

DEPARTMENT OF
INDUSTRIAL & SYSTEMS ENGINEERING

GRADUATE PROGRAMS



BEN HILL GRIFFIN STADIUM

UF UNIVERSITY of
FLORIDA

NATIONAL CHAMPIONS
1996 2006 2008



David Kaber, Ph.D.

CHAIR
DEPARTMENT OF
INDUSTRIAL &
SYSTEMS ENGINEERING

CHAIR'S MESSAGE

Welcome to the Department of Industrial and Systems Engineering (ISE) Graduate Program Guide. We are glad for your interest in our program offerings, research areas, and centers and laboratories. The University of Florida (UF) is a great place to pursue graduate education, ranking No. 8 among public universities. Within the Herbert Wertheim College of Engineering, there are many outstanding academic departments with ISE being one of the leaders, ranked No. 12 among ISE graduate programs at public universities.

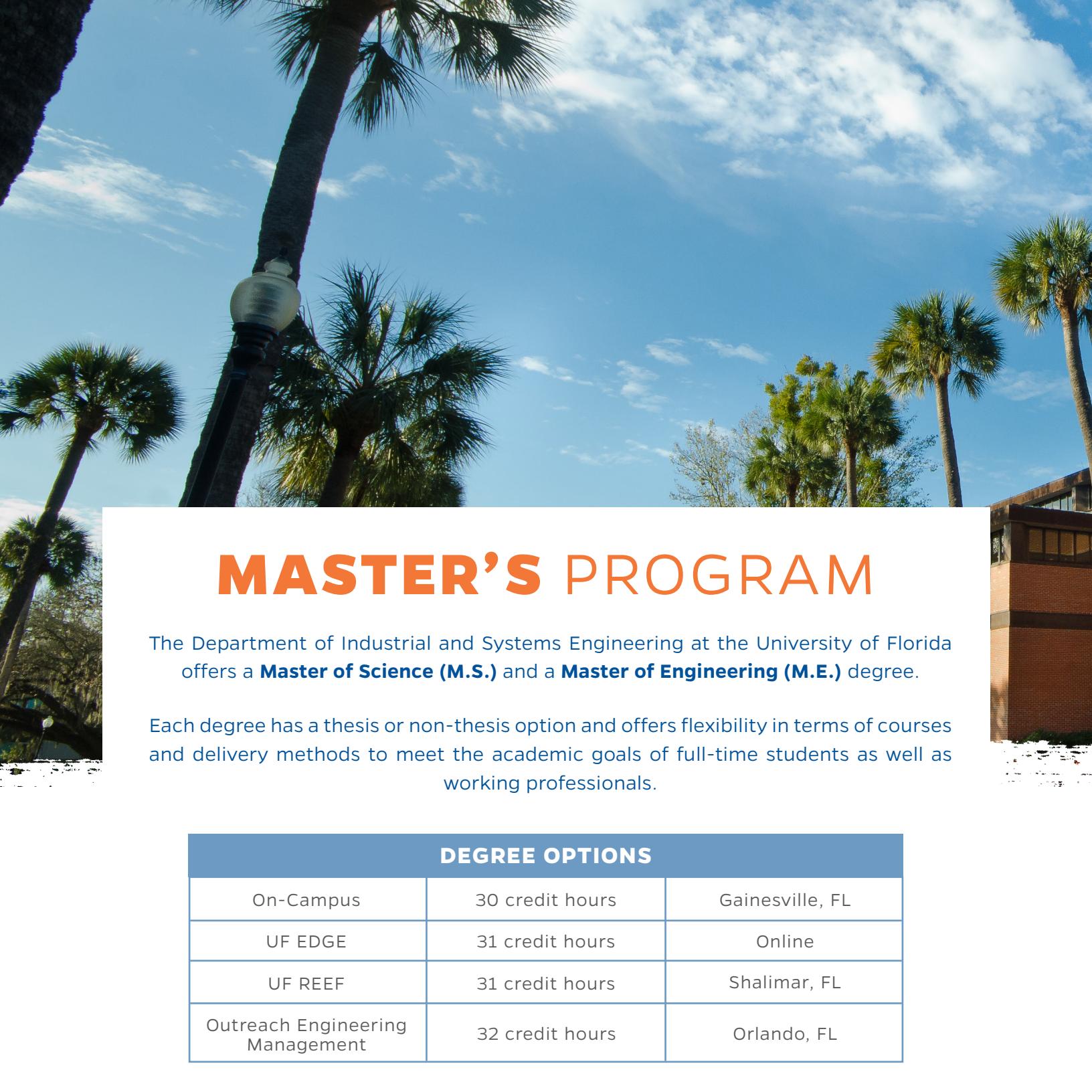
We currently have approximately 175 graduate students pursuing ISE degrees, including approximately 50 students in our on-campus master's program, 90 in our outreach engineering management degree program, and 35 students in our doctoral program. The job placement rate for our ISE students right after graduation is very high at 93-98%. Our graduates have gone on to exciting and high-profile industry, government and academic positions. In fact, UF ISE has a large alumni base working in academic departments throughout the U.S.

In this guide you will find an overview on all of our master's programs with thesis and coursework-only options. You will also find an overview of our doctoral program and current department research thrust areas. Beyond this, there are descriptions of all of our current centers and labs with identification of the outstanding UF faculty leading these units. We hope that you find the guide informative and that it may be helpful in your decision making, if you are considering future studies at UF. If you have any questions or would like additional information on our programs, please be sure to visit the ISE Department website (www.ise.ufl.edu) or contact our Graduate Program Coordinator, Dr. Yongpei Guan (guan@ise.ufl.edu) at any time.

Sincerely,

A handwritten signature in black ink that reads "David Kaber".

David Kaber, Department Chair



MASTER'S PROGRAM

The Department of Industrial and Systems Engineering at the University of Florida offers a **Master of Science (M.S.)** and a **Master of Engineering (M.E.)** degree.

Each degree has a thesis or non-thesis option and offers flexibility in terms of courses and delivery methods to meet the academic goals of full-time students as well as working professionals.

DEGREE OPTIONS		
On-Campus	30 credit hours	Gainesville, FL
UF EDGE	31 credit hours	Online
UF REEF	31 credit hours	Shalimar, FL
Outreach Engineering Management	32 credit hours	Orlando, FL



ON CAMPUS

The traditional, on-campus master's program must be completed with a minimum of 30 credit hours. For students who choose the thesis option, three to six thesis credits must be taken. Students who choose a non-thesis option are required to complete at least one pre-approved project course at most 6 months before graduation.

TO APPLY:

The application process requires you to submit your application to the UF Office of Admissions, as well as the Department of Industrial & Systems Engineering.

1. Complete your online application
2. Upload supporting documents, which include a statement of purpose, resume, transcripts and 3 references
3. Report official test scores
4. Send confirmation email to the ISE department
5. Mail all documents to the UF Admissions Office



UF EDGE

UF EDGE is the distance learning program of the Herbert Wertheim College of Engineering, and offers both M.S. and M.E. degrees. Course lectures and materials are offered completely online.

In order to pursue an M.S. or M.E. degree in industrial and systems engineering through UF EDGE, prospective students need to apply and be accepted into both the UF Graduate Program, as well as the UF Industrial and Systems Engineering Program.

For more information on UF EDGE, visit:
www.ufedge.ufl.edu



UF REEF

The UF Research & Engineering Education Facility (REEF) is located in Shalimar, FL and supports the greater Eglin Air Force Base community and responds to Air Force research needs.

UF REEF offers a 31 credit hour online M.S. degree program in industrial and systems engineering to the Eglin Air Force Base community via UF EDGE. Students are also provided with the opportunity to work with world-class researchers from UF and the Air Force.

For more information, visit www.reef.ufl.edu

OEM PROGRAM

The Outreach Engineering Management (OEM) Program is a master's program offered by the Department of Industrial and Systems Engineering and is designed for working professionals with various technical backgrounds. Beginning each August, the 20-month program is held in Orlando and features live instruction one weekend a month.

Through a combination of ISE and MBA coursework taught by both ISE and business faculty, students go beyond their technical expertise by expanding their skill sets as industrial and systems engineers as they learn to mitigate risk and make informed business decisions by using mathematical modeling tools.

Admission requirements include:

- A bachelor's degree from a regionally accredited university
- Knowledge of calculus, linear algebra/matrix methods, computer programming, and probability/statistics
- A GPA of 3.0 or higher on all coursework completed after the first 60 semester hours of undergraduate study
- GRE test scores
- Two years full-time, professional work experience preferred

For more information, visit www.ise.ufl.edu/oem



DOCTORAL PROGRAM

The doctoral program in industrial and systems engineering addresses a range of methodological areas, including data analytics, human-performance modeling, and operations research.

Faculty research expertise includes data mining and statistical learning, financial engineering, healthcare modeling, human-system analysis, manufacturing systems modeling and analysis, optimization, production planning, risk analysis, and stochastic modeling.

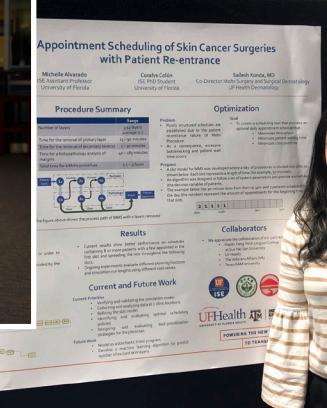
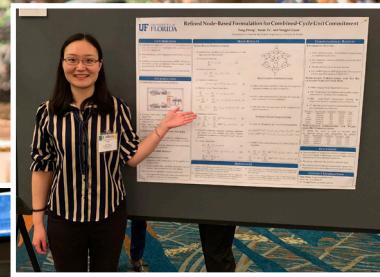
A minimum of 90 credits is required for the Ph.D. degree, including: **30 credits** for a Master's Degree, **9 credits** for taking the General Exam, **9 credits** to satisfy the Breadth Requirement (coursework outside of the department), **27 credits** for Advanced Technical Electives/Research, and **15 credits** for Dissertation Research.

Ph.D. students have the option of two different tracks with required courses for each, including:

OPERATIONS RESEARCH

HUMAN SYSTEMS ENGINEERING





CENTERS & LABS

CENTER FOR APPLIED OPTIMIZATION LAB

The Center for Applied Optimization (CAO) at the University of Florida promotes interdisciplinary applied research among faculty from engineering, mathematics, business and other fields.

Faculty: Panos Pardalos, Ph.D., Distinguished Professor



COMPUTATIONAL & STOCHASTIC OPTIMIZATION LAB

The Computational & Stochastic Optimization (CSO) Lab at the University of Florida is focused on modeling of large-scale, stochastic integer programs. Current applications include electricity grid distribution and operation and supply chain logistics.

Faculty: Yongpei Guan, Ph.D., Professor

HEALTH-ENGINE LAB

The High Quality Effective Affordable Lean Translational Healthcare-Engineering Lab at the University of Florida is focused on developing rigorous methods for modeling, analysis, design and improvement of service and healthcare delivery systems and applying the results in practice.

Faculty: Michelle Alvarado, Ph.D., Assistant Professor, Hongcheng Liu, Ph.D., Assistant Professor, Xiang Zhong, Ph.D., Assistant Professor



HUMAN SYSTEMS ENGINEERING LAB

The Human Systems Engineering Lab's research areas include transportation human factors and human-autonomous vehicle interaction, applying wearable sensing technology and machine learning in occupational injury prevention and rehabilitation, and improving user interactions with new and emerging technologies in safety-critical systems.

Faculty: Wayne Giang, Ph.D., Assistant Professor, Boyi Hu, Ph.D., Assistant Professor, David Kaber, Ph.D., Department Chair, Nicholas J. Napoli, Ph.D., Assistant Professor

RISK MANAGEMENT & FINANCIAL ENGINEERING LAB

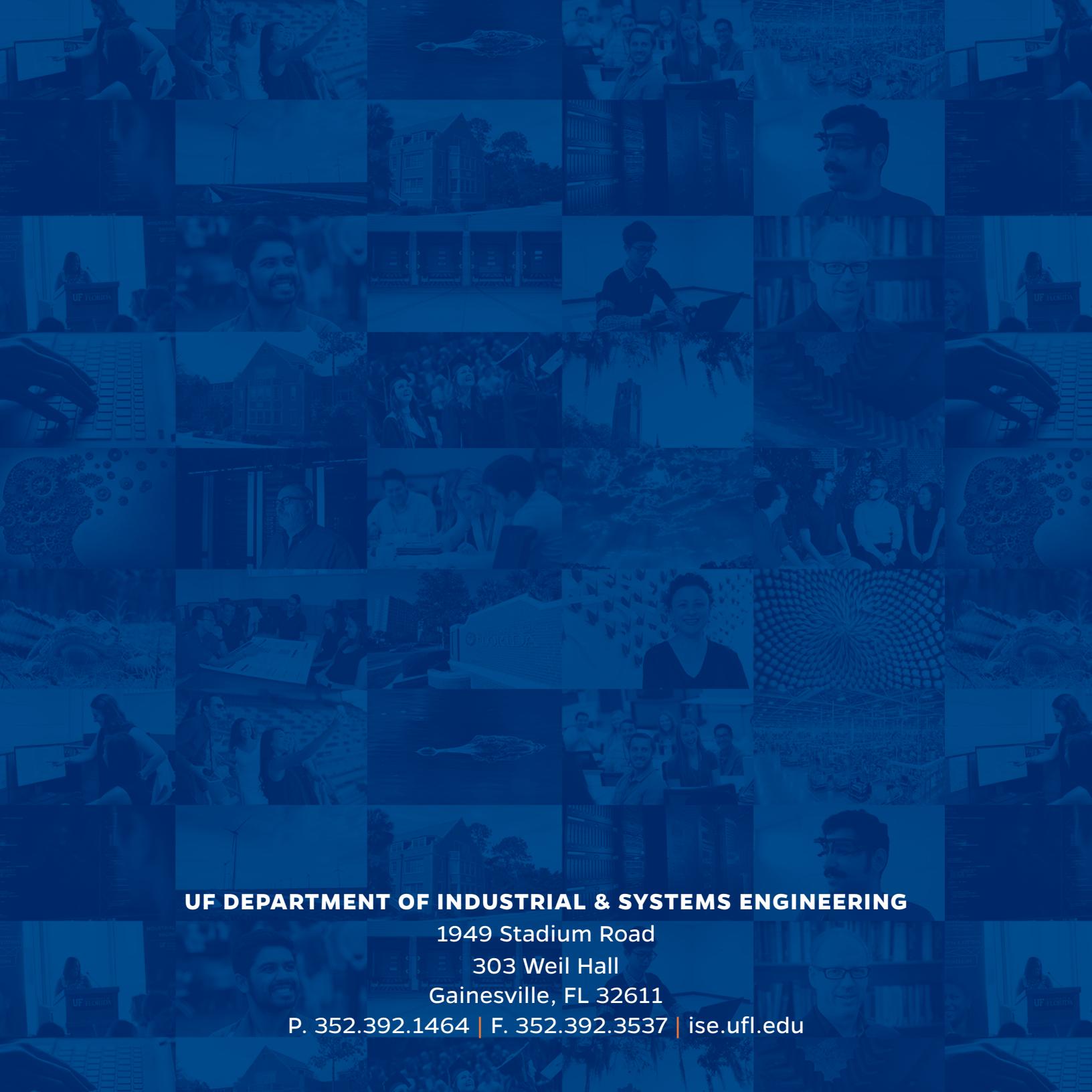
The Risk Management & Financial Engineering (RMFE) Lab provides a basis for collaborative efforts of multidisciplinary teams of University of Florida researchers and industrial partners in the area of risk management and financial engineering/mathematics.

Faculty: Stan Uryasev, Ph.D., Professor

SUPPLY CHAIN & LOGISTICS ENGINEERING CENTER

The Supply Chain & Logistics Engineering Center at the University of Florida is an interdisciplinary center that encourages joint research and applied projects among faculty from engineering, computer science and business administration in conjunction with industry participants.

Faculty: Elif Akcali, Ph.D., Associate Professor, Yongpei Guan, Ph.D., Professor



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