



**ORTA DOĞU TEKNİK ÜNİVERSİTESİ
UYGULAMALI MATEMATİK
ENSTİTÜSÜ**



**RAPOR
2010**

**INSTITUTE OF APPLIED MATHEMATICS
MIDDLE EAST TECHNICAL UNIVERSITY**

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ÖNSÖZ

Orta Doğu Teknik Üniversitesi'nde Uygulamalı Matematik Enstitüsü kurulması; Milli Eğitim Bakanlığı'nın 8/5/2002 tarihli ve 12293, 12296 sayılı yazıları, 28/3/1983 tarihli ve 2809 sayılı kanunun değişik ek 30. maddesine göre, Bakanlar Kurulu'nca 16/5/2002 tarihinde kararlaştırılmıştır ve bu karar 21.06.2002 tarihinde resmi gazetede yayınlanmıştır. Enstitü eğitim faaliyetlerini Kriptografi, Bilimsel Hesaplama, Finansal Matematik ve Aktüerya Bilimleri programı ile aşağıdaki misyonlar çerçevesinde sürdürmektedir:

- I. Orta Doğu Teknik Üniversitesi'nin araştırma potansiyeli ve ülkemizin ihtiyaçları göz önüne alınarak, disiplinler arası matematik bazlı araştırma/uygulama alanları belirlemek ve bu çerçevede lisansüstü eğitim programlarını geliştirmek. Üniversitemizde yapılmakta olan matematik ağırlıklı araştırmaları koordine ederek Enstitü bünyesinde disiplinler-arası bir çalışma ortamı oluşturmak, bu alanlarda araştırmaya yönelik konferanslar/yaz okulları düzenlemek ve uluslararası işbirliği olanaklarını araştırmak/hayata geçirmek.
- II. Uygulamalı matematik alanında ODTÜ-Sanayi/Kamu kuruluşları işbirliğini, gerek proje ve ürün geliştirerek gerekse kısa süreli eğitim/araştırma toplantıları düzenleyerek hayata geçirmek.
- III. Matematiğin; doğayı, teknolojik ve ekonomik süreçleri daha iyi anlama yolunda bilim adamlarının ortak dili olduğundan hareketle, lisans/lisansüstü eğitimde ve araştırmalarda matematik kullanımının hem nicelik hem de nitelik açısından artırılması yolunda çalışmalarda bulunmak, bu çerçevede yeni, uygulanabilir matematik konularında araştırmacıları bilgilendirmek ve bu amaca yönelik araştırmalar yapmak.

Bu rapor Uygulamalı Matematik Enstitüsü'nün misyonu çerçevesinde 01.01.2010-31.12.2010 tarihleri arasındaki faaliyetleri içermektedir.

Enstitü Yönetimi

Müdür

Prof. Dr. Ersan AKYILDIZ

(Matematik Bölümü)

Müdür Yardımcıları

Y. Doç. Dr. İlkey ULUSOY

(Elektrik Elektronik Müh.Bl.)

Dr. Burak YEDİERLER

(Fizik Bölümü)

Enstitü Kurulu⁽¹⁾

Prof. Dr. Ferruh ÖZBUDAK

(Matematik Bölümü)

Prof. Dr. Bülent KARASÖZEN

(Matematik Bölümü)

Y. Doç. Dr. Işıl EROL

(İktisat Bölümü)

Doç. Dr. Sevtap KESTEL

(Aktüerya Bilimleri EABD)

Enstitü Yönetim Kurulu⁽¹⁾

Prof. Dr. Haluk AKSEL

(Makina Müh.Bölümü)

Y. Doç. Dr. Seza DANIŞOĞLU

(İşletme Bölümü)

Prof. Dr. Mete SEVERCAN

(Elektrik Elektronik Müh.Bl.)

(1) Enstitü Yönetimi, bu kurulların doğal üyeleridir.

ÖZET BİLGİLER

- Enstitünün 2010 yılı faaliyetlerine 7 UME, 27 ODTÜ içi, 21 ODTÜ dışı bağlantılı öğretim üyesi katkıda bulunmuşlardır.
- Enstitüde toplam 16 araştırma görevlisi vardır, bunların 7'si Öğretim Üyesi Yetiştirme Programı (ÖYP) ve biri de 35. madde kapsamında görev almaktadır. 3 asistanımız ise 2010 yılı içinde araştırma görevliliğinden ayrılmışlardır.
- Enstitüde toplam 199 öğrenci eğitimini sürdürmektedir. Bu öğrencilerin 17'si Aktüerya Bilimleri, 28'i Bilimsel Hesaplama, 83'ü Finansal Matematik, 71'i ise Kriptografi programındadır.
- Bu faaliyet yılında Enstitü anabilim dallarından 16 tezli yüksek lisans, 8 tezsiz yüksek lisans ve 6 doktora öğrencisi mezun olmuştur.
- Enstitü anabilim dallarının 11 araştırma grubu bulunmaktadır.
- Enstitü bağlantısı belirtilmiş olarak 38 yurtdışı yayın, 26 yurtdışı tebliğ, 102 yurtdışı sunum, 1 yurtdışı kitapta makale, 1 yurtiçi yayın, 4 yurtiçi tebliğ ve 8 yurtiçi sunum gerçekleştirilmiştir.
- Enstitü bağlantısı belirtilmiş 19 özel sayılı dergi editörlüğü yapılmıştır.
- Enstitü öğretim üyeleri, 18 çalıştay/ sempozyum/ konferans/ yazokulu organizasyonunda görev almışlardır.
- Enstitümüz tarafından 06-08 Mayıs 2010 tarihleri arasında “Bilgi Güvenliği ve Kriptoloji Konferansı” düzenlenmiştir.
- Enstitümüzden doktora derecesi ile mezun olan iki öğrenci Serhat Özyar Onur Ödülü ile Prof. Dr. Mustafa N. Parlar ODTÜ Yılın Tezi Ödülü'nü almışlardır.
- Enstitü bünyesinde yürütücülüğü yapılan 19, araştırmacı olarak yer alınan 1 proje bulunmaktadır.
- Enstitüyü yurtdışından 12 öğretim üyesi ziyaret ederken, 18 öğretim elemanı da enstitü tarafından desteklenerek yurt dışında görevlendirilmiştir.

ENSTİTÜNÜN PROGRAMLARI

Aktüerya Bilimleri	Bilimsel Hesaplama	Finansal Matematik	Kriptografi
Tezli Yüksek Lisans Tezsiz Yüksek Lisans	Tezli Yüksek Lisans Doktora	Tezli Yüksek Lisans Tezsiz Yüksek Lisans Doktora	Tezli Yüksek Lisans Tezsiz Yüksek Lisans Doktora

İNSAN KAYNAKLARI

Öğretim Elemanları

Prof. Dr. Gerhard- Wilhelm Weber
Prof. Dr. Martin Rainer
Doç. Dr. Emrah Çakçak*
Y. Doç. Dr. Sevtap Kestel
Y. Doç. Dr. Hakan Öktem
Y. Doç. Dr. Ömür Uğur
Y. Doç. Dr. Ali Devin Sezer

Araştırma Görevlileri

Sedat Akleylek (ÖYP, 19 Mayıs Üniv.)
Derya Altıntan (ÖYP, Selçuk Üniv.)
Derviş Bayazıt (YÖK Bursu Florida State Univ., USA)**
Cansu Bilgir (ÖYP, Namık Kemal Üniv.)
Mehmet Burak Bozdemir
Canan Çimen
Çağdaş Çalık
Rita İsmailova (ÖYP, Kırgızistan)
Ayşegül İscanoglu Çekiç (ÖYP, Selçuk Üniv.)
Turgut Hanoymak (ÖYP, Yüzüncü Yıl Üniv.)
Barış Bülent Kırklar (ÖYP, Süleyman Demirel Üniv.)
Ayşe Sarıaydın (ÖYP, Yüzüncü Yıl Üniv.)
Cihangir Tezcan **
Önder Türk
Oğuz Yayla
Enes Yılmaz (35. madde)
Serkan Zeytun**

DOSAP/POST-DOC / MİSAFİR ÖĞRETİM ÜYESİ

- **Jose Ignacio Iglesias Curto** (İspanya), Kriptografi Anabilim Dalı, 20 Ekim 2010- 31 Ocak 2011.
- **Prof. Dr. Doğan Tırtıroğlu**, (University of Adelaide, Australia) 19 Ekim-31 Aralık 2010.

* 1 Mart 2010 tarihinde Mimar Sinan Güzel Sanatlar Üniversitesi'ne naklen atanmıştır.

**2010 yılı içinde araştırma görevliliğinden ayrılmışlardır.

BAĞLANTILI ÖĞRETİM ÜYELERİ

ORTA DOĞU TEKNİK ÜNİVERSİTESİ

Matematik Bölümü	Marat U. Akhmet Ersan Akyıldız Ali Doğanaksoy Bülent Karasözen Ferruh Özbudak Münevver Tezer Muhiddin Uğuz	İktisat Bölümü	Işıl Erol Esmâ Gaygısız
		Kimya Müh. Bl.	Yusuf Uludağ
		Fizik Bölümü	Burak Yedierler
Elektrik-Elektronik Mühendisliği Bölümü	Yeşim Serinağaoğlu Doğrusöz Mete Severcan İlkay Ulusoy Melek Yücel Cüneyt Bazlamaçcı	Endüstri Müh. Bl.	Gülser Köksal
		Enformatik Enstitüsü	Ü.Erkan Mumcuoğlu
İstatistik Bölümü	B. Burçak Başbuğ İnci Batmaz Zeynep Kalaylıoğlu Ceylan Yozgatlıgil	Makine Müh. Bl.	Haluk Aksel
		Biyoloji Bölümü	Semra Kocabıyık
İşletme Bölümü	Nuray Güner Adil Oran Seza Danışoğlu		

ÜNİVERSİTELER

ANKARA ÜNİV. İstatistik Bölümü	Ömer Gebizlioğlu Fatih Tank	HAZİNE MÜSTEŞARLIĞI SİGORTACILIK GN.MD. SİGORTA DENETLEME KURULU	Selamet Yazıcı Selda Korkmaz
BAHÇEŞEHİR ÜNİV. Department of Computer Education&Instructional Technologies	Irini Dimitriyadis Süreyya Özögür	KOÇ ÜNİV. Mühendislik Fakültesi	Metin Türkay
ÇANKAYA ÜNİV. Department of Mathematics and Computer Science	Yeliz Yolcu Okur	TRAKYA ÜNİV. İktisat Bölümü	Kasırğa Yıldırak
DİCLE ÜNİV. İstatistik Bölümü	Pakize Taylan	TOBB-ETU Matematik Bölümü	Zülfükar Saygı
DOĞUŞ ÜNİV. Matematik Bölümü	İsmail Güloğlu	CONCORDIA-UNIVERSITY- JOH MOLSON SCHOOL OF BUSİNESS Department of Finance	Doğan Tırtıroğlu
KAISERSLAUTERN UNIV.	Ralf Korn		
MAX-PLANCK ENSTITUTE	Jost Jorgen		
İZMİR EKONOMİ ÜNİV. Uluslar arası Ticaret ve Finansman Bölümü	C.Coşkun Küçüközmen	TÜBİTAK-UEKAE	Orhun Kara

KURUMLAR

DİĞER

Selçuk Bayın
İ. Yurdahan Güler
Azize Hayfavi
Tolga Yalçın

İDARİ PERSONEL

Sekreter	Nejla Erdoğan Figen Varol Serkan Demiröz	İdari Amir	Saffet Aykın
Memur	M. Kemal Yaşar	Görevli	Muharrem Kayabel Cafer Topal

PROTOKOLLER

Universitat Kaiserslautern (Germany) and Middle East Technical University		Cooperation in the Field of Financial and Insurance Mathematics at Institute of Applied Mathematics
University of the Aegean (Greece) and Middle East Technical University		Cooperation in the fields of Financial Mathematics, Actuarial Sciences and Establishment of a Joint Doctoral Program at Institute of Applied Mathematics
The Institute of Mathematics of The Polish Academy of Sciences (Poland) and Institute of Applied Mathematics and Department of Mathematics		Memorandum on Extending and Strengthening Links Between Polish Academy of Sciences and the Department of Mathematics and Institute of Applied Mathematics
Laboratoire de Mathématiques et Applications Université de La Rochelle (France) and Institute of Applied Mathematics		Turkish-French University and Scientific Cooperation Projects: Exchange of know-how in Financial Mathematics, Development of common teaching and research programs, Joint participation to European research projects.
University of Ballarat, (Australia) and Middle East Technical University		Collaboration between the Centre for Informatics and Applied Optimization, University of Ballarat Australia, and the Institute of Applied Mathematics, the Middle East Technical University, Turkey.
Bilgi Teknolojileri ve İletişim Kurumu- ODTÜ		Bilgi ve İletişim Teknolojileri Konularında Eğitim, Araştırma, Geliştirme Çalışmaları ve Uygulamalarında İşbirliği Yapılması, yürütücü, Uygulamalı Matematik Enstitüsü Müdürlüğü, ODTÜ
- MPI for Mathematics in the Sciences, Research Group on Complex Systems, Leipzig (Australia) - Interdisciplinary Center for Bioinformatics, University of Leipzig (Australia) - The Institute of Applied Mathematics - CAS-MPG Partner Institute for Computational Biology, Shanghai (China) - Koç University - Işık University		Collaboration in the fields of mathematical modeling of biological networks, network dynamics and information processing, algebraic structure of graphs and discrete and continuous optimization problems in computational biology.
The ValuePrice AG(Germany) and Middle East Technical University		Cooperation is intended to contribute to scientific and industrial cooperation and Exchange between both countries at Institute of Applied Mathematics
Universitat Ulm LLP (Lifelong Learning Programme) ERASMUS Academic Years 2009/10-2011/12(Germany) and Middle East Technical University		Both parties agree to abide by the principles and conditions set out in the Guidelines for Applicants and the Erasmus Charter at Institute of Applied Mathematics
Università degli Studi dell'Aquila (Italy) ERASMUS Academic Years 2008/2013 and Middle East Technical University		Both parties agree to adhere to the principles and conditions as stated in the Erasmus University charter and conditions are stated in the LLP/Erasmus Guidelines at Institute of Applied Mathematics

İLİŞKİDE BULUNDUĞUMUZ DİĞER ARAŞTIRMA KURUMLARI

- Department of Mathematics, Illinois State University, USA, in Biomathematics.
- Russian Academy of Sciences, Department of the Computational Methods of Forecasting, Moscow.
- Max-Planck Institute, Germany.
- Faculty of Mathematics and Economics, University of Ulm, LLP (Germany).
- Center of Research-Euro-Mediterranean- in Mathematics and Their Applications, CREMMA, in Tunisia.
- Department of Mathematics, Darmstadt University of Technology (Germany).
- Eureka Ibero America, Iberian-American Network of Knowledge Discovering, Iberian American Program of Science.
- IBM (Research Centers in New York, Zurich and Haifa).
- Department of Mathematics, Eindhoven University of Technology, The Netherlands.
- Department of Mathematics, University of L'Aquila, Italy.
- Department of Mathematics, Universitat Kaiserslautern (Germany)
- Department of Mathematics, Illinois State University (USA)
- Tobin's College of Risk Management and Actuarial Sciences, St.John's University (USA)

ÖĞRENCİ BİLGİLERİ

SIAM-IAM ODTÜ ÖĞRENCİ TOPLULUĞU

SIAM (Society of Industrial and Applied Mathematics) IAM (ODTÜ) Öğrenci Topluluğu; Uygulamalı Matematik Enstitüsü'nün çalışmaları sonucu Amerika ve Kanada dışında kurulan ilk SIAM öğrenci grubudur. Grubun amaçları, SIAM'ı ve SIAM'ın faaliyetlerini Üniversite'de ve Türkiye'de tanıtmaktır. Grup hakkında ayrıntılı bilgi www.siam.metu.edu.tr adresinde verilmiştir.

Enstitümüzün Toplam Öğrenci Sayısı:

199

2010 yılında Kayıt Yaptıran Öğrenci Sayısı:

48

**2009-2010 II. ve 2010-2011 I. Dönemlerinde
Mezun Olan Öğrenci Sayısı*:**

30

Yüksek Lisans Tezli	Yüksek Lisans Tezsiz	Doktora
16	8	6

* Bu öğrencilerin listesi Ek 4'de verilmiştir.

BAŞVURULAR

	2010-2011		
	BAŞVURU	KABUL	KAYIT
Aktüerya Bilimleri	13	10	3
Bilimsel Hesaplama	16	11	5
Finansal Matematik	43	38	28
Kriptografi	19	17	12
Toplam	91	76	48

Enstitümüz Öğrencilerinin Programlara Göre Dağılımı

Anabilim Dalı	Yüksek Lisans	Doktora	Bilimsel Haz. (YL+Doktora)	İngilizce Haz.	İzinli (YL+Doktora)
Aktüerya Bilimleri (17)	16	-	-	-	1+0
Bilimsel Hesaplama (28)	14	13	-	-	0+1
Finansal Matematik (83)	52	21	5+2	-	2+1
Kriptografi (71)	24	38	3+1	-	1+4
Toplam: (199)	106	72	8+3	-	4+6

2010 yılında Kayıt Yaptıran Öğrencilerin B.S. Derecelerini Aldıkları Bölümlere Göre Dağılımları*

MATH	STAT	EE	CENG	IE	FINANCE	ECON	EM	ACSC	CHE	ME
26	4	3	2	2	1	5	2	1	1	1

UME Derslerini Alan Öğrencilerin Bölümlere Göre Dağılımı**

Dönem	UME	MATH	EE	PHYS	ME	COGS	BIN	GGIT	CE	CENG	ECON	STAT	IE	BME	AEE	IR	MINE	Özel Öğr.	TOTAL
2009-2010 II	218	1	4	-	-	-	-	3	-	1	1	2	1	-	-	2	-	9	242
2010-2011 I	258	10	4	1	1	1	2	6	3	-	-	5	-	8	2	-	1	16	318

*Bölüm isimlerinde ODTÜ Katalogunda ki kısaltmalar kullanılmıştır.

** Enstitümüzde 2009-2010 II ve 2010-2011 I. Döneminde verilen derslerin listesi **Ek 6**'da verilmektedir.

Dönemsel Ders İstatistikleri:

	Verilen Ders Sayısı	Toplam Öğrenci Sayısı	Ders Başına Verilen Not Sayısı
2009-2010 II.Dönem	23	242	11
2010-2011 I.Dönem	27	318	12

Öğrenci Başarı Durumları

	2009-2010 II.Dönem				2010-2011 I.Dönem			
	Başarılı	Başarısız	İlişği Kesilen	İzinli	Başarılı	Başarısız	İlişği Kesilen	İzinli
Kriptografi (Bil.Haz.)	-	-	-	-	4	-	-	-
Kriptografi (M.Sc.)	18	5	1	1	15	4	-	1
Kriptografi (Ph.D.)	33	1	-	6	36	-	-	4
Bilimsel Hesaplama (İng. Haz)	1	-	-	-	-	-	-	-
Bilimsel Hesaplama (M.Sc.)	12	1	-	1	10	1	1	-
Bilimsel Hesaplama (Ph.D.)	10	-	1	-	8	-	-	1
Finansal Matematik (İng. Haz)	1	-	-	-	-	-	-	-
Finansal Matematik (Bil. Haz.)	1	-	2	-	2	5	-	-
Finansal Matematik (M.Sc.)	32	8	1	2	33	10	5	2
Finansal Matematik (Ph.D.)	13	-	-	3	19	1	1	1
Aktüerya Bilimleri (M.Sc.)	14	-	-	-	11	4	1	1
TOPLAM (168+181)	135	15	5	13	138	25	8	10

ÖYP Öğrencileri Başarı Durumları

	Bilimsel Hesaplama			Finansal Matematik			Kriptografi					
Üniversitesi	YL	Doktora	LSD	YL	Doktora	LSD	YL	Doktora	LSD	Başarılı	Başarısız	Mezun
Selçuk Üniversitesi KONYA	-	1	-	-	1	-	-	-	-	1	-	1
Süleyman Demirel Üniversitesi ISPARTA	-	-	-	-	-	-	-	1	-	-	-	1
Yüzüncü Yıl Üniversitesi VAN	-	1	-	-	-	-	-	-	1	2	-	-
Ondokuz Mayıs Üniversitesi SAMSUN	-	-	-	-	-	-	-	1	-	-	-	1
Namık Kemal Üniversitesi TEKİRDAĞ	1	-	-	-	-	-	-	-	-	1	-	-
Kırgız Türkiye Manas Üniversitesi	-	-	-	-	-	-	-	1	-	1	-	-

ARAŞTIRMA FAALİYETLERİ

YAYINLAR/TEBLİĞLER*

Yurtdışı Yayın	Yurtdışı Tebliğ	Yurtdışı Konferanslarda Sunum
38 (20+18)	26	102

- **M. U. Akhmet, E. Yılmaz**, Impulsive Hopfield type neural network systems with piecewise constant argument, *Nonlinear Analysis: Real World Applications*, 11, 2584-2593, 2010. **(SCI-A)**
- **M. U. Akhmet, D. Aruğaslan, E. Yılmaz**, Stability in cellular neural networks with piecewise constant argument, *Journal of Computational and Applied Mathematics*, 233:2365-2373, 2010. **(SCI-A)**
- **M. U. Akhmet, D. Aruğaslan, E. Yılmaz**, Stability analysis of recurrent neural networks with piecewise constant argument of generalized type, *Neural Networks*, 23, 805-811, 2010. **(SCI-A)**
- **M. Cenk, F. Özbudak**, On multiplication in finite fields, *Journal of Complexity*, vol. 26, no 2, pp. 172-186, 2010. **(SCI-A)**
- **Ç. Çalık, M. Sönmez Turan, F. Özbudak**, On feedback functions of maximum length feedback shift registers, *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, vol. E93A, no 6, pp. 1226-1231, 2010. **(SCI-B)**
- **A. Aydın, B. Karasözen**, Multi-symplectic Box Schemes for the Complex Modified Korteweg-de Vries Equation, *Journal of Mathematical Physics*, 51, 083511, 2010. **(SCI-A)**
- **Ö.L. Gebizlioglu, Şenoğlu, B., Kantar, Y.M.** “Comparison of certain value-at-risk estimation methods for the two-parameter Weibull loss distribution”, *Journal of Computational and Applied Mathematics*, Doi:10.1016/j.cam.2011.01.044. (2010). **(SCI-A)**
- **S. Gümgüm, M. Tezer-Sezgin**, “DRBEM solution of natural convection flow of nanofluids with a heat source”, *Engrg. Analy. with Bound. Elem.*, Vol.34, 2010, page: 727-737. **(SCI-A)**
- **S. Gümgüm, M. Tezer-Sezgin**, “DRBEM solution of natural convective flow of micropolar fluids”, *Numerical Heat Transfer, Part A: Applications*, Vol.57, No. 10, 2010, page: 777-798. **(SCI-A)**
- **S. Han Aydın, A. I. Neslitürk, M. Tezer-Sezgin**, “Two-Level Finite Element Method with a Stabilizing Subgrid for the Incompressible MHD Equations”, *Inter. Jour. for Num. Meths. in Fluids*, Vol.62, 2010, page: 188-210. **(SCI-A)**
- **Y. Yolcu Okur**, White noise generalization of the Clark-Ocone formula under change of measure, *Stochastic Analysis and Applications*, 28, 1106-1121, 2010. **(SCI-B)**
- **S. Gazioglu, A. Hayfavi**, “Stochastic Optimization Applied to Self-Financing Portfolio: Does Bequest Matter?”, *Applied Economics*, vol.42, pp. 3831-3838, 2010. **(SCI-A)**
- **A. D. Sezer**, Modeling of an Insurance System and its Large Deviations Analysis, *Journal of Computational and Applied Mathematics*, 235 (2010) 535-546. **(SCI-A)**
- **A. D. Sezer**, Asymptotically optimal importance sampling for Jackson networks with a tree topology. *Queueing Syst.* 64 (2): 103-117 (2010). **(SCI-A)**
- **S. Özögür-Akyüz, G.-W. Weber**, Infinite Kernel Learning via infinite and semi-infinite programming, *Optimization Methods and Software* 25, 6 (2010) 937-970. **(SCI-A)**
- **S. Özögür-Akyüz, G.-W. Weber**, On numerical optimization theory of infinite kernel learning, *Journal of Global Optimization*, 48, 2 215-239 (2010). **(SCI-A)**
- **V. Strijov, G.-W. Weber**, Nonlinear regression model generation using hyperparameters optimization, *Computers and Mathematics with Applications (CAMWA)* 60 (2010) 981-988. **(SCI-A)**
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1	4	8	19

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*Bu Preprintlerin listesi **Ek 1**'de verilmektedir.

ÇALIŞTAY/ SEMPOZYUM/ KONFERANS/ YAZOKULU

- **Bilgi Güvenliği ve Kriptoloji Konferansı, (06-08 Mayıs 2010, Ankara)**

Bu yıl dördüncüsü düzenlenen Uluslararası Bilgi Güvenliği ve Kriptoloji Konferansı, T.C. Cumhurbaşkanlığı himayelerinde Gazi Üniversitesi, Orta Doğu Teknik Üniversitesi, Bilgi Teknolojileri ve İletişim Kurumu ve Bilgi Güvenliği Derneği işbirliği ile 06-08 Mayıs 2010 tarihleri arasında Ankara’da ODTÜ Kültür ve Kongre Merkezi’nde düzenlenmiştir. Türkiye’den ve yurtdışından çeşitli kamu kurum ve kuruluşları, üniversiteler, finans kuruluşları, bilgi ve iletişim teknolojileri sektörünün temsilcilerinden toplam 1800 kişi konferansa kayıt yaptırmış ve 1200’ün üzerinde kişi fiilen katılmıştır. Özellikle akademik olarak büyük ilgi gösterilen Konferansa yurtiçinden ve yurtdışından 139 bildiri sunulmuş, Bilim Kurulundaki değerli hakemler tarafından uygun bulunan 53 bildiri sözlü, 21 bildiri de poster olarak yer almıştır. Konferansın ana teması olan Kişisel Verilerin Korunması başta olmak üzere Konferans çerçevesinde “Veri Gizliliği ve Korunma Yöntemleri” konulu bir özel oturum ve “Bilgi Güvenliği Tehditleri, Açıklıklar, Güvenlik ve Çözümleri” başlıklı bir panel düzenlenmiştir. Ülkemizde önem arz eden konuların değerlendirildiği bu panellerde, güncel sorunlar ve çözüm önerileri üzerinde durulmuştur. Veri güvenliğindeki yeni yöntemler, ağ ve IP’de güvenlik, kişisel veri güvenliği, elektronik imza ve açık anahtar altyapısı, kriptoloji, steganografik ve görüntü işleme tabanlı yöntemler, kriptoloji, kriptoteori, kriptografik donanımlar ve etkin gerçekleştirim konularında yapılan oturumlarda bu bildiriler sunulmuş, tartışılmış ve katılımcıların öneri ve görüşleri paylaşılmıştır.

ENSTİTÜ ÖĞRETİM ÜYELERİNİN ORGANİZASYONLARINDA BULUNDUKLARI ÇALIŞTAY/ SEMPOZYUM/ KONFERANS/ YAZOKULU

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ARAŞTIRMA GRUPLARI

AÇIK ANAHTAR ALTYAPISI (AAA) ARAŞTIRMA GRUBU

Açık Anahtar Altyapısı (AAA) konusunda bilgi birikimi elde etmek ve yeni gelişmeler sunmak amacıyla üç temel grup olarak araştırma yapılmaktadır. Yazılım geliştirme grubu; algoritma geliştirme, analiz ve kodlama çalışmaları yapmaktadır, hukuki işler ve uygulama grubu; kullanılacak olan teknolojilerin hukuka ve kanunlara uygunluğunu araştırmak ve konu ile ilgili çıkan yönetmelik ve tebliğleri takip etmek ve bunların projedeki uygulamaları ile ilgilenmektedir, altyapı ve sistem geliştirme grubu; proje içerisinde ihtiyaç duyulan altyapı ve sistem gereksinimlerini belirleyerek bu sistemlerin kurulumu ve güvenliği ile ilgilenmektedir. (www.pki.iam.metu.edu.tr)

AKAN ŞİFRE SİSTEMLERİ ÇALIŞMA GRUBU

Akan Şifre Sistemleri Çalışma Grubunun araştırma alanları akan şifre sistemlerinin test, tasarım ve analiz konularını içermektedir. Grup bu amaçla literatürde bilinen birçok akan şifre sisteminin yanı sıra, ECRYPT Stream Cipher Project'e sunulan birçok algoritmanın tasarımlarını incelemekte ve analizlerini yapmaktadır. Aynı zamanda akan şifrelerin genel test yöntemleri ve tasarım kriterlerinin geliştirilmesi konularında da çalışmalar yapılmaktadır.

OPTİMİZASYON TEORİSİ ARAŞTIRMA GRUBU

Bu araştırma grubu global, yarı-sonsuz değişkenli, türevsiz ve düzgün olmayan optimizasyon konularında çalışmalar yapmaktadır. (<http://www.iam.metu.edu.tr/EUROPT>)

TERS PROBLEMLER ARAŞTIRMA GRUBU

Grubun 2007 yılı çalışmaları, diğer grupların çalışmalarına ve projelerine destek şeklinde, ortaklaşa yürütülmüştür. (<http://www.iam.metu.edu.tr/research>)

BOOLE FONKSİYONLARI ÇALIŞMA GRUBU

Bu grubun amacı, dengelilik, tam çığ ölçütü (strict avalanche criterion), yüksek nonlineerite, yüksek cebirsel derece, yüksek mertebede korelasyon bağışıklığı ve yüksek mertebede propagation kriteri gibi konuları çalışmaktadır. Bu fonksiyonların tasarımında bütün bu karakteristikler hesaba katılmalıdır. Örneğin bükük fonksiyonlar (Bentging functions) maksimum nonlineeriteye sahiptir ve sıfırdan farklı her vektör için propagation kriteri sağlar. Fakat bu fonksiyon sınıfı dengeli ve korelasyon bağışıklı değildir. Boole fonksiyonları kriptografinin önemli bir alanı olmuştur. Shannon 1949 yılında modern kriptografinin temellerini attığında çarpım şifrelerini ifade etmek için permütasyon ve yer değıştirme olmak üzere iki temel dönüşüm kullanmıştır. Kullandığı her iki dönüşümde de Boole fonksiyonların kriptografik özellikleri sözkonusudur. Bundan sonraki süreçte kriptolojide Boole fonksiyonları S-kutuları tasarımında yaygın bir şekilde kullanılmıştır. Boole fonksiyonunun iyi olmasının ölçüsü kriptografik özellikleriyle doğru orantılıdır. (<http://www.math.metu.edu.tr/bfwg>)

DİNAMİK SİSTEMLER ARAŞTIRMA GRUBU

“Uygulamalı Dinamik Sistemler” araştırma grubu güncel matematiğin en faal alanlarından biri olan Dinamik Sistemler Teorisinin biyoloji, tıp, ekonomi ve finans gibi alanların problemlerine uygulamaları üzerine yoğunlaşmıştır. UME, Elektrik-Elektronik, Biyoloji, Matematik Bölümlerinden bazı öğretim üyelerinden oluşan bu grup modellerinde, fonksiyonel ve impulsive differensiyel denklemler kullanmakta ve somut problemlerin incelenmesinde çatallanma teorisi, merkez manifold teorisi gibi soyut teorilerden yararlanmaktadır. (<http://www.iam.metu.edu.tr/research>)

EUROPT OPTİMİZASYON ARAŞTIRMA GRUBU

Bu araştırma grubunun amacı, uluslararası işlevsel araştırma ve uygulamalı matematik çalışmalarını özellikle avrupa birliğindeki araştırmacılarla birlikte uluslararası düzeyde canlı tutmaktır. EUROPT Optimizasyon Araştırma Gurubu olarak popüler dergilerin özel sayılarına yayınlar hazırlanmış, birçok çalıştay düzenlenmiş, her düzeyde çeşitli bilimsel aktiviteler gerçekleştirilmiştir. Bunların dışında iki yeni EURO çalışma grubu ile çalışmalar devam etmekte ve 2003 yılından itibaren Uygulamalı Matematik Enstitüsü, EUROPT ve EURO Sürekli Optimizasyon çalışma grubuna ev sahipliği yapmaktadır. (<http://www.iam.metu.edu.tr/EUROPT/>)

FİNANSAL RİSK ARAŞTIRMA GRUBU

Finansal Risk Araştırma Grubu Türk finans sektöründe uygulama ve teoride karşılaşılan problemleri çözmek üzere 2003 yılında enstitümüz bünyesinde kurulmuş bir araştırma grubudur. Bu araştırma gurubu üniversite ile finans kurumlarının risk birimi çalışanlarını bir araya getirerek söz konusu problemlerin anlaşılmasını ve çözüm önerileri üretilmesini sağlamak amacını gütmektedir. (<http://www.iam.metu.edu.tr/research/groups/riskman.html>)

HESAPLAMALI BİYOLOJİ VE TIP ARAŞTIRMA GRUBU

Bu araştırma grubunda yer alan temel konular, gen ekspresyon motiflerinin modellenmesi ve tahmini, hesaplamalı insan metabolizması, beyin araştırmaları, kalp araştırmaları, populasyon dinamiği, gen dinamiği, gen değışimleri (populasyonların sınıflandırılması), sürdürülebilir gelişme, ve dünya ısısının kontrolüdür. Bu grup ODTÜ’de Biyoinformatik/Hesaplamalı Biyoloji üzerine **Bilim ve Teknolojileri YUUP Grubu** ile ortak çalışmaktadır. **YUUP araştırma grupları**’nda, biyoteknoloji, tıp ve biyoinformatik gibi araştırma konuları ile ilgili birçok temsilcisi bulunmaktadır. (<http://www.iam.metu.edu.tr/research/groups/compbio/index.html>)

HİBRİD SİSTEMLER ARAŞTIRMA GRUBU

“Development of Modeling and Optimization Tools for Hybrid Systems” NSF-TÜBİTAK INT ve “Modeling Multistationary Processes by Using Hybrid System Formulation: A study with priority on functional genomics” TÜBİTAK kariyer projesi çerçevesinde çalışmalar sürdürülmektedir. (<http://www.iam.metu.edu.tr/research/groups/hybrg/index.html>)

KODLAMA TEORİSİ ARAŞTIRMA GRUBU

Ana uygulamasının iletilerde oluşan hataların saptanması/düzeltilmesi olan hata düzeltici kodlar, özellikle otantikasyon kodlarıyla kriptografiye ve bilginin lineer olarak işlendiği başka alanlara da uygulanabilmektedirler. İyi parametrelere sahip kodların çok noktalı cebirsel eğrilerden ve varyetelerden elde edildiği bilinmektedir. Bu araştırma grubunun ilgi alanları: iyi parametrelere sahip hata düzeltici kod inşası, sonlu cisimler üzerindeki cebirsel eğriler ve varyeteler, çok noktalı eğriler inşası ve bu eğrilerden kodlar üretilmesi ve kodlama teorisinin kriptografiye uygulamaları sayılabilir. Ayrıca hata düzeltme kodları kullanılarak doğrulama kodlarının oluşturulması da amaçlanmaktadır.

YÜRÜTÜCÜLÜĞÜ YAPILAN PROJELER

Proje Adı: Cebirsel Eğriler ve Onların Bazı Kriptografik ve Kodlama Teorisindeki Problemlerdeki Uygulamaları (TÜBİTAK 1001 Projesi)
Yürütücüsü: Ferruh Özbudak
Araştırmacıları: Cem Güneri, Zülfükar Saygı, Ali Devin Sezer, Burcu Gülmez Temür, Murat Cenk, Çağdaş Çalık, Jose Ignacio Iglesias Curto
Süresi: 01.05.2010-01.05.2013
Bütçesi: 216.190 TL

Proje Adı: Hafif Kriptosistem Tasarım Projesi (TÜBİTAK 1001 Projesi)
Yürütücüsü: Ali Doğanaksoy
Araştırmacıları: Fatih Sulak, Barış Ege, Onur Koçak
Süresi: 01.10.2010-01.10.2011
Bütçesi: 61.800 TL

Proje Adı: ETSI TS 102-640 Standardına ve Türk Mevzuatına Uyumlu, Güvenli ve Yüksek Performanslı İletişim Protokolüne Dayalı Kayıtlı Elektronik Posta Sistemi Yönetim Yazılımının Geliştirilmesi Danışmanlık Hizmeti (TÜBİTAK-TEYDEP Projesi, Danışmanlık Hizmeti)
Yürütücüsü: Ersan Akyıldız –Verion Teknoloji Grubu A.Ş.
Araştırmacıları: Sedat Akleylek, Çağdaş Çalık, Zaliha Yüce, Ömer Sever, Mert Özarar
Süresi: 01.04.2010-04.04.2011
Bütçesi: 55.200 TL

Projenin Adı: Modeling Multistationary Processes by Using Hybrid System Formulation: A study with priority on functional genomics (TÜBİTAK 1001 Projesi)
Yürütücüsü: Hakan Öktem
Araştırmacıları: Nurgül Gökgöz, Mustafa Kahraman
Süresi: Haziran 2005 –Haziran 2010
Bütçesi: 162.400 TL

Proje Adı: Özet Fonksiyonların Güvenlik Ölçütleri ve Analiz Metotları Geliştirme ve Uygulama Projesi (TÜBİTAK1001 Projesi)
Yürütücüsü: A. Emrah Çakçak
Araştırmacıları: Fatih Sulak, Begül Bilgin, Erdener Uyan, Çağdaş Çalık
Süresi: 01.03.2009-01.03.2010
Bütçesi: 44.100 TL

Projenin Adı: DAAD Optimization: Theory, Methods and Applications Project
Yürütücüsü: Bülent Karasözen
Araştırmacıları: Gerhard Wilhelm Weber, Stefan Ulbrich
Süresi: 1.1.2008- 31.12.2011
Bütçesi: 40.000 Euro

Projenin Adı: Türkiye Morbidite Tablolarının Oluşturulması Aşama:I (TEKNOKENT Projesi)
Yöneticisi: Ersan Akyıldız
Yürütücüsü: Ömer L. Gebizlioğlu
Araştırmacıları: Sevtap Kestel, Burçak Başbuğ Erkan, Kasırga Yıldırak, Fatih Tank, Zeynep Kalaylıoğlu, Sarp Üner, Hatice Anar, Büşra Yılmaz, Derya Uygun
Süresi: 01.05.2009-30.06.2010
Bütçesi: 343.000 TL

Proje Adı: Birincil ve İkincil Mortgage Piyasaları ve Mortgage Konusunda Danışmanlık ve Eğitim Hizmetleri” (Döner Sermaye Projesi)
Yürütücüsü: Işıl Erol
Süresi: 19.02-23.07.2010
Bütçesi: 12.500 TL

Proje Adı: Birincil ve İkincil Mortgage Piyasaları ve Mortgage Konusunda Danışmanlık ve Eğitim Hizmetleri” (Döner Sermaye Projesi)
Yürütücüsü: Işıl Erol
Süresi: 27.11.2010-25.06.2011
Bütçesi: 17.481 TL

Proje Adı: Kompleks Faiz Türevlerinin Fiyatlandırılması için LIBOR Market Modeli Simulasyonu Prototipinin Geliştirilmesi (Development of a First Prototype of a LOBOR market Simulation for Valuation (pricing) of Complex Interest Rate Derivatives) (Döner Sermaye Projesi)
Yürütücüsü: Ömür Uğur
Araştırmacıları: Martin Rainer
Süresi: 01.12.2009-31.03.2010
Bütçesi: 10.150 Euro

ODTÜ-BİLİMSEL ARAŞTIRMA PROJELERİ

Projenin Adı: Türkiye için Bireysel Risk Bazına İndirgenmiş Kollektif Hasar Modellemeleri (BAP-07-05-2010-01)

Yürütücüsü: Sevtap Kestel

Araştırmacıları: Barış Sürücü, Könül Bayramova

Süresi: 1 Ocak 2010-31 Aralık 2010

Bütçesi: 7.000 TL

Projenin Adı: Advanced Mathematical Methods of Financial Risk Management Investigated and Solved by New Methods of Stochastic Calculus, Mathematical Statistics and Optimization (BAP-07-05-2010-02)

Yürütücüsü: Gerhard W. Weber

Araştırmacıları: B.Burçak Başbuğ Erkan, Efsun Kürüm, Vefa Jafarova, Azer Kerimov

Süresi: 1 Ocak 2010-31 Aralık 2010

Bütçesi: 2.500 TL

Projenin Adı: Identification, Optimization and Control of Stochastic Differential Equations in Financial Mathematics (BAP-07-05-2010-03)

Yürütücüsü: Gerhard. W. Weber

Araştırmacıları: Azize Hayfavi, Pakize Taylan, Ayşegül İşcanoğlu Çekiç, Özge Sezgin Alp

Süresi: 1 Ocak 2010-31 Aralık 2010

Bütçesi: 2.500 TL

Projenin Adı: Testing the Efficient Market Hypothesis (EMH) for the US the UK and Japanese Stock Markets: Application of Signal Processing, Pattern Recognition, Artificial Intelligence and Probabilistic Graphical Modelling Techniques (BAP-07-05-2010-04)

Yürütücüsü: Işıl Erol

Araştırmacıları: İlkay Ulusoy

Süresi: 1 Ocak 2010-31 Aralık 2010

Bütçesi: 5.725 TL

Projenin Adı: Advanced Mathematical Methods of Quality Analysis and Improvement by New Methods of Computational Statistics and with Applications in Manufacturing and Finance (BAP-07-05-2010-05)

Yürütücüsü: Gerhard Wilhelm Weber

Araştırmacıları: İnci Batmaz, Başak Akteke-Öztürk, Fatma Yerlikaya-Özkurt, Elçin Kartal, Gül Çelik, Belgin Kayhan

Süresi: 1 Ocak 2010-31 Aralık 2010

Bütçesi: 2.500 TL

Projenin Adı: Geniş Ağlarda Spektrum Hesaplamaları ve Analizleri (BAP-07-05-2010-06)

Yürütücüsü: Bülent Karasözen

Araştırmacıları: Jürgen Jost, Özge Erdem, Ayşe Sarıaydın

Süresi: 1 Ocak 2009-31 Aralık 2009

Bütçesi: 3.775 TL

Projenin Adı: Finite Geometry, Coding Theory and Cryptography (BAP-07-05-2009-03)
Yürütücüsü: Ferruh Özbudak
Araştırmacıları: Oğuz Yayla, Hakan Özadam, Sedat Akleylek, Cihangir Tezcan
Süresi: 1 Ocak 2009-31 Aralık 2010
Bütçesi: 8.000 TL

ODTÜ-BİLİMSEL ARAŞTIRMA TEZ PROJELERİ

Projenin Adı: Numerical Solution of Liquid Metal Magnetohydrodynamics MHD) Flow with Heat Transfer (BAP-07-05-2010-00-01)
Yürütücüsü: Münevver Tezer
Araştırmacıları: Önder Türk
Süresi: 1 Ocak 2010-31 Aralık 2010
Bütçesi: 2.000 TL

Projenin Adı: Sinir Ağlarının Kompleks Dinamiği (BAP-08-07-05-00-03)
Yürütücüsü: Marat Akhmet
Araştırmacıları: Enes Yılmaz
Süresi: 1 Ocak 2008-31 Aralık 2011
Bütçesi : 2.000 TL

ENSTİTÜ BAĞLANTILI ÖĞRETİM ÜYELERİNİN ARAŞTIRMACI OLARAK KATILDIKLARI PROJELER

Projenin Adı: Balaban Valley Project Sürekli Optimizasyon Yöntemleri ve Uygulamaları
Yürütücüsü: A. Gökmen
Araştırmacıları: S. Kayaligil, G. W. Weber, İ. Gökmen, M. Ecevit, A. Sürmeli, T. Bali, Y. Ecevit, H. Gökmen, D. J. DeTombe
Süresi: 2004-...

ÖĞRETİM ÜYESİ YETİŞTİRME PROGRAMI (ÖYP) PROJELERİ

Danışmanı: Ömür Uğur
Öğrencinin Adı: Ayşegül Işcanoğlu
Üniversitesi: Selçuk Üniversitesi, KONYA
Bütçesi: 6.317 TL

Danışmanı: Ömür Uğur
Öğrencinin Adı: Derya Altıntan
Üniversitesi: Selçuk Üniversitesi, KONYA
Bütçesi: 4.671 TL

Danışmanı: -
Öğrencinin Adı: Cansu Bilgir
Üniversitesi: Namık Kemal Üniversitesi, TEKİRDAĞ
Bütçesi: -

Danışmanı: Ersan Akyıldız
Öğrencinin Adı: Barış Bülent Kırlar
Üniversitesi: Süleyman Demirel Üniversitesi, ISPARTA
Bütçesi: 8.505 TL

Danışmanı: Melek Diker Yücel
Öğrencinin Adı: Sedat Akleylek
Üniversitesi: Ondokuz Mayıs Üniversitesi, SAMSUN
Bütçesi: 9.306 TL

Danışmanı: Ersan Akyıldız
Öğrencinin Adı: Turgut Hanoymak
Üniversitesi: Yüzüncü Yıl Üniversitesi, VAN
Bütçesi: 3.894 TL

Danışmanı: Melek Diker Yücel
Öğrencinin Adı: Rita İsmailova
Üniversitesi: Kırgız Türkiye Manas Üniversitesi, KIRGIZISTAN
Bütçesi: - TL

Danışmanı: Münevver Tezer
Öğrencinin Adı: Ayşe Sarıaydın
Üniversitesi: Yüzüncü Yıl Üniversitesi, VAN
Bütçesi: 4.842 TL

DİĞER FAALİYETLER

ENSTİTÜ TARAFINDAN DÜZENLENEN KISA SÜRELİ KURSLAR/ SEMİNERLER

- **Zuzana Oplatkova & Roman Senkerik** (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic), “A Case Study to Demonstrate Two Approaches – Evolutionary Computation and Metaevolution”, “Introduction into Area of Softcomputing”, November 16-19, 2010.
- **S. Jain** (School of Engineering and Applied Science, Aston University, Birmingham, UK), “Towards a Closed Form Analytic Solution for a Hybrid HHW Model”, “Simulations of Financial Markets”, “Statistical Mechanics and Financial Markets”, September 14-17, 2010
- **Jerzy Filar** (Centre for Industrial and Applied Mathematics, University of South Australia, Australia), “Sustainability Screw: A Mathematical Perspective on Some Problems of Environmental Modelling”, “The Hamiltonian Cycle Problem And Some Challenging Non-Convex Programs”, “Dependence of Nash Equilibria on Incompetence” July 27-30, 2010.
- **Röbke Wünschiers** (University of Applied Sciences Mittweida, Germany), “Genome-Wide Gene Expression: Learning About Transcripts”, “Data Visualization in Bio Sciences”, “Modern Biology: A Joint Venture of Biotechnology, Computational Sciences & Mathematics”, June 15-17, 2010.
- **Gintautas Dzemyda** (System Analysis Department, Institute of Mathematics and Informatics), “Visualization of manifold-type multidimensional data”, “Visualisation of a set of parameters characterized by their correlation matrix”, “Visualization of multidimensional data by using neural Networks”, April 26-29, 2010.
- **Karsan Seyhun** (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin), “Firm Valuation”, April 9-16, 2010.

ENSTİTÜMÜZÜ KISA SÜRELİ ZİYARET EDENLER

- **Zuzana Oplatkova** (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic), November 16-19, 2010.
- **S. Jain** (School of Engineering and Applied Science, Aston University, Birmingham, UK), September 14-17, 2010
- **Jerzy Filar** (Centre for Industrial and Applied Mathematics, University of South Australia, Australia), July 27-30, 2010.
- **Röbke Wünschiers** (University of Applied Sciences Mittweida, Germany), June 15-17, 2010.
- **Gintautas Dzemyda** (System Analysis Department, Institute of Mathematics and Informatics), April 26-29, 2010.
- **Karsan Seyhun** (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin), April 9-16, 2010.
- **Kürşat Aker** (Feza Gürsey Institute, İstanbul), December 14, 2010.
- **Roman Senkerik** (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic), November 16-17, 2010.
- **Doğan Tırtıroğlu**, (University of Adelaide, Australia) October 19-December 31, 2010.
- **Jiri Vojtesek** (Zlin-Tomas Bata University Faculty of Applied Informatics) May 17-18, 2010
- **Radek Matusu** (Zlin-Tomas Bata University Faculty of Applied Informatics) May 17-18, 2010.
- **Jianying Zhou** (Institute for Infocomm Research, Singapore) May 5, 2010.
- **Sencer Yeralan** (University of Florida, Agricultural and Biological Engineering) March 9, 2010.
- **Egemen Yılmaz** (Ankara University, Department of Electronics Engineering) March 2, 2010.

- **Nagihan Comez** (Faculty of Business Administration, Bilkent University) December 3, 2010.
- **Nimet YAPICI PEHLİVAN** (Selçuk University, Science Faculty, Department of Statistics, Konya) June 18, 2010.
- **Hüseyin Merdan** (Department of Mathematics, TOBB University of Economics and Technology) June 11, 2010.
- **R. Murat Demirer** (Mathematics and Computer Department, Istanbul Kultur University) April 9, 2010.
- **Şerife Yılmaz** (Ankara Medeniyetler Müzesi) December 17, 2010.

ENSTİTÜ ÜYELERİNİN KISA SÜRELİ YURT DIŞI ZİYARETLERİ

- **A. Devin Sezer**, “AMAMEF 2010”, Slovanya, 3-9 Mayıs 2010.
- **Çağdaş Çalık**, “Latincrypt 2010 International Conference on Cryptology and Information Security”, Meksika, 6-13 Ağustos 2010.
- **Çağdaş Çalık**, “Second SHA-3 Candidate Conference”, Amerika, 21-25 Ağustos 2010.
- **Enes Yılmaz**, “The Fourth International Conference on Neural, Parallel & Scientific Computations”, Amerika, 9-15 Ağustos 2010.
- **Erdener Uyan**, “The 11th International Conference on Cryptology in India (INDOCRYPT 2010)”, Hindistan, 11-17 Aralık 2010.
- **Gerhard W. Weber**, “3rd Global Conference on Power Control and Optimization”, Avustralya, 29 Ocak-6 Şubat 2010.
- **Gerhard W. Weber**, “Forth Global Conference on Power Control and Optimization”, Malezya.
- **Işıl Erol**, “5. ECOST Management Committee (MC)” ve “Working Groups (WG)”, Avusturya, 28-31 Mart 2010.
- **Marat Akhmet**, “Workshop on Hybrid Dynamic Systems”, Kanada, 26 Temmuz-1 Ağustos 2010.
- **Önder Türk**, “International Congress on Computational and Applied Mathematics ICCAM 2010”, Belçika, 3-11 Temmuz 2010.
- **Özge Erdem**, “Highly Oscillatory Problems From Theory to Applications”, İngiltere, 11-18 Eylül 2010.
- **Sedat Akleylek**, “The 11th International Conference on Cryptology in India (INDOCRYPT 2010)”, Hindistan, 11-17 Aralık 2010.
- **Sedat Akleylek**, “10th Central European Conference on Cryptology (CECC 2010)”, Polonya, 9-13 Haziran 2010.
- **Sedat Akleylek**, “The 25th International Symposium on Computer and Information Sciences”, İngiltere, 21-25 Eylül 2010.
- **Sevta Kestel**, “EAA-Seminar ALM in the Context of an Efficient Risk Management” Belçika, 6-11 Aralık 2010.
- **Sevta Kestel**, “Third International Symposium on Biomathematics and Ecology: Education and Research (BEER 2010)”, Amerika, 23 Ağustos -9 Eylül 2010.
- **Sevta Kestel**, Albert Ludwigs University Freiburg, Almanya, 15-31 Ocak 2010.
- **Tolga Yalçın**, “ASAP 2010-21st IEEE International Conference on Application-specific Systems, Architectures and Processors”, Fransa, 7-9 Temmuz 2010.

ENSTİTÜ DESTEKLİ KONFERANS KATILIMLARI

- **A. Devin Sezer**, “AMAMEF 2010”, Slovanya, 3-9 Mayıs 2010.
- **Ayşe Sarıaydın**, “EM2010 Uluslar arası Katılımlı Endüstride Matematik Çalıştayı”, Trabzon, 4-8 Ekim 2010.
- **Ayşe Sarıaydın**, “International Conference on Mathematical Science 2010”, Bolu, 22-24 Kasım 2010.
- **Ayşe Sarıaydın**, “Ulusal Matematik Sempozyumu”, Kayseri, 4-7 Ağustos 2010.
- **Ayşegül İşcanoğlu Çekiç**, “24thMini EURO Conference on Continuous Optimization and Information Based Technologies in Financial Sector”, İzmir, 22-27 Haziran 2010.
- **Azize Hayfavi**, “24thMini EURO Conference on Continuous Optimization and Information Based Technologies in Financial Sector”, İzmir, 22-27 Haziran 2010.
- **Barış Bülent Kırklar**, “International Workshop on the Arithmetic of Finite Fields (WAIFI 2010)”, İstanbul, 26 Haziran-2 Temmuz 2010.
- **Bülent Karasözen**, “International Conference on Mathematical Sciences”, Bolu, 23-24 Kasım 2010.
- **Çağdaş Çalık**, “Latincrypt 2010 International Conference on Cryptology and Information Security”, Meksika, 6-13 Ağustos 2010.
- **Çağdaş Çalık**, “Second SHA-3 Candidate Conference”, Amerika, 21-25 Ağustos 2010.
- **Derya Altıntan**, “Ulusal Matematik Sempozyumu”, Kayseri, 3-8 Ağustos 2010.
- **Enes Yılmaz**, “The Fourth International Conference on Neural, Parallel & Scientific Computations”, Amerika, 9-15 Ağustos 2010.
- **Erdener Uyan**, “The 11th International Conference on Cryptology in India (INDOCRYPT 2010)”, Hindistan, 11-17 Aralık 2010.
- **Gerhard W. Weber**, “3rd Global Conference on Power Control and Optimization”, Avustralya, 29 Ocak-6 Şubat 2010.
- **Gerhard W. Weber**, “Forth Global Conference on Power Control and Optimization”, Malezya.
- **Gerhard Wilhelm Weber**, “World Universities Congress”, Çanakkale, 19-21 Ekim 2010.
- **Hakan Özadam**, “3rd International Workshop on the Arithmetic of Finite Fields, WAIFI 2010”, İstanbul, 26 Haziran-1 Temmuz 2010.
- **Işıl Erol**, “5. ECOST Management Committee (MC)” ve “Working Groups (WG)”, Avusturya, 28-31 Mart 2010.
- **Marat Akhmet**, “Workshop on Hybrid Dynamic Systems”, Kanada, 26 Temmuz-1 Ağustos 2010.
- **Murat Cenk**, “3rd International Workshop on the Arithmetic of Finite Fields, WAIFI 2010”, İstanbul, 26 Haziran-1 Temmuz 2010.
- **Nurgül Gökğöz**, “HIBIT’10”, Antalya, 19-22 Nisan 2010.
- **Önder Türk**, “EM2010 Uluslar arası Katılımlı Endüstride Matematik Çalıştayı”, Trabzon, 3-9 Ekim 2010.
- **Önder Türk**, “International Congress on Computational and Applied Mathematics ICCAM 2010”, Belçika, 3-11 Temmuz 2010.
- **Özge Erdem**, “Highly Oscillatory Problems From Theory to Applications”, İngiltere, 11-18 Eylül 2010.
- **Özge Erdem**, “Ulusal Matematik Sempozyumu”, Kayseri, 4-7 Ağustos 2010.
- **Sedat Akleylek**, “The 11th International Conference on Cryptology in India (INDOCRYPT 2010)”, Hindistan, 11-17 Aralık 2010.
- **Sedat Akleylek**, “10th Central European Conference on Cryptology (CECC 2010)”, Polonya, 9-13 Haziran 2010.
- **Sedat Akleylek**, “3rd International Workshop on the Arithmetic of Finite Fields, WAIFI 2010”, İstanbul, 26 Haziran-1 Temmuz 2010.
- **Sedat Akleylek**, “Antalya Cebir Günleri XII”, Antalya, 18-23 Mayıs 2010.
- **Sedat Akleylek**, “The 25th International Symposium on Computer and Information Sciences”, İngiltere, 21-25 Eylül 2010.

- **Serkan Zeytun**, “24thMini EURO Conference on Continuous Optimization and Information Based Technologies in Financial Sector”, İzmir, 23-27 Haziran 2010.
- **Sevtap Kestel**, “EAA-Seminar ALM in the Context of an Efficient Risk Management” Belçika, 6-11 Aralık 2010.
- **Sevtap Kestel**, “Third International Symposium on Biomathematics and Ecology: Education and Research (BEER 2010)”, Amerika, 23 Ağustos -9 Eylül 2010.
- **Sevtap Kestel**, Albert Ludwigs University Freiburg, Almanya, 15-31 Ocak 2010.
- **Ş. Kasırğa Yıldırak**, “24thMini EURO Conference on Continuous Optimization and Information Based Technologies in Financial Sector”, İzmir, 22-27 Haziran 2010.
- **Tolga Yalçın**, “ASAP 2010-21st IEEE International Conference on Application-specific Systems, Architectures and Processors”, Fransa, 7-9 Temmuz 2010.
- **Tolga Yalçın**, “RFIDSec10 - Workshop on RFID Security 2010”, İstanbul, 7-9 Haziran 2010.
- **Turgut Hanoymak**, “Kriptografik Protokoller ve Uygulamaları”, Kocaeli, 17-22 Mayıs 2010.
- **Yeliz Yolcu Okur**, “24thMini EURO Conference on Continuous Optimization and Information Based Technologies in Financial Sector”, İzmir, 22-27 Haziran 2010.

EKLER

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IAM PREPRINT SERİSİ

IAM PREPRINT SERIES

No	Title Abstract	Author	Date
160	Modeling, Inference and Optimization of Regulatory Networks Based on Time Series Data	G.-W. Weber, O. Defterli, S. Z. Alparslan Gök, E. Kropat	10.01.2010
161	Combination of Regularization Methods and Generic Algorithms for Solving the Inverse Problem of Electrocardiography	S. Sarıkaya, Y. Serinağaoğlu Doğrusöz, G. -W. Weber	13.01.2010
162	A System Dynamics Model for Improving Primary Education Enrollment in a Developing Country	C. S. Pedamallu, L. Ozdamar, L.S. Ganesh, G. -W. Weber, E. Kropat	14.01.2010
163	Resampling Approach for Cluster Model Selection	Z. Volkovich, Z. Barzily, G.-W. Weber, D. Toledano-Kitai, R. Avros	23.02.2010
164	Dynamical Gene-Environment Networks under Ellipsoidal Uncertainty – Set-Theoretic Regression Analysis Based on Ellipsoidal OR	E. Kropat, G. -W. Weber, S. Belen	12.03.2010
165	Parameter Estimation in Stochastic Differential Equations	G. -W. Weber, P. Taylan, Z. -K. Görgülü, H. Abd. Rahman, A. Bahar	14.03.2010
166	"On Cooperative Ellipsoidal Games	G. -W. Weber, R. Branzei, S. Z. Alparslan Gök	26.03.2010
167	The New Robust CMARS (RCMARS) Method	Ayşe Özmen, G.-W. Weber, İnci Batmaz	27.03.2010
168	Plasma Focusing of Short Pulse Laser Beams	Burak Yedierler	30.04.2010
169	On Foundations of Parameter Estimation for Generalized Partial Linear Models With B-Splines and Continuous Optimization	P.Taylan, G.-W. Weber, L.Liu, F.Y.-Özkurt	10.05.2010
170	On the ellipsoidal core for cooperative games under ellipsoidal uncertainty	G. -W. Weber, R. Branzei, S. Z. Alparslan Gök	13.05.2010
171	RCMARS: Robustification of CMARS with Different Scenarios under Polyhedral Uncertainty Set	Ayşe Özmen, G.-W. Weber, İnci Batmaz, E.Kropat	02.06.2010
172	A Mean-Square Approach to Constant Proportion Debt Obligations	A.İ.Çekiç, R.Korn, Ö.Uğur	03.06.2010
173	ACHaos Particle Swarm Optimized PID Controller for the Inverted Pendulum System	O.Tolga Altınöz, A.Egemen Yılmaz, G.W-Weber	10.06.2010
174	Some notes on the Milesian School and its scholar,Thales of Miletus	S.Belen, M.E. Özel, G.W-Weber	20.07.2010
175	Analysis of SNP-Complex Disease Association By a Novel Feature Selection Method	G.Üstünkar, S.Özögür-Akyüz, G.W-Weber, Y.Aydın Son	25.07.2010
176	Randomized Algorithm of Finding the True Number of Clusters Based on Chebychev Polynomial Approximation	R.Avros, O.Granichin, D.Shalymov, Z.Volkovich, G.W-Weber	30.07.2010
177	Genetik Algoritma ile Doğrusal Anten Dizisi Tasarımında Çekicilik Fonksiyonu Kullanımının İncelenmesi	F.Yaman, A.Yılmaz, G.W-Weber	03.08.2010
178	Efficient Asian and Basket option pricing via a simple analytical approximation	R.Korn, S.Zeytun	28.08.2010
179	Investigating Academic Performance of Migrant Students: A system Dynamics Perspective With AnApplication To Turkey	C.S.Pedamallu, L.Ozdamar, H.Akar, G.-W.Weber, A.Özsoy	29.08.2010
180	"Selection of Representative SNP Sets for Genome-Wide Association Studies: A Metaheuristic Approach	G.Üstünkar, S.Özögür-Akyüz, G. W. Weber, Y. AydınSon, C.M.Friedrich	12.10.2010
181	Evidence Optimization for Consequently Generated Models	V.Strijov, K.Kryмова, G.-W.Weber	15.11.2010
182	"Robust conic quadratic programming-A robustification of CMARS	G.-W.Weber, İ.Batmaz, A.Özmen	22.11.2010
183	An Approach to Mean Shift Outlier Model(MSOM) by Tikhonov Regularization and Conic Programming	P.Taylan, F.Y.Özkurt, G.-W.Weber	25.11.2010
184	Robust Regression Analysis for Gene-Environment and Eco-Finance Networks under Polyhedral and Ellipsoidal Uncertainty	E.Kropat, G.-W.Weber	27.11.2010

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UME SEMİNERLERİ

Genel Seminerler

Introduction to the Maximum Likelihood Principle as an estimation method (MLE)"	Martin Rainer (IAM, METU)	30.12.2010
Fractional Calculus and its Applications	Selçuk Bayın (Dept. of Physics, METU)	21.12.2010
Matchings, Generators of a Hecke Algebra, Matrix Integrals on Orthogonal Groups	Kürşat Aker (Feza Gürsey Institute, İstanbul)	14.12.2010
Introduction into Fractal Geometry and Theory of Chaos	Roman Senkerik (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic)	17.11.2010
Introduction into Area of Softcomputing	Zuzana Oplatkova (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic)	16.11.2010
An Introduction to Longitudinal Data Analysis and an Application to Istanbul Stock Exchange Data	Özlem İlk (Department of Statistics, METU)	09.11.2010
Large scale graph clustering: application on genome-scale protein networks for local cluster discovery	Tolga Can (Department of Computer Engineering, METU)	03.11.2010
Expected Inflation Rate and Equity Returns: New Perspectives	Prof. Dr. Doğan Tırtıroğlu (University of Adelaide, Australia)	19.10.2010
Simulations of Financial Markets	Dr S. Jain (School of Engineering and Applied Science, Aston University, Birmingham, UK)	16.09.2010
Statistical Mechanics and Financial Markets	Dr S. Jain (School of Engineering and Applied Science, Aston University, Birmingham, UK)	14.09.2010
The Hamiltonian Cycle Problem And Some Challenging Non-Convex Programs	Jerzy Filar (Centre for Industrial and Applied Mathematics, University of South Australia, Australia)	29.07.2010
Dependence of Nash Equilibria on Incompetence	Jerzy Filar (Centre for Industrial and Applied Mathematics, University of South Australia, Australia)	27.07.2010
Genome-Wide Gene Expression: Learning About Transcripts	Röbke Wünschiers (University of Applied Sciences Mittweida, Germany)	17.06.2010
Data Visualization in Bio Sciences	Röbke Wünschiers (University of Applied Sciences Mittweida, Germany)	16.06.2010
Modern Biology: A Joint Venture of Biotechnology, Computational Sciences & Mathematics	Röbke Wünschiers (University of Applied Sciences Mittweida, Germany)	15.06.2010
Modelling, Simulation and Control of the CSTR reactor	Jiri Vojtesek (Zlin-Tomas Bata University Faculty of Applied Informatics)	18.05.2010
Introduction to Robust Control	Radek Matusu (Zlin-Tomas Bata Univ. Faculty of Applied Informatics)	17.05.2010
Detecting Node Replication Attacks in Wireless Sensor Networks	Jianying Zhou (Institute for Infocomm Research, Singapore)	05.05.2010
Visualization of manifold-type multidimensional data	Gintautas Dzemyda (Syst. Analysis Dept., Inst. of Math. and Informatics)	29.04.2010
Visualisation of a set of parameters characterized by their correlation matrix	Gintautas Dzemyda (Syst. Analysis Dept., Inst. of Math. and Informatics)	27.04.2010
Visualization of multidimensional data by using neural networks	Gintautas Dzemyda (Syst. Analysis Dept., Inst. of Math. and Informatics)	26.04.2010
Combination of Neural Networks and Shape Analysis	Stefan Giebel (University of Luxembourg)	15.04.2010

Firm Valuation	Karsan Seyhun (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin)	13.04.2010
ILP-based Concept Discovery on Relational Databases	Pınar Karagöz Şenkul (METU, Department of Computer Engineering)	30.03.2010
Markovian Models of Production Lines	Sencer Yeralan (University of Florida, Agricultural and Biological Engineering)	09.03.2010
Nature-Inspired Optimization Algorithms	Egemen Yılmaz (Ankara University, Department of Electronics Engineering)	02.03.2010
The LIBOR Market Model - theory and challenges in practice	Martin Rainer (IAM, METU)	16.02.2010
The LIBOR Market Model - theory and challenges in practice	Martin Rainer (IAM, METU)	12.01.2010

Uygulamalı Matematik Seminerleri

Inference in single cell dynamics	Vilda Purutçuoğlu (Department of Statistics, METU)	24.12.2010
Do Merged Firms Benefit from Inventory Pooling?	Nagihan Comez (Faculty of Business Administration, Bilkent University)	03.12.2010
A Case Study to Demonstrate Two Approaches – Evolutionary Computation and Metaevolution	Zuzana Oplatkova & Roman Senkerik (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic)	19.11.2010
Viscoelastic Properties of Stock Markets	Prof. Dr. Güngör Gündüz (Department of Chemical Engineering, METU)	15.10.2010
Natural Resources and Commodity Prices - Noise, Chaos, and Stable Processes	Martin Rainer (IAM, METU)	01.10.2010
Towards a Closed Form Analytic Solution for a Hybrid HHW Model	Dr S. Jain (School of Engineering and Applied Science, Aston University, Birmingham, UK)	17.09.2010
Sustainability Screw: A Mathematical Perspective on Some Problems of Environmental Modelling	Jerzy Filar (Centre for Industrial and Applied Mathematics, University of South Australia, Australia)	30.07.2010
Application of Trajectory analysis on the career of juvenile offenders after dismissal	Stefan Giebel (University of Luxembourg)	30.07.2010
Portfolio Optimization Models	Nimet YAPICI PEHLİVAN (Selçuk University, Science Faculty, Department of Statistics, Konya)	18.06.2010
Firm Valuation	Karsan Seyhun (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin)	16.04.2010
Firm Valuation	Karsan Seyhun (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin)	09.04.2010
Virtual Motives and Singular Curves	Emrah Çakçak (Mimar Sinan University Department of Mathematics)	19.03.2010
Robust Portfolio Optimization	Gerhard-Wilhelm Weber (IAM, METU)	05.03.2010
Towards Cooperative Games under Ellipsoidal Uncertainty	G.-W. Weber (IAM, METU) S.Z. Alparslan-Gök (Süleyman Demirel University, Faculty of Arts and Sciences, Department of Mathematics, Isparta)	19.02.2010

Dinamik Sistemler Grup Seminerleri

Asset Flow Differential Equations	Hüseyin Merdan (Department of Mathematics, TOBB University of Economics and Technology)	11.06.2010
Asset Flow Differential Equations	Hüseyin Merdan (Department of Mathematics, TOBB University of Economics and Technology)	28.05.2010
Chaos of the logistic equation with piecewise constant argument	Derya Altıntan (IAM, METU)	14.05.2010
Discontinuous Cycles of The Forced Van der Pol Equation	Mehmet Turan (Department of Mathematics, Atılım University)	30.04.2010
On The Properties of Nonlinear Congruential Number Generators Based on Logistic Maps	R. Murat Demirer (Mathematics and Computer Department, Istanbul Kultur University)	09.04.2010
Analysis of neural networks with piecewise constant argument of generalized type	Enes Yılmaz (IAM, METU)	19.03.2010
OGY Control of The Forced Duffing Equation	Mehmet Onur Fen (Department of Mathematics, METU)	05.03.2010

Özel Seminerler

KEP Protokollerinin Özellikleri KEP Protokollerinin Tasarım ve Güvenlik Analizleri Standartlar ve Dünyadaki KEP Uygulamaları	UME	16.01.2010
Yasal ve Finansal Sözleşmelere Tarihi ve Yeni Bir Çerçeveden Bakış	Şerife Yılmaz (Ankara Medeniyetler Müzesi)	17.12.2010

Seminer Serisi

A Case Study to Demonstrate Two Approaches – Evolutionary Computation and Metaevolution	Zuzana Oplatkova & Roman Senkerik (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic)	19.11.2010
Introduction into Area of Softcomputing	Zuzana Oplatkova (Tomas Bata University in Zlin, Faculty of Applied Informatics Zlin, Czech Republic)	16.11.2010
Towards a Closed Form Analytic Solution for a Hybrid HHW Model	Dr S. Jain (School of Engineering and Applied Science, Aston University, Birmingham, UK)	17.09.2010
Simulations of Financial Markets	Dr S. Jain (School of Engineering and Applied Science, Aston University, Birmingham, UK)	16.09.2010
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Visualisation of a set of parameters characterized by their correlation matrix	Gintautas Dzemyda (System Analysis Department Institute of Mathematics and Informatics)	27.04.2010
Visualization of multidimensional data by using neural networks	Gintautas Dzemyda (System Analysis Department, Institute of Mathematics and Informatics)	26.04.2010
Firm Valuation	Karsan Seyhun (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin)	16.04.2010
Firm Valuation	Karsan Seyhun (FHTW Berlin - Fachhochschule für Technik und Wirtschaft Berlin)	09.04.2010

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EĞİTİM VE ÖĞRENCİ

İSTATİSTİKLERİ

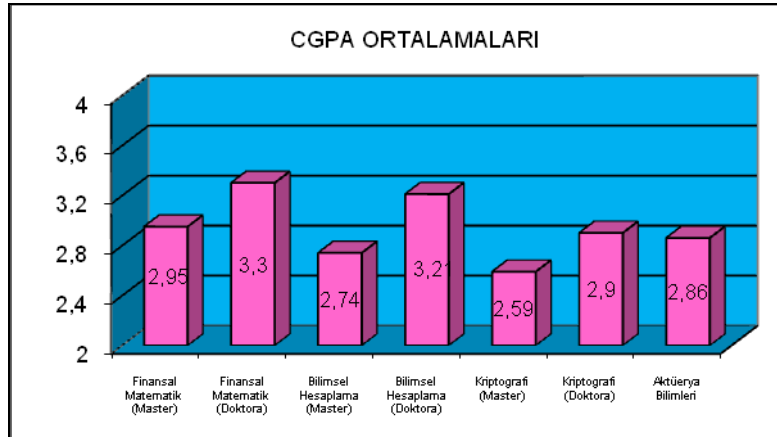
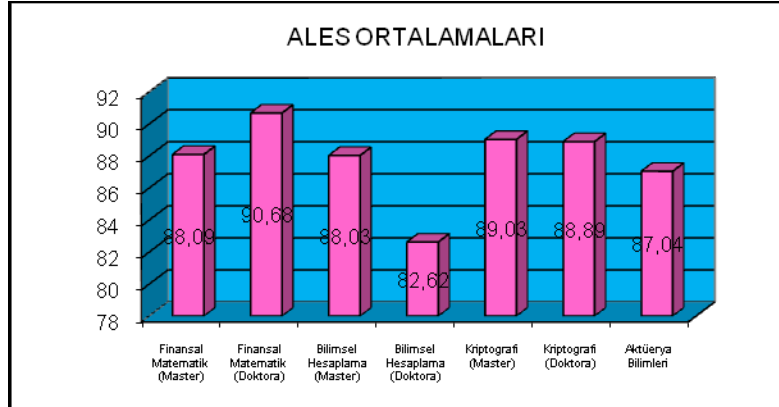
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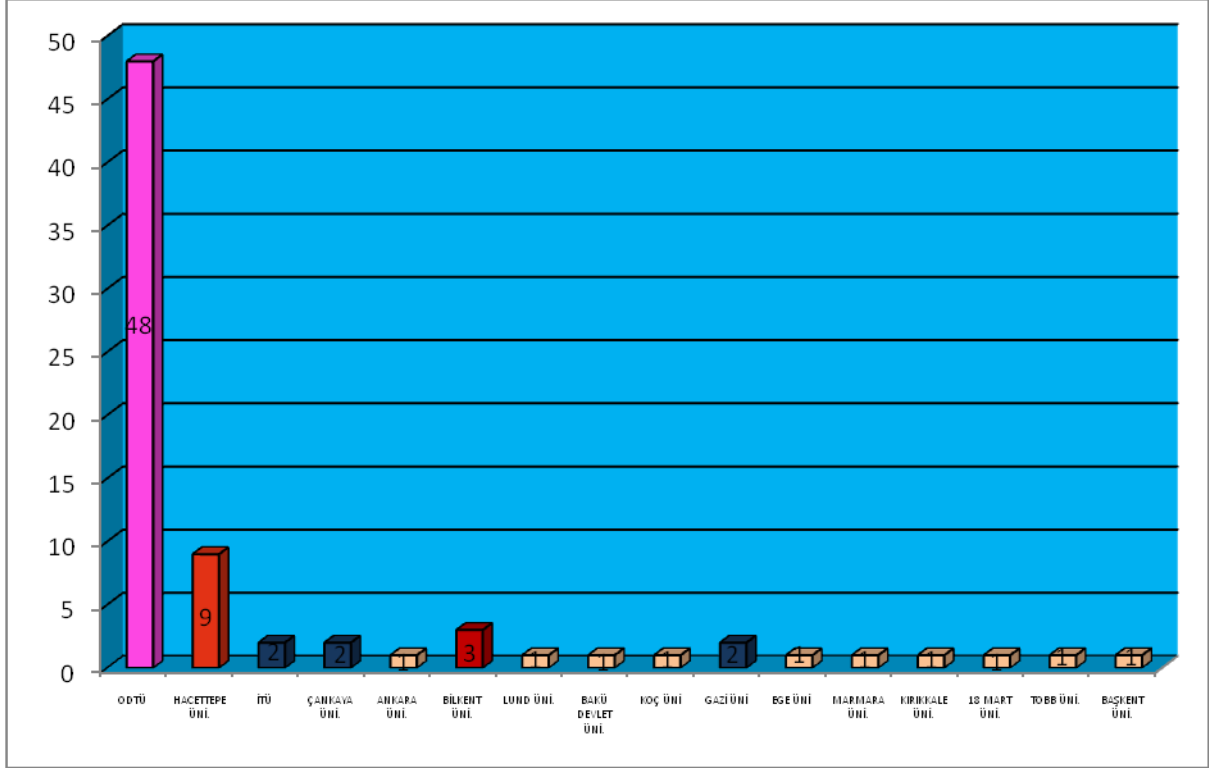
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	BAŞVURU	KABUL	KAYIT
Aktüerya Bilimleri	13	10	3
Bilimsel Hesaplama	16	11	5
Finansal Matematik	43	38	28
Kriptografi	19	17	12
Toplam	91	76	48

UME ÖĞRENCİLERİNİN ALES VE CGPA ORTALAMALARI

2010-2011 KABUL EDİLEN ÖĞRENCİLER



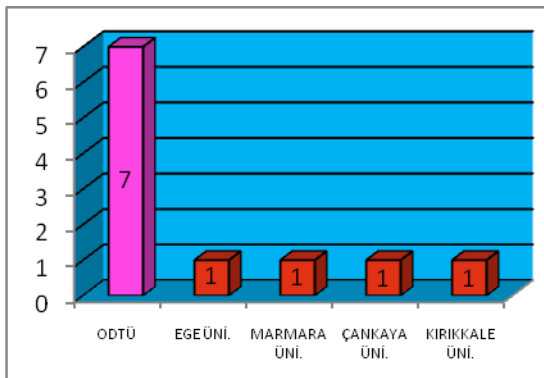
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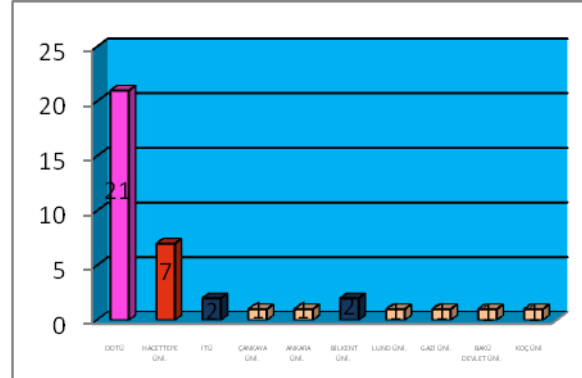
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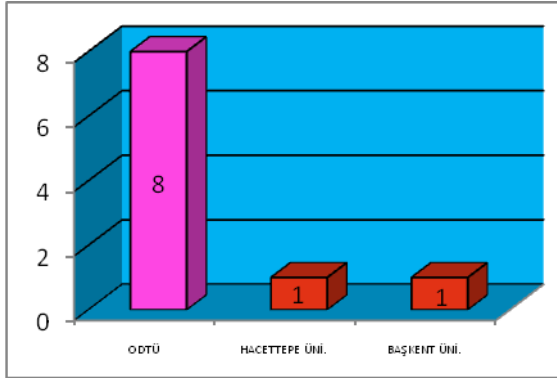
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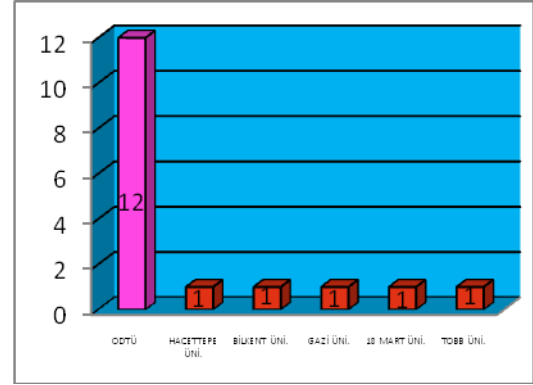
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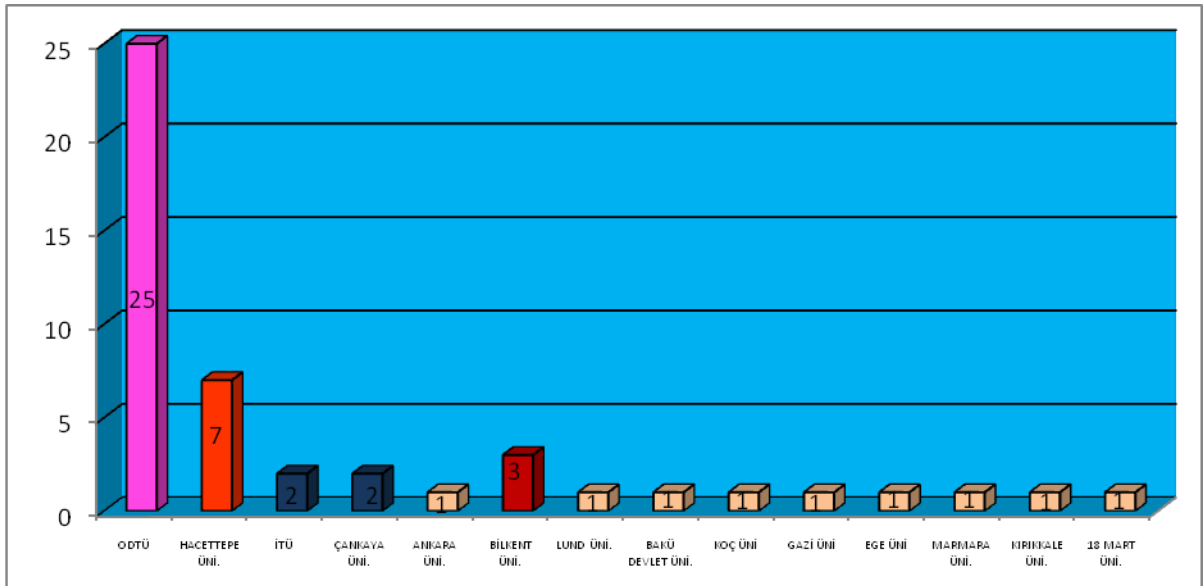
AKTÜERYA BİLİMLERİ



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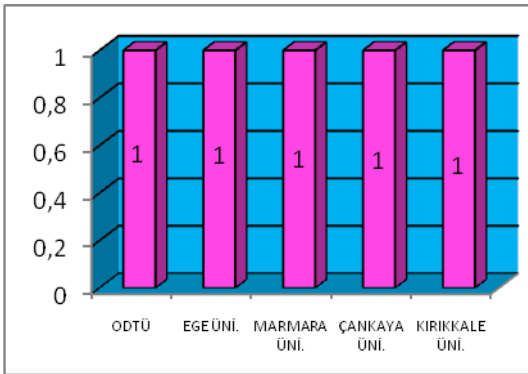
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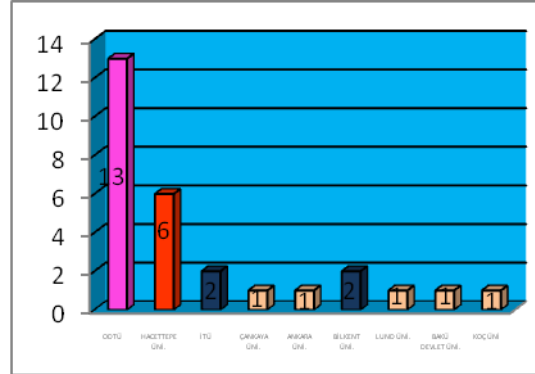
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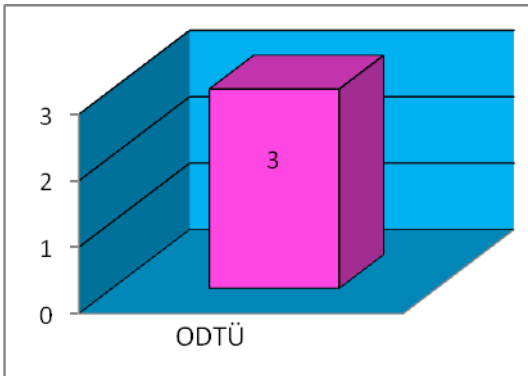
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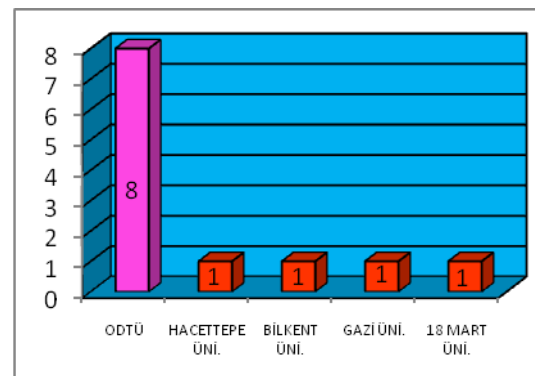
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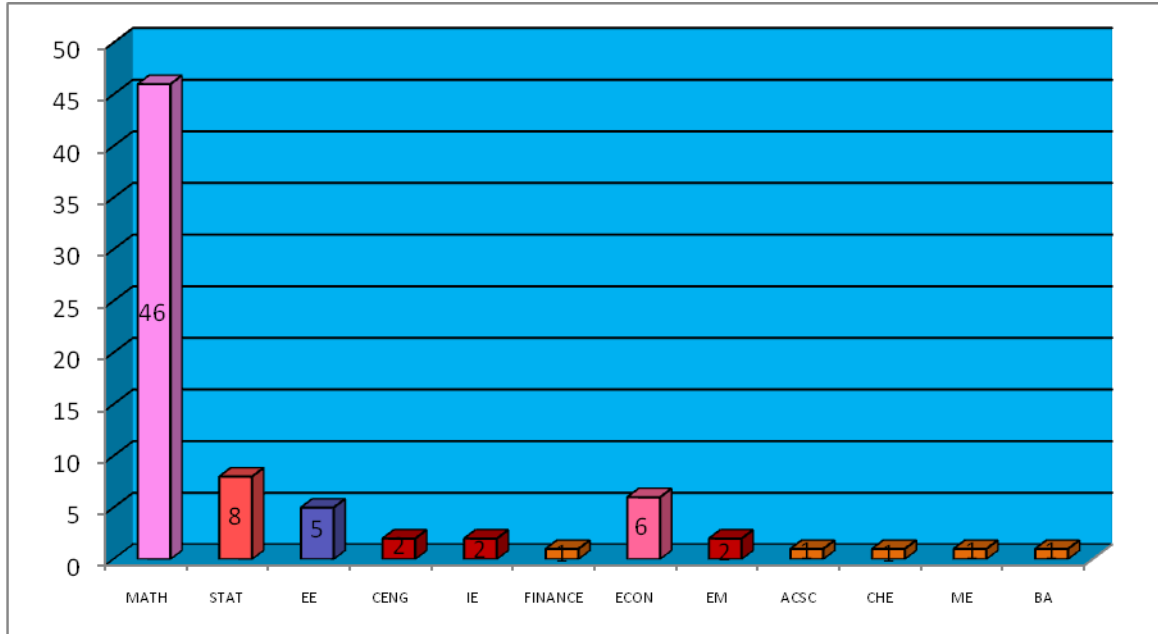
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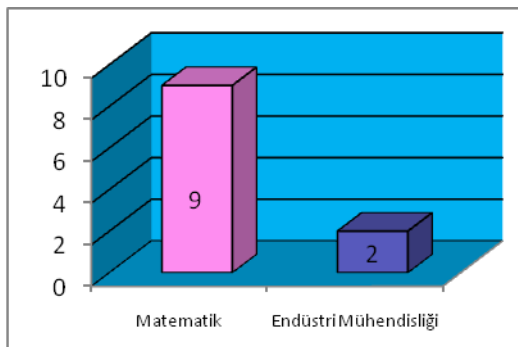
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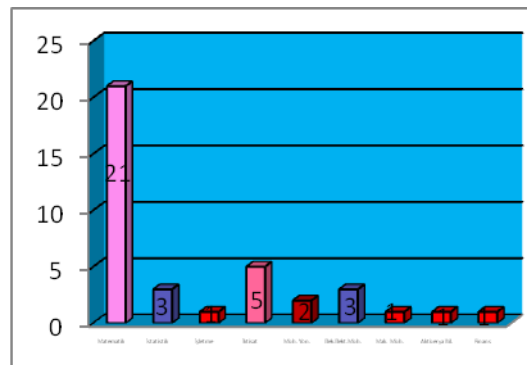
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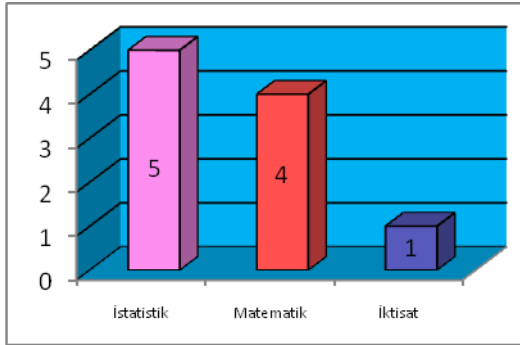
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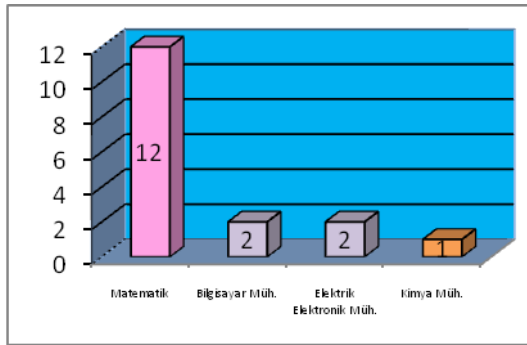
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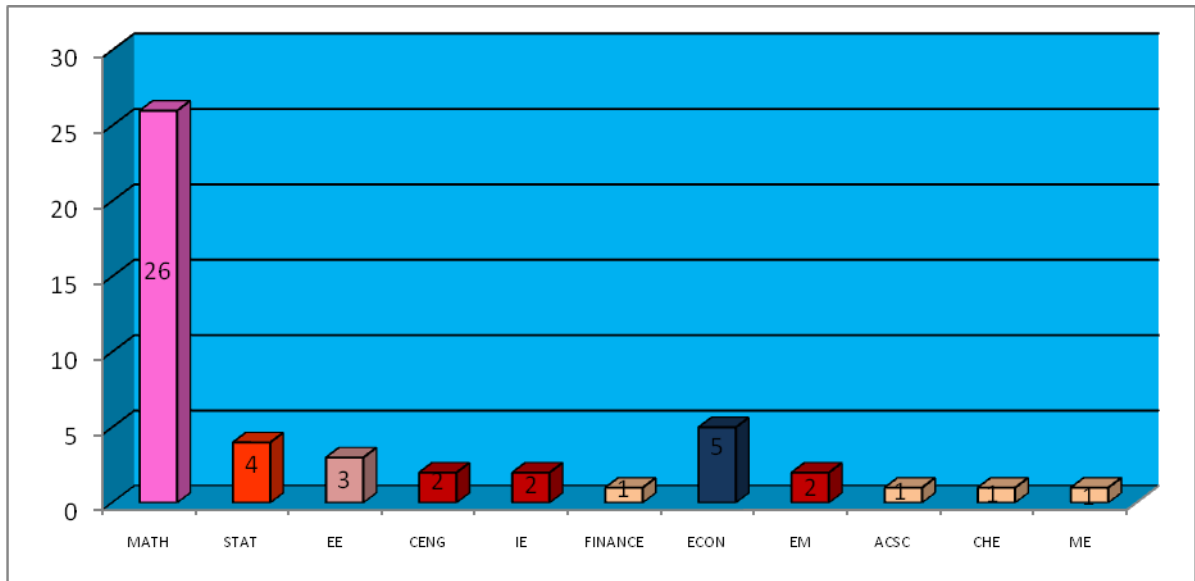
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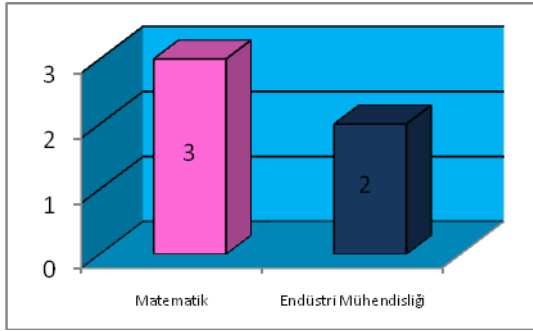
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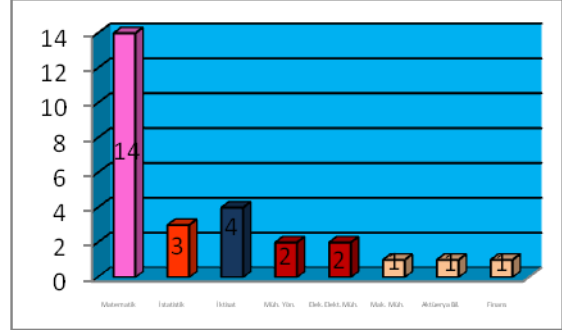
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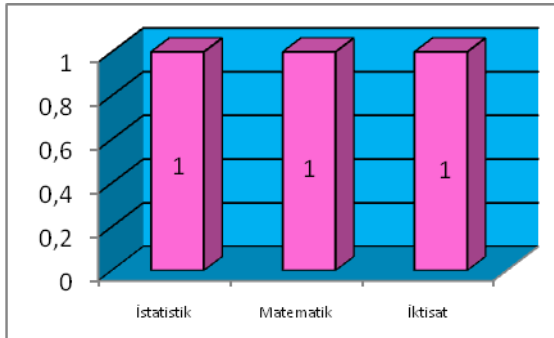
BİLİMSEL HESAPLAMA



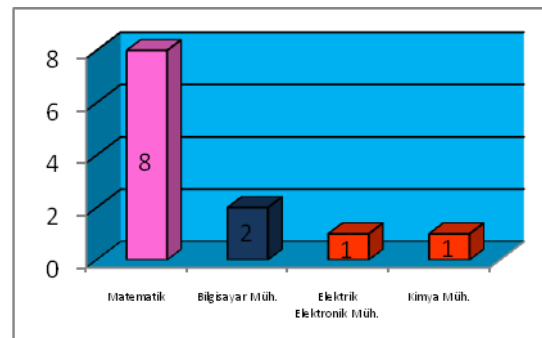
FİNANSAL MATEMATİK



AKTÜERYA BİLİMLERİ

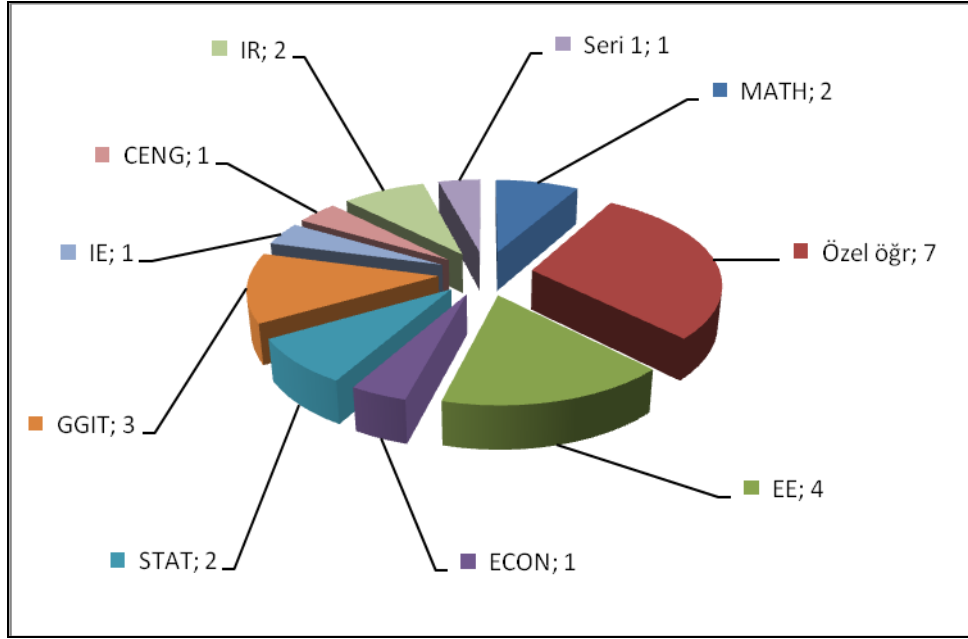


KRİPTOGRAFI



UME DERSLERİNİ ALAN UME DIŞI ÖĞRENCİLERİN BÖLÜMLERE GÖRE DAĞILIMI

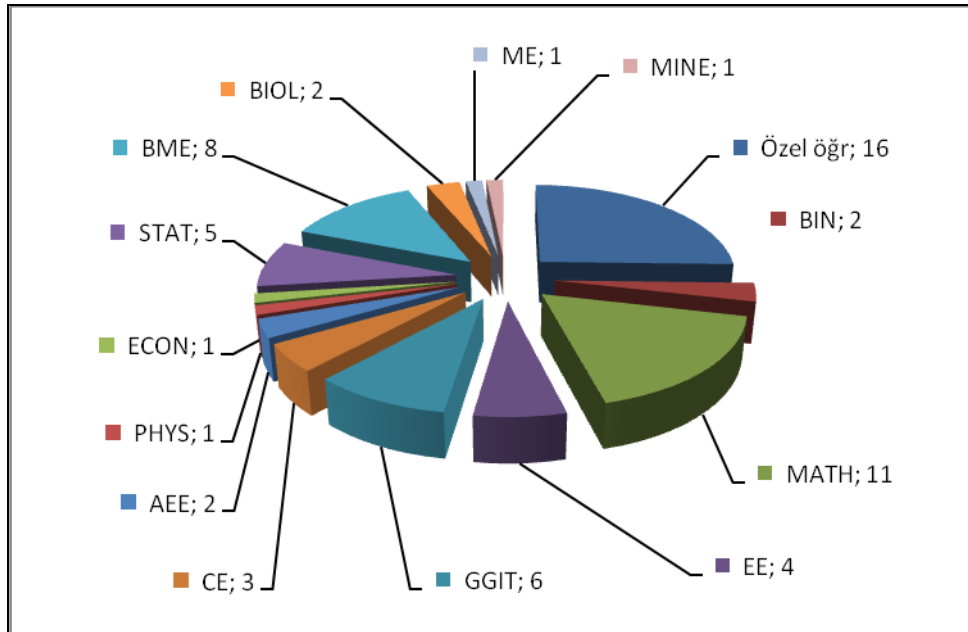
2009-2010 II.Dönem



Toplam Öğrenci Sayısı = 269

UME Dışı Öğrenci Sayısı = 23 (9%)

2010-2011 I.Dönem

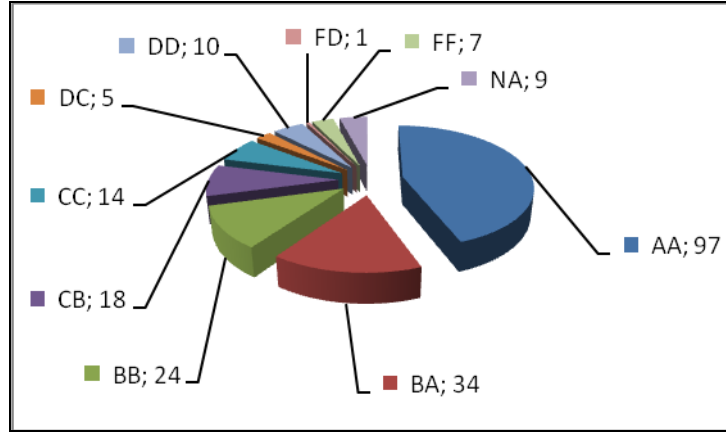


Toplam Öğrenci Sayısı = 363

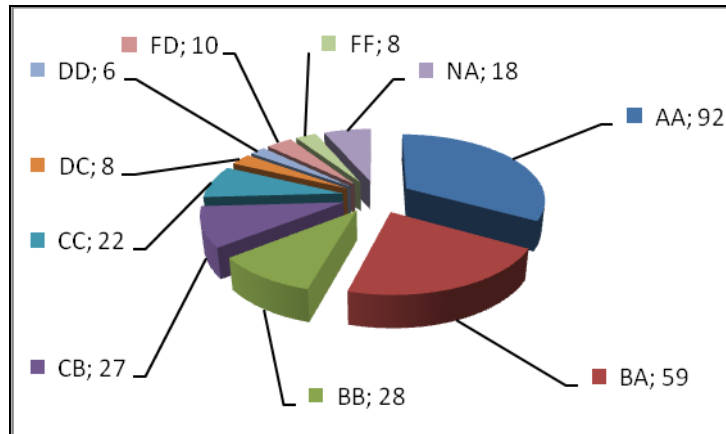
UME Dışı Öğrenci Sayısı = 62 (17%)

DÖNEMSEL VERİLEN TOPLAM NOT SAYISI

2009-2010 II. Dönem



2010-2011 I. Dönem



EK: 4
2010 YILINDA MEZUN OLAN
ÖĞRENCİLER

Bilimsel Hesaplama Programı

Başak Akteke Öztürk	“New Approaches to Desirability Functions by Nonsmooth and Nonlinear Optimization” (Doktora Tezi)	G. Wilhelm Weber Gülser Köksal
Şaziye Deniz Oğuz	“Protein Domain Networks: Analysis of Attack Tolerance Under Varied Circumstances” (Y. Lisans Tezi)	Hakan Öktem
Özge Erdem	“Computation and Analysis of Spectra of Large Undirected Networks” (Y. Lisans Tezi)	Bülent Karasözen Jürgen Jost
Ayşe Sarıaydın*	“Computation and Analysis of Spectra of Large Networks with Directed Graphs” (Y. Lisans Tezi)	Bülent Karasözen Jürgen Jost
Gül Çelik	“Parameter Estimation in Generalized Partial Linear Models with Conic Quadratic Programming” (Y. Lisans Tezi)	G. Wilhelm Weber Bülent Karasözen
Belgin Kayhan	“Parameter Estimation in Generalized Partial Linear Models with Tikhonov Regularization” (Y. Lisans Tezi)	Bülent Karasözen G. Wilhelm Weber
Ayşe Özmen*	“Robust Conic Quadratic Programming Applied to Improvemenr-A Robustification of CMARS” (Y. Lisans Tezi)	G. Wilhelm Weber İnci Batmaz
Hatice Sakarya	“A Contribution to Modern Reduction Techniques and their Application by Applied Mathematics and Statistical Learning” (Y. Lisans Tezi)	G. Wilhelm Weber Hakan Öktem
Nazım Önder Onak	“Comparison of Optical Character Recognition Algorithms using Fourier and Wavelet Based Feature Extraction” (Y. Lisans Tezi)	Hakan Öktem

* Enstitümüzde doktora devam eden öğrenciler

Finansal Matematik Programı

Ayşegül İşcanoğlu Çekiç	"Pricing and Hedging of Constant Proportion Debt Obligations" (Doktora Tezi)	Ömür Uğur Ralf Korn
Nadi Serhan Aydın*	"Pricing Power Derivatives: Electricity Swing Options" (Y. Lisans Tezi)	Kasırğa Yıldırak
Azar Karimov*	"Office Rent Variation in Istanbul 'CDB: an Application of Mamdani and TSK-TYPA Fuzzy Rule Based System" (Y. Lisans Tezi)	Işıl Erol G. Wilhelm Weber
Büşra Zeynep Temoçin*	"Completion, pricing and calibration in a Levy market model" (Y. Lisans Tezi)	Azize Hayfavi Işıl Erol
Ceren Karahan	"Pricing Inflation Indexed Swaps Using an Extended Hjm With Jump Process" (Y. Lisans Tezi)	Azize Hayfavi
Aslı Çağış	"Estimating Value at Risk: An Application to Oil Prices" (Bitirme Projesi)	Coşkun Küçüközmen
Zahid Samancıoğlu	"Business Cycle Synchronization and Volatility Transmission" (Bitirme Projesi)	Esmâ Gaygısız
Sibel Ünalın	"Basel Standards: A General Approach" (Bitirme Projesi)	B. Burçak Başbuğ Erkan
Zehra Çavuşoğlu	"Predicting Default Probabilities in Emerging Markets by Generalized Partial Linear Models" (Bitirme Projesi)	G. Wilhelm Weber

* Enstitümüzde doktora devam eden öğrenciler

Kriptografi Programı

Barış Bülent Kırklar	“Elliptic Curve Pairing-Based Cryptography” (Doktora Tezi)	Ersan Akyıldız
Kerem Kaşkaloglu	“Some Generalized Multipartite Access Structures” (Doktora Tezi)	Ferruh Özbudak
Sedat Akleylek	“On the Representation of Finite Fields” (Doktora Tezi)	Ferruh Özbudak
Fatih Sulak	“Statistical Analysis of Block Ciphers and Hash Functions” (Doktora Tezi)	Ali Doğanaksoy
Elif Bilge Kavun	“A Compact Cryptographic Processor for IPsec Applications” (Y. Lisans Tezi)	Ersan Akyıldız Tolga Yalçın
Dilek Çelik*	“Basic Cryptanalysis Methods on Block Ciphers” (Y. Lisans Tezi)	Ali Doğanaksoy
Murat Karaçayır	"Space-Time Codes " (Y. Lisans Tezi)	Ferruh Özbudak
Begül Bilgin	“Generating Functions and their Applications” (Y. Lisans Tezi)	Ali Doğanaksoy
Barış Ege*	"Structural Testing of Hash Functions" (Bitirme Projesi)	Ali Doğanaksoy
Banu Talay	"Analysis of Relations Between Difference Distribution Tables and Autocorrelation Functions" (Bitirme Projesi)	Melek Diker Yücel
Dilek Arslan	"Cryptographic Analysis of the S-Boxes of the hash functions Sarmal, Luffa and JH" (Bitirme Projesi)	Ali Doğanaksoy
Kenan Doğan	"Some Results On Maximum Nonlinear Functions" (Bitirme Projesi)	Ferruh Özbudak

* Enstitümüzde doktora devam eden öğrenciler

EK: 5

YENİ AÇILAN DERSLER

2009–2010 Bahar Dönemi

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Introduction to Arithmetic Complexity of Computations
Course Code:	IAM 726
Credit:	(3-0)3
Instructor's Name:	Dr. Murat Cenk
Prerequisites:	Consent of the instructor
Content:	This course gives an introduction in the complexity theory of basic arithmetic operations. We will study the inherent difficulties of solving them. By this way, we will give arithmetic complexity bounds of some operations used in cryptographic implementations.
Aims:	The aim of this course is to present the complexity theory of computations. The motivation is to understand how much harder does the problem get when the inputs get larger.
Learning Outcomes:	In this lecture, we will learn how to obtain the cost of computing various arithmetic functions.
Suggested Textbooks:	• H.F. Groote, Lectures on the Complexity of Bilinear Problems, Lecture Notes in Computer Science, 1985. • S. Winograd, Arithmetic Complexity of Computations, Regional Conference Series in Applied Mathematics, 1980. • V. Pan, How to Multiply Matrices Faster, Lecture Notes in Computer Science, 1984. • D. Knuth, The Art of Computer Programming: Seminumerical Algorithms Vol II, 1997. • P. Bürgisser, M. Clausen and M. Shokrollahi, Algebraic Complexity Theory, Springer, 1997.
Outline:	• General background, computations, complexity, linear functions, quadratic and bilinear forms. • Product of integers/polynomials, Discrete Fourier Transform, matrix multiplication, Karatsuba multiplication, Tom-Cook multiplication • Asymptotic complexity
Reference Material:	• Y. Moschovakis and L. Dries, Arithmetic Complexity, ACM Transactions on Computational Logic, vol.10, 2009. • M. Blaser, Complexity of Bilinear Problems, Lecture Notes in Saarland University, 2009.

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Design Theory and Cryptography
Course Code:	IAM 728
Credit:	(3-0)3
Instructor's Name:	Prof. Dr. Ferruh Özbudak (ozbudak@metu.edu.tr)
Prerequisites:	Consent of the instructor.
Content:	This course introduces some fundamental results in combinatorial design theory together with its connections to cryptography and related areas
Aims:	The aim of this course is to study some recent developments in cryptography related also finite geometry and coding theory in view of design theory. The main topics are (almost) perfect nonlinear functions, bent functions, difference sets and correlation properties of sequences. The emphasis will be given on the some properties of quadratic forms and projective geometry over the field $GF(q)$. We will also study characteristic properties of (almost) perfect nonlinear functions and (almost) bent functions in the perspective of design theory.
Learning Outcomes:	This course will be beneficial for students interested in the areas like cryptography, algebraic geometry, finite geometry, combinatorics and coding theory. At the end of this course, it is expected that students should have a good overview of recent approaches in (almost) perfect nonlinear functions, (almost) bent functions, difference sets.
Suggested Textbooks:	*T. Beth, D. Jungnickel and H. Lenz, Design Theory, vol. I and II, Cambridge University Press, 1999 QA166.25.B47 *L. Budaghyan, The Equivalence of Almost Bent and Almost Perfect Nonlinear Functions and Their Generalizations, PhD. Thesis, 2005 * J. Dinitz, D. Stinson, Contemporary design theory: a collection of surveys, Wiley-Interscience Series, 1992 QA166.25.C67 * Kai-Uwe Schmidt, On Spectrally-Bounded Codes for Multicarrier Communications, PhD. Thesis, 2007 * P. Cameron, Finite Geometry and Coding Theory, Socrates Intensive Programme Finite Geometries and Their Automorphisms, 1999
Outline:	* General principles, Boolean functions, Walsh transforms, nonlinearity, differential uniformity, (almost) perfect nonlinear and (almost) bent functions. * Automorphisms and isomorphisms of designs. * Difference sets and symmetric designs. * Hadamard designs.
Reference Material:	*D. Hertel and A. Pott, A Characterization of a Class of Maximum Nonlinear Functions, *D. Hertel and A. Pott, Two Results on Maximum Nonlinear Functions, Des. Codes and Cryptography, DOI 10.1007/s10623-007-9124-z, 2007. *D. Jungnickel and A. Pott, Perfect and Almost Perfect Sequences, Discrete Applied Mathematics, Vol. 95, pp. 351-359, 1999. * Yves Edel, Alexander Pott: On Designs and Multiplier Groups Constructed from Almost Perfect Nonlinear Functions. IMA Int. Conf. 2009: 383-401 * Kai-Uwe Schmidt, Matthew G. Parker, Alexander Pott: Negabent Functions in the Maiorana-McFarland Class. SETA 2008: 390-402

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Optimal Control with Partial Differential Equations
Course Code:	IAM 766
Credit:	(3-0)3
Instructor's Name:	Bülent Karasözen bulent@metu.edu.tr
Prerequisites:	IAM 566 Numerical Optimization, basic knowledge of continuous optimization and partial differential equations
Content:	Optimal control with partial differential equations, finite elements, optimization algorithms
Aims:	Introduction to optimization and control problems with pde's
Learning Outcomes:	At the end of the course, student should be familiar with the research topics related to the area.
Outline:	• Optimal control problems • Functional analysis preliminaries • Optimal control of elliptic problems • Optimal control of parabolic equations • Finite element discretization of elliptic and parabolic pde's • Numerical algorithms
Course Material	F. Tröltzsch, Optimale Steuerung partieller Differentialgleichungen, Vieweg, 2005 S. Ulbrich, Optimization with Partial Differential Equations, 2008 M. Heinkenschloss, F. Tröltzsch, Introduction to the theory and numerical solution of pde constrained optimization problems, 2008 C. Meyer, Optimale Steuerung von Differentialgleichungen, 2009
Supplementary Material	MATLAB

2010–2011 Güz Dönemi

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Normal Bases in Finite Fields
Course Code:	IAM 729
Credit:	(3-0)3
Instructor's Name:	Ferruh Özbudak (ozbudak@metu.edu.tr)
Prerequisites:	Consent of the instructor.
Content:	This course introduces some fundamental results in normal bases of low complexity together with its connections to cryptography and related areas.
Aims:	The aim of this course is to study some recent developments in representation of elements of finite fields. The main topics are construction of normal bases, optimal normal bases, normal bases of low complexity and the existence and nature of completely free elements in finite fields. The emphasis will be given on the some properties of characterization of normal elements, composition of normal bases and constructions of optimal bases. We will also study how to obtain good complexity normal elements in finite fields.
Learning Outcomes:	This course will be beneficial for students interested in finite fields and their applications in cryptography and coding theory. At the end of this course, it is expected that students should have a good overview of recent approaches in normal bases over finite fields.
Suggested Textbooks:	A. J. Menezes, I.F. Blake, X. Gao, R. C. Mullin, S. A. Vanstone and T. Yaghoobian, Applications of Finite Fields, Kluwer Academic Publishers, 1993 D. Hachenberger, Finite Fields : Normal Bases and Completely Free Elements, Springer, 1997. S. Gao, Normal Bases over Finite Fields, PhD Thesis, 1993.
Outline:	Introduction to Finite Fields and Bases Basics on Normal Bases Characterization and Construction of Normal Bases Optimal Normal Bases Complexity of Normal Bases Gauss Periods and Gaussian Normal Bases

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Studies: Lightweight Block Cipher Design
Course Code:	IAM 731
Credit:	3 (3-0)
Instructor's Name:	Muhiddin UĞUZ/ Tolga YALÇIN
Prerequisites:	IAM 512 Block Ciphers
Content:	Hardware implementation and optimization of block ciphers, Lightweight cryptosystems: Attacks and design strategies for lightweight block ciphers
Aims:	The aim of this course is to give the fundamental concepts of designing a lightweight block cipher. The course is also serves as an introduction for students who are interested in implementation aspects of symmetric cryptography.
Learning Outcomes:	After taking this course, students are expected to have an understanding of the aspects of designing a lightweight block cipher.
Suggested Textbooks:	Lightweight Cryptography, A. Poschmann.
Outline:	Block Ciphers Hardware implementation and optimization of block ciphers Hardware properties of cryptographic building blocks Lightweight cryptosystems: Lightweight DES variants, TEA, XTEA, Present, Hight Attacks on lightweight cryptosystems Design strategies for lightweight cryptography Design and implementation of a new lightweight block cipher
Resources:	Lightweight Block Ciphers Revisited: Cryptanalysis of Reduced Round PRESENT and HIGHT, O. Özen, K. Varıcı, C. Tezcan, and Ç. Kocair. A Survey of Lightweight Cryptography Implementations, T. Eisenbarth, S. Kumar, C. Paar, A. Poschmann, L. Uhsadel New Designs in Lightweight Symmetric Encryption, Paar, Poschmann, Robshaw Secure Hardware Implementation of Nonlinear Functions in the Presence of Glitches, Nikova, Rijmen, Schlaffer

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Stochastic Energy Pricing Models
Course Code:	IAM 753
Credit:	3(3-0)
Instructor's Name:	Martin Rainer
Prerequisites:	Stochastic Calculus (e.g. like textbook of Lamberton-Lapeyre); and consent of the instructor;
Content:	Motivation: Energy markets and related pricing models for the major traded assets and financial instruments becomes increasingly important for Turkey, due to several forthcoming projects in the energy markets which make Turkey a main distribution hub between the Middle East and Europe. This course concentrates on mathematical concise models for the pricing of assets and derivatives in the related markets of gas, electricity, and temperature. The framework is that of general Levy processes, related Ornstein-Uhlenbeck processes and semimartingales, including jumps and stochastic volatility.
Aims:	After this course the participant will have a detailed understanding of major mathematical models for energy markets, their application to the gas, electricity, and temperature markets and their derivatives. The assumptions, advantages and drawbacks of alternative models are clarified. In parallel to the theory, hands-on examples will be elaborated by the participants using MATHLAB and Excel.
Learning Outcomes:	At the end of this course, students should know how to price assets and derivatives in the major energy markets. The critical judgment towards alternative modeling approaches will be sharpened. The student will also learn how to structure complex tasks, such as the construction of electricity forward curves. Mathematical knowledge and methodology of general semi-martingales and Levy processes will be deepened and trained. This course is an important step for participants who wish to do their MSc or PhD thesis in energy market models, and/or wish to prepare to work as quantitative analyst for a trading desk in energy markets.
Suggested Textbooks:	Lecture notes will be prepared during the course. Most of the content of this course is covered in: • F. Benth, J.S. Benth, S. Koekebakker, Stochastic Modelling of Electricity and Related Markets, 2008 • L. Clewlow, C. Strickland, Energy Derivatives: Pricing and Risk Management, 2000 • A. Eydeland, K. Wolyniec, Energy and Power Risk Management, 2003 Further special references will be given during the course.
Outline:	Energy markets survey (1 week), Energy spot price models (1 week), Forward and swap pricing (1 week), Gas spot and future modeling (1 week), HJM modeling approach to forwards and swaps (1 week), Construction of electricity forward curves (1 week), Electricity future model (1 week), Principal component analysis (1 week), Model calibration (1 week), Options on forwards and swaps (1 week), Asian and spread options (1 week), Temperature modeling (1 week), Temperature derivatives (1 week)
Resources:	• LaTeX • MATHLAB, Excel

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Risk Management for Corporations
Course Code:	IAM 755
Credit:	3(3-0)
Instructor's Name:	Dogan TIRTIROGLU
Content:	Within the context of value maximization, this course focuses at length on a corporation's financial risk management needs and techniques. While we pay particular attention to financial institutions, our coverage is general enough for extending its lessons to other corporate entities, including multinationals
Aims:	The course aims to provide a thorough knowledge on the risk management in corporate financial management.
Learning Outcomes:	<i>By the end of this course, students should be able to comprehend</i> 1. the concept of hedging and how to implement it via derivative securities 2. various risk management techniques, including copulas, VAR and interest rate risk management 3. the knowledge for securitization and various aspects of credit derivatives.
Suggested Textbooks:	Risk Management and Financial Institutions, John C. Hull, Pearson/Prentice Hall, 2009. Financial Management and Corporate Strategy, Mark Grinblatt and Sheridan Titman, McGraw-Hill. Real Estate Finance: Theory and Practice, T.M. Clauretie and S. Sirmans, Prentice Hall, 2003. The Essentials of Risk Management, Michel Crouchy, Dan Galai and Robert Mark, Mc-Graw Hill, 2006. Risk Management and Derivatives, by R. M. Stulz (2003) First Edition, South-Western. Options, Futures and Other Derivatives, John C. Hull (2006), Sixth Edition.
Outline:	Lec 1- Introduction; Value Maximization Principle and Corporate Strategy Lec 1 & 2- Risk Management: The MM Models and Creating Value with Risk Management Lec 2 & 3- Risk Management: Instruments of Risk Management Lec 4, 5, & 6 - Risk Management: Measurement of Volatility, and Correlations and Copulas Lec 6 & 7- Risk Management: Interest Rate Risk Lec 8, 9, & 10 - Risk Management: Measurement of Value at Risk (VaR) Lec 11 & 12- Risk Management: Credit Risk and Credit Derivatives

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Life Insurance: Products, Finance and Modeling
Course Code:	IAM 783
Credit:	3(3-0)
Instructor's Name:	Selda Korkmaz (selda.korkmaz@hazine.gov.tr) Sevtap Kestel (skestel@metu.edu.tr)
Prerequisites:	IAM 583-Life Insurance Mathematics
Content:	Short review of basic concepts, terminology, definitions in life insurance and the types of life insurance. Product development, pricing strategy, preliminary and final product design, product implementation and management, pricing assumptions and life insurance cash flows; reserves; reinsurance, investment income, profit measurement, financial modeling, asset/liability modeling and matching, stochastic modeling and financial management.
Aims:	This course aims to give the general perspective of life insurance practices without entering deep of the mathematical and statistical models. It enables students to understand the mechanism and the management of life insurance, product design, reserve, capital and asset/liability issues.
Suggested Textbooks:	Atkinson, D., (2000). Life Insurance Products, Actex Publications Black, K. Jr. And Skipper, H.D., Life Insurance, 12th Ed., Actex Publications
Resources:	Suggested textbooks, assigned book readings, suggested journal papers.

METU INSTITUTE OF APPLIED MATHEMATICS

Course Title:	Special Topics: Survival Models in Actuarial Science
Course Code:	IAM 785
Credit:	3(3-0)
Instructor's Name:	Fatih Tank (fatih.tank@science.ankara.edu.tr)
Office Hours	Only by appointment
Prerequisites:	IAM 583-Life Insurance Mathematics
Content:	• Forms of the survival models • Survival distributions • Parametric survival models • Introduction to demography and life tables • Force of mortality • Estimation of parametric survival models • Actuarial estimation with survival models
Aims:	This course aims to provide knowledge on actuarial survival models and their application on actuarial sciences.
Suggested Textbooks:	• London, D., 1988, Survival models and their estimation, Actex Publication • Leemis, L.M.,2009, Reliability: Probabilistic Models and Statistical Methods, Prentice Hall
Resources:	Suggested textbooks, assigned book readings, suggested journal papers.

EK: 6
2009 YILINDA AÇILAN
DERSLERİN LİSTESİ

2009–2010 II. Döneminde verilen dersler

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Kriptografi	IAM 502	Stream Ciphers	Ali Doğanaksoy	13	2	15
	IAM 504	Public Key Cryptography	Ersan Akyıldız	16		16
	IAM 510	Quantum Cryptography	Yusuf İpekoğlu	13		13
	IAM 512	Block Ciphers	Melek Yücel	12		12
	IAM 718	Special Topics: Block Cipher Cryptanalysis	Muhiddin Uğuz	9		9
	IAM 724	Special Topics: Introduction to Cryptographic Hardware Design	Tolga Yalçın	3	4	7
	IAM 726	Special Topics: Algebraic Aspects of Nonlinear Functions	Murat Cenk	13	-	13
	IAM 728	Special Topics: Design Theory and Cryptography	Ferruh Özbudak	8		8

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Bilimsel Hesaplama	IAM 562	Introduction to Scientific Computing II	Ömür Uğur	4		4
	IAM 571	Applications of Differential Quadrature Method in Engineering	Münevver Tezer	6	2	8
	IAM 664	Inverse Problems	Gerhard W.Weber	2	6	8
	IAM 665	Advanced Continuous Optimization	Bülent Karasözen	3		3
	IAM 748	Special Topics: Portfolio Optimization	Gerhard W. Weber	13	2	15
	IAM 766	Special Topics: Optimal Control with PDE's	Bülent Karasözen	4		4

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Finansal Matematik	IAM 520	Financial Derivatives	Seza Danışoğlu	21	2	23
	IAM 522	Stochastic Calculus for Finance	Martin Rainer	16		16
	IAM 524	Financial Economics	Devin Sezer	18	2	20
	IAM 547	Risk Management and Insurance	B. Burçak Başbuğ	11	3	14
	IAM 548	Stochastic Processes for Insurance and Finance	Azize Hayfavi	11		11
	IAM 583	Pension Fund Mathematics	Sevtap Kestel	8		8
	IAM 748	Special Topics: Portfolio Optimization	Gerhard W. Weber	13	2	15
	IAM 750	Special Topics: Energy Trade and Risk Management	Coşkun Küçüközmen	6	3	9

2010–2011 I. Döneminde verilen dersler

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Kriptografi	IAM 501	Introduction to Cryptography	Ali Doğanaksoy	10	2	12
	IAM 503	Applications of Finite Fields	Mehpare Bilhan/F. Özbudak	6	2	8
	IAM 505	Elliptic Curves in Cryptography	Ersan Akyıldız	14		14
	IAM 510	Quantum Cryptography	İ. Yurdahan Güler	6		6
	IAM 519	Basic Mathematics for Cryptography	Ersan Akyıldız	4		4
	IAM 725	Special Topics: Cryptographic Processor Design	Tolga Yalçın	3	1	4
	IAM 729	Special topics: Normal Bases in Finite Fields	Ferruh Özbudak	20		20
	IAM 731	Special Topics: Lightweight Block Cipher Design	Muhiddin Uğuz Tolga Yalçın	10		10

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Bilimsel Hesaplama	IAM 556	Simulation	İnci Batmaz	8	3	11
	IAM 557	Statistical Learning and Simulation	Gerhard W. Weber	12	7	19
	IAM 561	Introduction to Scientific Computing I	Hakan Öktem	7		7
	IAM 564	Basic Algorithms and Programming	Ömür Uğur	2	6	8
	IAM 566	Numerical Optimization	Ömür Uğur	8	6	14
	IAM 567	Mathematical Modelling	Hakan Öktem	4	4	8
	IAM 751	Special Topics: Advanced Mathematical Methods in Finance	Gerhard W. Weber	5		5

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Finansal Matematik	IAM 521	Financial Management	S.Danışoğlu- N.Güner	33	1	34
	IAM 526	Time Series Applied to Finance	Kasırğa Yıldırak	18		18
	IAM 530	Elements of Statistics and Probability	Ceylan Yozgatlıgil	20	2	22
	IAM 541	Probability Theory	Yeliz Yolcu	26		26
	IAM 556	Simulation	İnci Batmaz	8	3	11
	IAM 557	Statistical Learning and Simulation	Gerhard W. Weber	12	7	19
	IAM 612	Financial Modeling with Jump Processes	Azize Hayfavi	7		7
	IAM 751	Special Topics: Advanced Mathematical Methods in Finance	Gerhard W. Weber	5		5
	IAM 753	Special Topics: Stochastic Energy Pricing Models	Martin Rainer	1		1
	IAM 755	Special Topics: Risk Management for Corporations	Doğan Tırtıroğlu	7		7

Anabilim Dalı	Dersin Kodu	Dersin Adı	Öğretim Üyesi	Öğr. Sayısı		
				IAM	Diğ.	Top.
Aktüerya Bilimleri	IAM 521	Financial Management	S.Danışoğlu- N.Güner	33	1	34
	IAM 530	Elements of Statistics and Probability	Ceylan Yozgatlıgil	20	2	22
	IAM 541	Probability Theory	Yeliz Yolcu	26		26
	IAM 545	Fundamentals of Insurance	Sevtap Kestel Selamet Yazıcı	3		3
	IAM 584	Advanced Actuarial Mathematics	Ömer Gebizlioğlu	6	-	6
	IAM 783	Special Topics: Life Insurance Product and Finance	Sevtap Kestel Selda Korkmaz	6		6
	IAM 785	Special Topics: Actuarial Reliability of Life Models	Fatih Tank	3		3