required. Students will take the course during their first fall in our program. For students entering in Fall 2023, they would take the course in Fall 2023. For students entering in Winter/Spring/Summer 2023, they would take the course in Fall 2024. Students who do not wish to participate will use the same petition process that exists for other requirements in our program.

Thank you for your consideration.

Sincerely,

Emily Mower Provost

Course Approval Request Form

Office of the Registrar, University of Michigan

☑ **CHECK APPROPRIATE BOXES FOR ALL CHANGES**

Action Requested
☐ New Course
☑ Modification of Existing Course
☐ Deletion of Existing Course

Date of Submission: 2023-01-13
Effective Term: Fall 2023

☑	Course Offered 　☑ Indefinitely 　☐ One term only	**RO USE ONLY** Date Received: Date Completed: Completed By:

CURRENT LISTING　　　　　　　　　　　　　**REQUESTED LISTING**

	CURRENT LISTING	REQUESTED LISTING
☐	Dept (Home): Aerospace Engineering Subject: AEROSP Catalog: 488	Dept (Home): Aerospace Engineering Subject: AEROSP Catalog: 488

	☐ Course is Cross-Listed with Other Departments			☐ Course is Cross-Listed with Other Departments		
☐	Department	Subject	Catalog Number	Department	Subject	Catalog Number

	CURRENT LISTING	REQUESTED LISTING
☐	Course Title (full title) 　Product Development Leadership	Course Title (full title) 　Product Development Leadership
☐	Abbreviated Title (20 char) 　PRD DEV LDRSHIP	Abbreviated Title (20 char) 　PRD DEV LDRSHIP

☑	Course Description (Please limit to 50 words and attach separate sheet if necessary) 　Transformational course on leading and managing a comprehensive product design and development project, using systems engineering principles as a framework. Senior team leader training, including both non-technical and technical coaching and facilitation. Will include coaching and mentorship of undergraduate students in AEROSP 288 and AEROSP 388.

	Full Term Credit Hours		Half Term Credit Hours	
☐	Undergraduate Min: 4	Graduate Min: 4	Undergraduate Min:	Graduate Min:
	Undergraduate Max: 4	Graduate Max: 4	Undergraduate Max:	Graduate Max:

☑	Course Credit Type 　Undergraduate Student, Rackham Graduate Student, Non-Rackham Graduate Student

☐	Repeatability 　☐ Course is Repeatable for Credit Maximum number of repeatable credits:	☑ Course is Y graded ☐ Can be taken more than once in the same term

	Subject: Aerospace Engineering Catalog: 488

	Grading Basis		
☑	☑ Graded (A – E)		
	☐ Credit/No Credit		
	☐ Satisfactory/Unsatisfactory	Add Consent	Drop Consent
	☐ Pass/Fail	☐ Department Consent	☐ Department Consent
	☐ Business Administration	☑ Instructor Consent	☑ Instructor Consent
	Grading	☐ No Consent	☐ No Consent
	☐ Not for Credit		
	☐ Not for Degree Credit		
	☐ Degree Credit Only		

	CURRENT LISTING	**REQUESTED LISTING**
☐	Advisory Prerequisite (254 char)	Advisory Prerequisite (254 char)
☐	Enforced Prerequisite (254 char) AEROSP 388 (min. grade B), or instructor permission Minimum grade requirement: B	Enforced Prerequisite (254 char) AEROSP 388 (min grade B), or instructor permission Minimum grade requirement: B
☐	Credit Exclusions	Credit Exclusions

	Course Components	Graded Component	Terms Typically Offered
☑	☑ Lecture	☑	☑ Fall
	☐ Seminar	☐	☑ Winter
	☑ Recitation	☐	☐ Spring
	☐ Lab	☐	☐ Summer
	☐ Discussion	☐	☐ Spring/Summer
	☐ Independent Study	☐	

Cognizant Faculty Member Name: George Halow	Cognizant Faculty Member Title:

SIGNATURES ARE REQUIRED FROM ALL DEPARTMENTS INVOLVED (Please Print AND Sign Name)

Contact Person: Email: Phone:

CoE Curriculum Committee Representative: *K. M. Powell*	Print: Kenneth G Powell	Date: 1/25/23
CoE Curriculum Committee Chair:	Print:	Date:
Home Department Chair: *Anthony Waas*	Print: Anthony Waas	Date: 1/30/2023
Cross-Listed Department Chair:	Print:	Date:
Cross-Listed Department Chair:	Print:	Date:
Cross-Listed Department Chair:	Print:	Date:

DEPARTMENTAL/COLLEGE USE ONLY

Current:	**Requested:**

Course Description
Transformational course on leading and managing a comprehensive product design and development project, using systems engineering principles as a framework. Senior team leader training, including both non-technical and technical coaching and facilitation. Will include coaching and mentorship of undergraduate students in AEROSP 288 and AEROSP 388.

Course Description
Transformational course on leading and managing a comprehensive product design and development project, using systems engineering principles as a framework. Senior team leader training, including both non-technical and technical coaching and facilitation. Will include coaching and mentorship of undergraduate students in AEROSP 288 and AEROSP 388.

Class Length
Full term

Class Length
Full term

Contact hours (lecture):
1.5

Contact hours (lecture):
1

Contact hours (recitation)
1

Contact hours (recitation)
1

Contact hours (lab)
0

Contact hours (lab)

Additional Info:

Submitted by:
Home dept

Describe how this course fits with the degree requirements:
Elective but may eventually be used to meet junior aerospace measurements requirement

Special resources of facilities required for this course:

Supporting statement:
This course series is a comprehensive set of pedagogy and teachings which will help UM engineering students excel in complex product development in an industrial enterprise. The series is built upon a structured product development process, with root in the "Systems V", and with the strong support of the Aerospace Engineering Industrial Advisory Board (IAB). Included are exercises in Model-Based Systems Engineering (MBSE), physical and virtual modeling & analysis, and "essential business skills" required to manage complex systems. Benchmarking suggests this would be a one-of-a-kind academic-first amongst R1 institutions.

Course Approval Request Form
Office of the Registrar, University of Michigan

☑ **CHECK APPROPRIATE BOXES FOR ALL CHANGES**

Action Requested
☐ New Course
☑ Modification of Existing Course
☐ Deletion of Existing Course

Date of Submission: 2022-12-22
Effective Term: Fall 2023

☑	Course Offered
	    ☑ Indefinitely
	    ☐ One term only
		RO USE ONLY
		Date Received:
		Date Completed:
		Completed By:

CURRENT LISTING　　　　　　　　　　**REQUESTED LISTING**

	CURRENT LISTING	REQUESTED LISTING
☐	Dept (Home): Math Department Subject: MATH Catalog: 506	Dept (Home): Math Department Subject: MATH Catalog: 506

☑	☑ Course is Cross-Listed with Other Departments			☐ Course is Cross-Listed with Other Departments		
	Department	Subject	Catalog Number	Department	Subject	Catalog Number
	Industrial & Operations Engineering - IOE - 506					

☐	Course Title (full title)
	    Stochastic Analysis for Finance
		Course Title (full title)
		    Stochastic Analysis for Finance

☐	Abbreviated Title (20 char)
	    Analysis for Finance
		Abbreviated Title (20 char)
		    Analysis for Finance

☐	Course Description (Please limit to 50 words and attach separate sheet if necessary) The aim of this course is to teach the probabilistic techniques and concepts from the theory of stochastic processes required to understand the widely used financial models. In particular concepts such as martingales, stochastic integration/calculus, which are essential in computing the prices of derivative contracts, will be discussed. Pricing in complete/incomplete markets (in discrete/ continuous time) will be the focus of this course as well as some exposition of the mathematical tools that will be used such as Brownian motion, Levy processes and Markov processes.

☐	Full Term Credit Hours Undergraduate Min:　　　Graduate Min: 3 Undergraduate Max:　　　Graduate Max: 3	Half Term Credit Hours Undergraduate Min:　　　Graduate Min: Undergraduate Max:　　　Graduate Max:
☐	Course Credit Type Rackham Graduate Student	
☐	Repeatability ☐ Course is Repeatable for Credit Maximum number of repeatable credits:	☐ Course is Y graded ☐ Can be taken more than once in the same term

Subject: Math Department		Catalog: 506

	Grading Basis		
☐	☑ Graded (A – E)		
	☐ Credit/No Credit		
	☐ Satisfactory/Unsatisfactory	Add Consent	Drop Consent
	☐ Pass/Fail	☐ Department Consent	☐ Department Consent
	☐ Business Administration	☐ Instructor Consent	☐ Instructor Consent
	Grading	☑ No Consent	☑ No Consent
	☐ Not for Credit		
	☐ Not for Degree Credit		
	☐ Degree Credit Only		

	CURRENT LISTING	REQUESTED LISTING

☐	Advisory Prerequisite (254 char)
	    Graduate students or permission of instructor.
		Advisory Prerequisite (254 char)
		    Graduate students or permission of instructor.

☐	Enforced Prerequisite (254 char) Minimum grade requirement:	Enforced Prerequisite (254 char) Minimum grade requirement:
☐	Credit Exclusions	Credit Exclusions

	Course Components	Graded Component	Terms Typically Offered
☐	☑ Lecture	☑	☑ Fall
	☐ Seminar	☐	☑ Winter
	☐ Recitation	☐	☐ Spring
	☐ Lab	☐	☐ Summer
	☐ Discussion	☐	☐ Spring/Summer
	☐ Independent Study	☐	

Cognizant Faculty Member Name: Erhan Bayraktar	Cognizant Faculty Member Title:

SIGNATURES ARE REQUIRED FROM ALL DEPARTMENTS INVOLVED (Please Print AND Sign Name)

Contact Person: Email: Phone:

CoE Curriculum Committee Representative:	*[signature]*	Print: Yavuz Bozer	Date: 01/18/23
CoE Curriculum Committee Chair:		Print:	Date:
Home Department Chair:	*[signature]*	Print: Kristen Moore	Date: 1/31/23
Cross-Listed Department Chair:	*[signature]*	Print: Brian Denton	Date: 01/18/23
Cross-Listed Department Chair:		Print:	Date:
Cross-Listed Department Chair:		Print:	Date:

DEPARTMENTAL/COLLEGE USE ONLY

Current:	**Requested:**
<u>Course Description</u>	<u>Course Description</u>
The aim of this course is to teach the probabilistic techniques and concepts from the theory of stochastic processes required to understand the widely used financial models. In particular concepts such as martingales, stochastic integration/calculus, which are essential in computing the prices of derivative contracts, will be discussed. Pricing in complete/incomplete markets (in discrete/ continuous time) will be the focus of this course as well as some exposition of the mathematical tools that will be used such as Brownian motion, Levy processes and Markov processes.	The aim of this course is to teach the probabilistic techniques and concepts from the theory of stochastic processes required to understand the widely used financial models. In particular concepts such as martingales, stochastic integration/calculus, which are essential in computing the prices of derivative contracts, will be discussed. Pricing in complete/incomplete markets (in discrete/ continuous time) will be the focus of this course as well as some exposition of the mathematical tools that will be used such as Brownian motion, Levy processes and Markov processes.
<u>Class Length</u>	<u>Class Length</u>
Full term	Full term
<u>Contact hours (lecture):</u>	<u>Contact hours (lecture):</u>
3	3
<u>Contact hours (recitation)</u>	<u>Contact hours (recitation)</u>
<u>Contact hours (lab)</u>	<u>Contact hours (lab)</u>

Additional Info:

<u>Submitted by:</u>
Cross-listed dept

<u>Describe how this course fits with the degree requirements:</u>

<u>Special resources of facilities required for this course:</u>

<u>Supporting statement:</u>
The MATH Department has requested removal of the IOE cross-listing for this course.

Course Approval Request Form
Office of the Registrar, University of Michigan

☑ **CHECK APPROPRIATE BOXES FOR ALL CHANGES**

Action Requested
- ☐ New Course
- ☑ Modification of Existing Course
- ☐ Deletion of Existing Course

Date of Submission: 2022-12-22
Effective Term: Fall 2023

	Course Offered	RO USE ONLY
☑	☑ Indefinitely ☐ One term only	Date Received: Date Completed: Completed By:

	CURRENT LISTING	REQUESTED LISTING
☐	Dept (Home): Mathematics Subject: MATH Catalog: 623	Dept (Home): Mathematics Subject: MATH Catalog: 623

	☑ Course is Cross-Listed with Other Departments			☐ Course is Cross-Listed with Other Departments		
☑	Department	Subject	Catalog Number	Department	Subject	Catalog Number
	Industrial & Operations Engineering - IOE - 623					

	CURRENT LISTING	REQUESTED LISTING

☐	Course Title (full title)
	    Computational Finance
		Course Title (full title)
		    Computational Finance

☐	Abbreviated Title (20 char)
	    Computationl Finance
		Abbreviated Title (20 char)
		    Computationl Finance

☐	Course Description (Please limit to 50 words and attach separate sheet if necessary) This is a course in computational methods in finance and financial modeling. Particular emphasis will be put on interest rate models and interest rate derivatives. The specific topics include; Black-Scholes theory, no arbitrage and complete markets theory, term structure models: Hull and White models and Heath Jarrow Morton models, the stochastic differential equations and martingale approach: multinomial tree and Monte Carlo methods, the partial differential equations approach: finite difference methods.

	Full Term Credit Hours		Half Term Credit Hours	
☐	Undergraduate Min: Undergraduate Max:	Graduate Min: 3 Graduate Max: 3	Undergraduate Min: Undergraduate Max:	Graduate Min: Graduate Max:

☐	Course Credit Type Rackham Graduate Student

☐	Repeatability ☐ Course is Repeatable for Credit Maximum number of repeatable credits:	☐ Course is Y graded ☐ Can be taken more than once in the same term

	Subject: Mathematics	Catalog: 623

☐	**Grading Basis**

Grading Basis
- ☑ Graded (A – E)
- ☐ Credit/No Credit
- ☐ Satisfactory/Unsatisfactory
- ☐ Pass/Fail
- ☐ Business Administration

Grading
- ☐ Not for Credit
- ☐ Not for Degree Credit
- ☐ Degree Credit Only

Add Consent
- ☐ Department Consent
- ☐ Instructor Consent
- ☑ No Consent

Drop Consent
- ☐ Department Consent
- ☐ Instructor Consent
- ☑ No Consent

	CURRENT LISTING	REQUESTED LISTING

☐	Advisory Prerequisite (254 char)
	    MATH 316 and MATH 425 or 525.
		Advisory Prerequisite (254 char)
		    MATH 316 and MATH 425 or 525.

☐	Enforced Prerequisite (254 char) Minimum grade requirement:	Enforced Prerequisite (254 char) Minimum grade requirement:
☐	Credit Exclusions	Credit Exclusions

Course Components
- ☑ Lecture
- ☐ Seminar
- ☐ Recitation
- ☐ Lab
- ☐ Discussion
- ☐ Independent Study

Graded Component
- ☑
- ☐
- ☐
- ☐
- ☐
- ☐

Terms Typically Offered
- ☑ Fall
- ☑ Winter
- ☐ Spring
- ☐ Summer
- ☐ Spring/Summer

Cognizant Faculty Member Name: Erhan Bayraktar	Cognizant Faculty Member Title:

SIGNATURES ARE REQUIRED FROM ALL DEPARTMENTS INVOLVED (Please Print AND Sign Name)

Contact Person: Email: Phone:

	Signature	Print	Date
CoE Curriculum Committee Representative:	*[signature]*	Yavuz Bozer	01/18/23
CoE Curriculum Committee Chair:			
Home Department Chair:	*[signature]*	Kristen Moore	1/31/23
Cross-Listed Department Chair:	*[signature]*	Brian Denton	01/18/23
Cross-Listed Department Chair:			
Cross-Listed Department Chair:			

DEPARTMENTAL/COLLEGE USE ONLY

Current:	**Requested:**

Course Description

This is a course in computational methods in finance and financial modeling. Particular emphasis will be put on interest rate models and interest rate derivatives. The specific topics include; Black-Scholes theory, no arbitrage and complete markets theory, term structure models: Hull and White models and Heath Jarrow Morton models, the stochastic differential equations and martingale approach: multinomial tree and Monte Carlo methods, the partial differential equations approach: finite difference methods.

Class Length
Full term

Contact hours (lecture):
3

Contact hours (recitation)

Contact hours (lab)

Course Description

This is a course in computational methods in finance and financial modeling. Particular emphasis will be put on interest rate models and interest rate derivatives. The specific topics include; Black-Scholes theory, no arbitrage and complete markets theory, term structure models: Hull and White models and Heath Jarrow Morton models, the stochastic differential equations and martingale approach: multinomial tree and Monte Carlo methods, the partial differential equations approach: finite difference methods.

Class Length
Full term

Contact hours (lecture):
3

Contact hours (recitation)

Contact hours (lab)

Additional Info:

Submitted by:
Cross-listed dept

Describe how this course fits with the degree requirements:

Special resources of facilities required for this course:

Supporting statement:
The MATH Department has requested removal of the IOE cross-listing for this course.