

GRADUATE PROGRAMS INFORMATIONAL LUNCHEON

Civil, Coastal, & Environmental Engineering (ESSIE)
Industrial & Systems Engineering (ISE)

October 16, 2025
2340 Reitz Union

Speakers:

Paula Hendrix, ESSIE
Dr. Jorge Sefair, ISE
Jordan Sharpshair, ISE

PLEASE SIGN IN





ESSIE
Engineering School of Sustainable
Infrastructure & Environment

Graduate Program Information

October 16, 2025

Presenting: Paula Hendrix
ESSIE Graduate Academic Program Specialist



Engineering School of Sustainable
Infrastructure & Environment

Department of Environmental Engineering Sciences

AND

Department of Civil & Coastal Engineering



Graduate Degree Programs

Civil Engineering

Coastal & Oceanographic Engineering

Environmental Engineering Sciences



Engineering School of Sustainable
Infrastructure & Environment

- Air Resources
- Coastal & Oceanographic Engineering
- Coastal Ecosystem Dynamics
- Geosystems Engineering
- Materials & Pavements
- New Infrastructure Planning and Management
- One Earth, One Health (GeoHealth)
- Smart & Sustainable Construction Engineering
- **Structural Engineering**
- Sustainable Systems Engineering & Manufacturing
- Systems Ecology & Ecological Engineering
- Transportation Engineering
 - **Transportation Leadership**
- Water Resources & Systems



Master's degree vs. a PhD

Timeframe and Requirements

- On-campus Masters/PhD
- EDGE Online Masters
- Remote PhD
- 4+1 ESSIE Undergrad/Grad Degrees



Master's Degree	PhD Degree
30 credit hours required	90 credit hours required
Thesis or Non-thesis option	Dissertation
Can complete in 12 months or more	Can complete in 36 months or more depending on previous degree level
Bachelors required to apply	Bachelors required to apply
Can start and/or end with online courses	Remote PhD

Graduate Admissions

It's easy to apply and the fee is waived!

- Visit [ESSIE Grad Admissions](#) for deadlines and the admissions checklist
- For the graduate admissions application go to admissions.ufl.edu
- Complete the application and upload your statement of purpose, unofficial transcripts (for review purposes only), resume, language test scores (if applicable) and 3 letters of recommendation(submitted directly by the recommenders)

DONE! Once all of these are submitted, we forward your application to the faculty for consideration of admissions and funding

Questions? – Email gradinfo@essie.ufl.edu

Upcoming Deadlines!

Spring 2026

US Applicants

- PhD Program – November 15th
- Master's On-campus program And EDGE online program– November 15th

Summer 2026

International Applicants

- PhD Program – November 15th

Fall 2026

US/International Applicants

- PhD Program
 - Priority review deadline: December 5th



**Looking to meet with
an admissions expert?**

Book online
appointment [here](#)

Funding Opportunities

- HDRA (Herbert Wertheim Deans Research Award) – College of Engineering
- McNair Fellowship
- College of Engineering Achievement Award
- Other scholarship opportunities – look toward: UF Graduate School, UF International Center and outside government funding agencies and professional organizations for scholarships

ESSIE Study Abroad Opportunities

UF in Panama – Impacts on the Panama Canal

- App Deadline
 - 12/1/2025
- Spring Break 26
 - 3-14-26 to 3-22-26

UF in Iceland – Renewable Energy and Sustainability

- App Deadline
 - 1/26/2026
- Summer A 26
 - 5-10-26 to 5-17-26

UF in Italy – Automotive Industries to Urban Planning

- App Deadline
 - 1/22/2026
- Summer A 26
 - 5-10-26 to 6-6-26



UF ESSIE Industry Partners

- We have a biannual event, and 100 employer participants attend
- Over 350 ESSIE students participate in the event each semester
- Some of the industry partners have attended every event for the past 19 years.
- Many partners are new each term and determine their participation based on need for interns and open job positions
- Our students are highly sought after, and we cannot accommodate all the employers who want to participate.
- The following slide shows just a few of our industry partners.

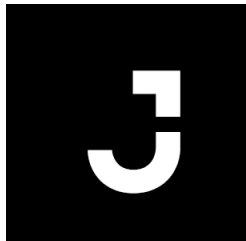
AE ENGINEERING, INC.

 **Dewberry**

 **carollo**

 **Hardesty
& Hanover**

 **LandDesign**
CREATING PLACES
THAT MATTER.

 **J**

 **ECS**

 **FORGED BY THE SEA**

 **WEITZ**

 **&**

 **RS&H**

 **FDOT**

 **BAXTER & WOODMAN**
Consulting Engineers

 **vhb**

 **Kimley >> Horn**
Expect More. Experience Better.

 **Gannett Fleming**

TYLin
PRK

 **LOCHNER**

 **K-factor**
No Shenanigans. Just Facts.

 **ESP**

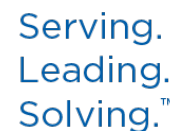
 **JBPro**

 **BGE**

 **PCA**



 **JEZERINAC**
GROUP

 **Serving.
Leading.
Solving.**

QUESTIONS?

Email: gradinfo@essie.ufl.edu

Check out upcoming events, get more information on how to apply, stay connected, etc. by scanning this QR code!





Herbert Wertheim
College of Engineering
UNIVERSITY *of* FLORIDA

Department of Industrial & Systems Engineering (ISE)

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

Welcome to the Department of Industrial & Systems Engineering!



Dr. Iris V. Rivero
Department Chair



Dr. Jorge Sefair
Associate Chair for Graduate Studies



Jordan Sharpshair
Graduate Academic Advisor



Chloe Piloto
Academic Assistant

What is Industrial and Systems Engineering (ISE)?

- Industrial & Systems Engineering (ISE) is an engineering discipline focused on **designing, managing, and improving** complex systems that integrate people, information, materials, equipment, and energy.
- ISE unifies economic analysis, data and decision sciences, statistics, operations research, and human factors to optimize system performance (e.g., reducing cost, time, and risk while improving quality, safety, and sustainability).
- ISE methods are applied across the private sector, government, and nonprofits worldwide, improving systems in healthcare, transportation, manufacturing, ecological management, energy, and services, among others.

ISE @ UF

Data Analytics and Informatics — Transforming data into actionable insights. Leveraging analytical, computational, and automated methods to uncover patterns and trends, interpret complex datasets, and support informed decision-making.

Health Systems — Advancing medical decision making, diagnosis, personalized treatment, and quantitative human–systems analysis in healthcare.

Human Systems — Studying human motion monitoring, biometrics, ergonomics, usability in safety-critical systems, human–robot interaction, driver safety, rehabilitation, and physiological signal processing.

Operations Research — Developing deterministic and stochastic methods for decision making, including stochastic modeling and control, stochastic simulation, algorithm design, and linear/nonlinear optimization.

Smart Production & Logistics Systems — Improving supply-chain design, process data mining, statistical dimension reduction, machine learning for decision support, and data-driven inventory control.

Advanced/Smart Manufacturing (coming soon!) — Applying AI, automation, and 3D printing to make production more efficient, data-driven, precise, and adaptable.

UF ISEs around the world

MS/ME (last 7 years, ~400 graduates)

- **Top recruiters:** Lockheed Martin, Northrop Grumman, Disney group, Pratt & Whitney, L3Harris Technologies, United States Air Force / U.S. Airforce / Air Force Civilian Service, Siemens group, PepsiCo, Tesla, Boeing, Procter & Gamble, OMP, Deloitte, Florida Power & Light Company (FPL), Meta, Capital One, Amazon, Honeywell, Blue Origin, Citi / Citibank, NASA, Deloitte...
- **Job titles:** Senior Data Scientist, Supply Chain Operations Senior Manager, Analytics Manager, Senior Manager Data Analytics, Senior Quality Assurance Engineer, Project Manager, Financial Systems Architect, Business Strategy Manager, Operations Research Engineer, Production Engineering Lead, Reliability Engineer, Associate Director, Manufacturing Technical Operations, Manufacturing Engineer, Supply Chain Consultant, Logistics Engineer, Strategy & Transformation Consultant...

PhD (last 10 years, ~60 graduates)

- **Top recruiters:** Meta/Facebook, Amazon, California ISO, Citi / Citibank, JP Morgan Chase, University of Houston, FedEx Express, Google, Shanghai Jiaotong University, ICRON, University of Bordeaux, Iowa State University, The Trade Desk, Walmart, The Hong Kong Polytechnic University, Siemens, TikTok, Kirby Corporation, Availity, Bayer, Norfolk Southern, University of Central Florida, MIT Lincoln Laboratory, San Jose State University, Nanjing University, University of Louisville, Lehigh University, Mobile School Pantry, University of Iowa, Georgia Institute of Technology, MITRE...
- **Job titles:** Senior Operations Research Advisor, Lead Quantitative Analyst, Sr Vice President - Supply Chain Planning Technology, Senior Principal Scientist, Quantitative Research Vice President, Human Factors Consultant, Assistant Professor / Associate Professor / Professor, Principal Full-Stack Machine Learning Engineer & Architect, Postdoctoral Scientist...

Welcome to the Department of Industrial & Systems Engineering!



Welcome to the Department of Industrial & Systems Engineering!



ISE Graduate Course Sampling

Course Number	Course Title
EIN 5501	Health Systems Engineering Models and Methods
EIN 6357	Advanced Engineering Economy
ESI 6323	Models for Supply Chain Management
ESI 6552	Systems Architecture
ESI 6529	Digital Simulation Techniques
ESI 6555	Systems Management
EIN 6422	Manufacturing Management
EIN 6905	Advanced Topics in Continuous Optimization
ESI 6314	Deterministic Methods in Operations Research
EIN 6216	Occupational Safety Engineering
ESI 6553	Systems Design
ESI 5613	Data Analytics for ISE

Overview of Master's Program

- **Many Courses Are Available For ISE Graduate Students**
 - Choose the courses that will best prepare you for your future goals/plans
 - Example: A student who plans to pursue a PhD later might choose different courses from a student who wants to work for Disney.
 - The ISE website presents courses that are related to a variety of topics within Industrial & Systems Engineering (prefix EIN or ESI)
- **Check out the link below to see a few of the available courses offered!**
 - <https://www.ise.ufl.edu/academics/course-syllabi/>
 - *Each student is encouraged to develop their own professional network during their course of study.*

Overview of MS/ME Requirements

- To graduate with MS or ME degree, you need...
 - Minimum **31** Graduate level (5000 and above) credits (non-thesis; *almost all students fall into this group*).
 - **1** credit Graduate Seminar (EIN6918); required by department in 1st year of study.
 - At least **16 credits** in ISE courses starting with prefix EIN or ESI.
 - Remaining **14 credits** consist of graduate electives.
 - Need **project course completed** within 3 semesters of graduation.
 - The project course list can be found here:
<https://www.ise.ufl.edu/academics/graduate/masters/>
 - **OR** students **complete a master's thesis**.
 - **Must** register for 3-6 credits of EIN 6971 within their final three terms.
 - Two committee members are required for thesis students; 1 chair (ISE) and 1 other faculty member
 - UF Graduate School thesis requirements: <http://graduateschool.ufl.edu/about-us/offices/editorial/editorial-deadlines/>
- International students must register for the minimum credit requirement:
 - At least **9** credits each semester.
 - May take reduced load only in final semester.

ISE On-Campus MS/ME Concentrations



DATA ANALYTICS



HUMAN-SYSTEMS ENGINEERING



OPERATIONS RESEARCH



PRODUCTION & SERVICE OPERATIONS



ADVANCED MANUFACTURING (COMING SOON!)

Please inform the Grad Advising Office if you are interested in any of these concentrations. Required curriculum can be found here: <https://www.ise.ufl.edu/academics/graduate/masters/masters-concentrations/>

Overview of Ph.D. program

- **Many classes are available for you to take...**
 - Talk to your Ph.D. faculty advisor about other classes that may be valuable to your plan of graduate work.
 - It is **preferred** that you take 3 classes in each of your first 2 semesters
 - These are some classes you cannot register for online:
 - Department controlled courses
 - Research credits
- **REQUIRED COURSE for ALL Ph.D. Students - - -**
 - Graduate Seminar, EIN6918 (1 Credit): ALL Ph.D. students are required to register for 2 credits in their first 2 years of study.

Overview of Ph.D. Requirements

- **To graduate with a Ph. D. degree, you need to obtain:**
 - 90 credits
 - 30 Graduate level credits, (you may be able transfer credits; see advising office)
 - **REQUIRED COURSE:** Graduate Seminar, EIN6918 (1 Credit): ALL Ph.D. students are required to register for 2 credits in their first 2 years of study
 - 9 credits of courses for Coursework Assessment
 - 9 Breadth Requirement credits (3 out-of-department courses)
 - 27 Advanced elective/research credits (EIN7979 or electives)
 - 15 Dissertation research credits (EIN7980)
 - Complete Coursework Assessment & Literature Review by **the end of first year/beginning of second year**
 - Direct-track PhD students may be permitted to defer to end of 2nd year of study
 - Qualifying Examination: Dissertation Proposal & Proposal Defense
 - Successfully Defend Dissertation
- **Ph.D. students must register for the minimum credit requirement:**
 - At least 9 credits each semester
 - May take reduced load **only** in **final semester**

Requirements for Ph.D. Students

- **Coursework Assessment** requires three (3) of following courses (chosen by you and your Ph.D. faculty advisor):
 - You MUST earn a minimum of 2 “A-” grades and 1 “B+” grade to pass Coursework Assessment!
 - **ESI 6616** - Data Analytics for System Monitoring (DASM)
 - **ESI 6617** - High-Dimensional Data Analytics (HDDA)
 - **EIN 5249** - Human Factors in Systems Design (HFSD)
 - **ESI 6417** - Linear Programming and Network Optimization (LPNO)
 - **ESI 6546** - Stochastic Modeling and Analysis (SMA)
 - **ESI 6341** – Intro to Stochastic Optimization (ISO)
 - **ESI 6420** – Fundamentals of Mathematical Programming (FMP)
 - **ESI 6448** – Discrete Optimization Theory (DOT)
 - **ESI 6325** – Applied Probability Methods in Engineering (APME)
- **Literature Review** requires a proposal, written literature review, and an oral presentation.
<https://www.ise.ufl.edu/academics/graduate/doctorate/qualifying-exam/>

Systems Engineering Graduate Certificate

Coursework includes (9 credits total):

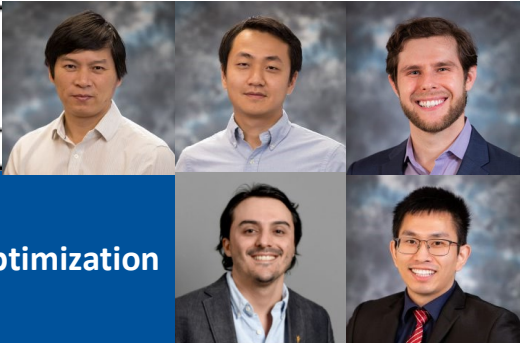
- ESI 6552 Systems Architecture
- ESI 6553 Systems Design
- ESI 6555 Systems Management

Must earn final grade of “B” or high in each course.

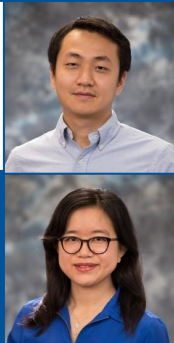
Please inform the Graduate Advising Office if you’re interested in enrolling in this certificate; additional details here:

<https://ise.ufl.edu/academics/graduate/graduate-certificates/>

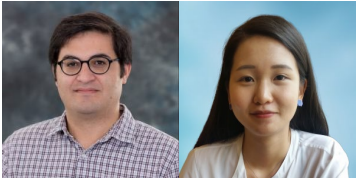
UF ISE's Research Centers & Laboratories

Center for Applied Optimization

HEALTH-Engine Lab



Data Informatics of Systems Improvement and Design (DISIDE) Lab




Human Systems Engineering Lab




Supply Chain and Logistics Engineering Lab




Interdisciplinary Manufacturing Engineering and Design (iMED) Lab

ISE Student Organizations

INSTITUTE OF INDUSTRIAL AND SYSTEMS ENGINEERS



IIE is the professional society for Industrial Engineers where students can learn about potential careers and prepare accordingly. Activities include presentations from industry leaders, resume/career development workshops and plant tours, as well as social events such as happy hours. Check the announcements/calendar for information on upcoming events.

ISE AMBASSADORS



ISE Ambassadors serve as departmental liaisons to outside constituents, including potential ISE students as well as ISE alumni. Applications are accepted at the end of each semester.

ALPHA PI MU



APM is the only nationally recognized industrial engineering honor society. Student activities focus on undergraduate advising and mentoring, community service and faculty relations.

HUMAN FACTORS & ERGONOMICS SOCIETY



The Human Factors and Ergonomics Society, founded in 1957, is the world's largest scientific association of human

factors/ergonomics professionals. HFES serves the needs of members and the public by promoting and advancing the discovery and exchange of knowledge concerning the characteristics of human beings that are applicable to the design of systems, products, tools, and environments of all kinds.

SOCIETY FOR HEALTH SYSTEMS



SHS aims to promote the use and awareness of systems engineering, analysis, and process improvement in the healthcare field by providing appropriate education and career opportunities to University of Florida students.

INSTITUTE FOR OPERATIONS RESEARCH AND THE MANAGEMENT SCIENCES



INFORMS activities center around research, including presentations by researchers from University of Florida and other visiting scholars. Check the announcements/calendar for information on upcoming events.

ISE GRADUATE STUDENT ORGANIZATION



Increasing social connectivity within the department, facilitating research collaboration between disparate labs, aiding in the onboarding process for new students, contributing academic support for existing students, assisting in professional development for departing students, collaborating with department faculty and the EGSC to improve recruitment results and providing a chain of elevation for student concerns both within our department and college.

SOCIETY OF MANUFACTURING ENGINEERS



SME, established in 1932, is a professional organization for engineers dedicated to the advancement of manufacturing. Leading the industrial ecosystem by elevating manufacturers, academia and the communities in which they operate, SME helps unlock the full promise of manufacturing as an engine of commerce, progress and human potential.

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