

GRADUATE PROGRAMS INFORMATIONAL LUNCHEON

Biomedical Engineering (BME)
Materials Science & Engineering (MSE)

November 3, 2025
2340 Reitz Union

Speakers:

Dr. Kevin Jones, MSE
Dr. Yong Yang, MSE
Dr. Jamal Lewis, BME
Ade Kumuyi, BME



Herbert Wertheim
College of Engineering
UNIVERSITY of FLORIDA

Materials Science and Engineering
Nuclear Engineering Program

Materials Science and Engineering (MSE) Program Overview



Kevin Jones, Ph.D.

MSE Graduate Coordinator

Distinguished Professor, Frederick N. Rhines Professor of MSE
(352) 846-3301

kjones@eng.ufl.edu

11/3/2025

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

- Top 20 MSE Graduate Program Among Public Universities
- 19 Full-Time MSE Faculty
- Research Topic Areas
 - Polymers, Ceramics, and Metals
 - Electronic and Nuclear Materials
 - Nano- and Biomaterials
 - Computational Materials Science
 - Machine Learning / Artificial Intelligence
 - Advanced Materials Characterization
 - Energy Materials
 - Materials Processing
- Research expenditures of approximately \$10 million a year from external contracts and grants.





Richard Hennig
Phillips



Juan Nino



Tori Miller



Jennifer Andrew



Kevin Jones



Jennifer Hite



Guihem De Hoe



Simon



Megan Butala



Nancy Ruzyski



Aroba Saleem



Michael Tonks



Honggyu Kim



Angelika Neitzel



Prajakatta Mulay



Sam Navarro



Ravit Silverstein



Yijia Gu



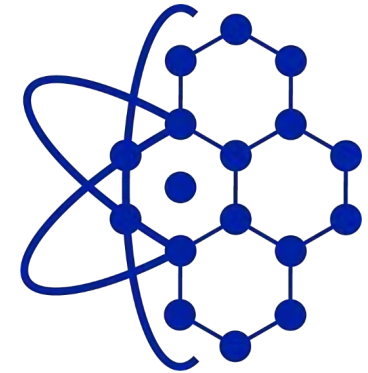
Heyi Liang

<https://mse.ufl.edu/people/faculty>



■ Facilities

- The Major Analytical Instrumentation Center (MAIC)
 - Aberration-corrected TEM, PFIP, X-ray CT, XRD, EPMA, SEM, XPS, etc.
- The Nanoscale Research Facility (NRF)
 - Cleanroom facility for device fabrication and characterization
- The Center for Molecular Magnetic Quantum Materials (M2QM)
- Laser and Optics Laboratory
- Center for Macromolecular Science and Engineering
- HiPerGator (UF High Performance Computing Center) – 22nd in the Top 500 list in the world



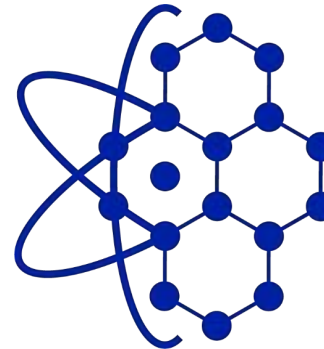
HiPerGator
The University of Florida Supercomputer for Research

- Graduate Degrees Offered:
 - Master of Science
 - Ph.D.
- Graduate Enrollment (as of Fall 2025)
 - 184 Graduate Students (62 Ph.D., 122 M.S.)
- Degrees Granted (2024 – 2025)
 - 52 Masters of Science
 - 17 Ph.D.

<https://mse.ufl.edu/academics/>



*Materials Science
Master's and PhD
programs are available
online or in person at
the Gainesville campus!*



Combination 4+1 (BS and MS in MSE) Program

- MSE Undergraduate students can earn up to 12 credits towards the MSE Master's degree program
- For more information:
 - Review the Undergraduate Student Handbook
 - Reach out to the Academic Advising Office (advising@mse.ufl.edu)

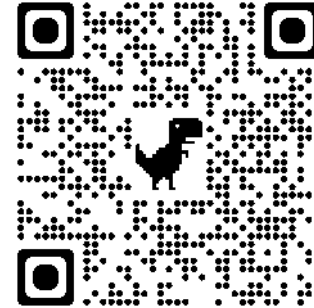


Student
Handbook



Student Groups

- The MSE student societies are listed on the MSE website:
<https://mse.ufl.edu/about/societies/>
- Materials relevant societies are:
 - Materials advantage, the primary materials student society (advisor: Dr. Victoria Miller)
 - General Contact: MatAdvantageUF@gmail.com
 - Society for Biomaterials (SFB): (advisor Dr. Edward Phelps (BME))
 - General Contact: uflbiomaterials@gmail.com
 - Semiconductor Career Readiness Organization at The University of Florida
 - General Contact: scrogator@gmail.com
 - EGSC: Eng Grad Student Council, Email: egsc@eng.ufl.edu





Herbert Wertheim
College of Engineering
UNIVERSITY of FLORIDA

Materials Science and Engineering
Nuclear Engineering Program

Nuclear Engineering (NE) Program Overview



Yong Yang, Ph.D.

NE Graduate Coordinator

Associate Professor

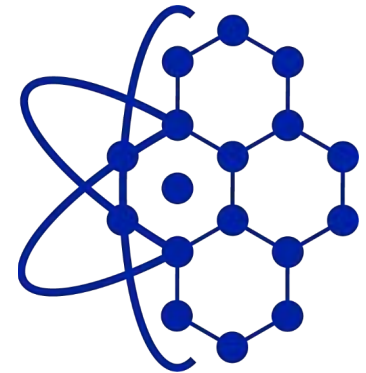
(352) 846-3791

yongyang@ufl.edu

11/3/2025

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

- The only Nuclear Engineering program in Florida
- Within department of Materials Science and Engineering (<http://mse.ufl.edu/>)
- 13 Full-Time Nuclear Faculty
- #11 Public Nuclear Engineering Graduate Program (U.S. News 2025)
- Research Topic Areas
 - Nuclear Materials
 - Radiation Detection and Imaging
 - Reactor Physics
 - Nuclear Security, Safeguards, and Nonproliferation
 - Laser and Optics
 - Plasma Physics and Fusion
 - Thermal Hydraulics
 - Radiochemistry
- 10.7 million in External Research Expenditures (2024)
- 23.7 million in Total Grants





Assel Aitkaliyeva
Schubring



James Baciak



Andreas Enqvist



Ira Harkness



Kyle Hartig



Chris McDevitt



DuWayne



Michael Tonks



Nathalie Wall



Donald Wall



Justin Watson



Yong Yang



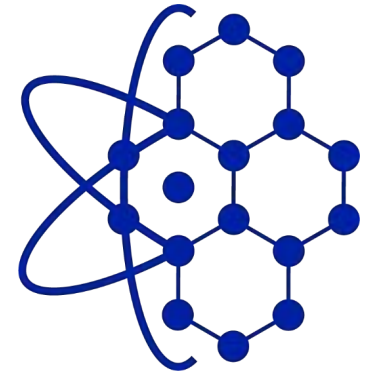
Jyothier Nimmagadda

<https://mse.ufl.edu/people/faculty/>

Facilities

- University of Florida Training Reactor (UFTR)
 - 100kW; modified Argonaut type, graphite-moderated, graphite-reflected, light water-cooled reactor
- Nuclear Fuels and Materials Characterization (NFMC) Laboratory : A Nuclear Science User Facility (NSUF)
- HiPerGator (UF High Performance Computing Center)
- Radiation Detection Laboratories
- Radiochemistry Laboratory
- Laser and Optics Laboratory

<https://mcg.ufl.edu/nuceng>

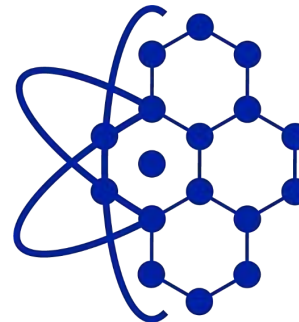


- Graduate Degrees Offered:
 - Master of Science
 - Ph.D.
- Graduate Enrollment (as of Fall 2025)
 - 43 Graduate Students
- Graduate Degrees Granted (2024-2025)
 - 11 Masters of Science
 - 4 Ph.D.

<https://mse.ufl.edu/academics/>



*The Nuclear Program
is available only in
person at the
Gainesville campus.*



Combination 4+1 (BS and MS in Nuclear Engineering) Program

- NE Undergraduate students can earn up to 12 credits towards the Nuclear Master's degree program
- For more information:
 - Review the Undergraduate Student Handbook
 - Reach out to the Academic Advising Office (advising@mse.ufl.edu)



Student
Handbook



Student Groups

- Student groups for MSE and NE are listed on the MSE website:
<https://mse.ufl.edu/about/societies/>
- The primary nuclear engineering society is the **American Nuclear Society (ANS)**.
Other opportunities are listed on: <https://www.eng.ufl.edu/students/students/engineering-student-organizations/>
 - Benton Engineering Council
 - Engineering Ambassadors
 - Institute of Nuclear Materials Management
 - National Society of Black Engineers
 - Society of Asian Scientists and Engineers
 - Society of Hispanic Professional Engineers
 - Society of Women Engineers
 - Tau Beta Pi
 - Women in Science and Engineering
- You can join multiple student organizations – at least one should be technical.
- EGSC: Eng Grad Student Council, Email: egsc@eng.ufl.edu



Herbert Wertheim
College of Engineering
UNIVERSITY of FLORIDA

Materials Science and Engineering
Nuclear Engineering Program

Application Process & Funding

Academic Services Office

11/3/2025

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

Academic Services Office

- Students who have questions about any of the Nuclear Program should reach out to the Academic Service Office (ASO)
- 108 Rhines Hall, (352) 846-3312
- advising@mse.ufl.edu / advisingforms@mse.ufl.edu



Tahara Franklin
Academic Advisor III



Allyson Beatty
Academic Advisor II



Nabby Rivera
Academic Assistant II



- Walk-in Hours: Monday and Tuesday from 11 am – 12pm
Wednesday and Thursday from 2 pm – 3 pm
- Make an appointment via email, QR or phone

■ Admission Requirements

- 3.0 Cumulative and 3.0 Upper Division GPA
- GRE is NOT required!

■ Application Process

- Submit Graduate Application by posted deadlines
- Provide the following materials:
 - 3 Letters of Recommendation
 - Statement of Purpose
 - Resume
 - Transcripts (are not required for current UF Students)
 - English Proficiency Scores & International Documentation (if applicable)

■ Application Deadlines

- **M.S.** applications are considered for Fall, Spring, and Summer C terms. While our department accepts M.S. applications on a rolling basis, we strongly encourage applicants to submit by the suggested deadlines.
 - Fall – January 5th
 - Spring – August 1st
 - Summer C – December 1st
- **Ph.D.** applications are considered only for the Fall term and are due by December 5th the year before the application term.
 - December 5, 2025 is the due date for applications for the Fall 2026 term

Funding

- Master's Degree is a self-funded program
 - Limited Funding: Academic Achievement Award for Non-FL residents (reduces out-of-state tuition)
- 100 % Ph.D. Student Support
 - Ph.D. is funded via a Graduate Assistantship or Fellowship
 - Includes stipend and tuition waiver
- Scholarships and Financial Aid
 - Graduate: <https://www.eng.ufl.edu/graduate/prospects/funding/>
 - MSE/NE Department Scholarships and External Opportunities: <https://mse.ufl.edu/academics/funding-and-awards/>

PhD Application Fee Waiver



al



PhD Application Fee Waiver (Domestic Students)



Master's Application Fee Waiver (Domestic/International)



Herbert Wertheim College of Engineering

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

NUCLEAR ENGINEERING PROGRAM, DEPARTMENT OF MATERIALS SCIENCE & ENGINEERING



Q&A

UF Herbert Wertheim
College of Engineering
*Department of Materials Science
& Engineering*
UNIVERSITY of FLORIDA



WELCOME!

UF UNIVERSITY of
FLORIDA
J. Crayton Pruitt Family Department of
Biomedical Engineering

Graduate Program Info Session

November 3rd, 2025

Jamal Lewis, Ph.D. Associate Professor and Graduate Coordinator
Ade Kumuyi, M.S. Graduate Academic Advisor

**UF BME –
AN
EXCELLENT
CHOICE!**





WHO ARE WE? THE BME GRADUATE ACADEMIC TEAM

Graduate Administration



Blanka Sharma,
Associate Professor &
Associate Chair for Graduate
Studies



Jamal Lewis,
Associate Professor &
Graduate Coordinator



Ade Kumuyi,
Graduate Academic Advisor



Kimberly Depue,
Academic Assistant III



Kyle D. Allen
Professor
Ph.D., Rice University

Novel strategies to diagnose and treat degenerative joint diseases



Kuang Gong
Assistant Professor
Ph.D., University of California at Davis
Deep learning, medical imaging, and data science



Ana Maria Porras
Assistant Professor
Ph.D., University of Wisconsin
Biomaterials and tissue engineering to study host-microbe interactions and inclusive science communication



Mingszhou Ding
Distinguished Professor & J. Crayton Pruitt Family Professor
Ph.D., University of Maryland
Cognitive neuroscience, signal processing and neural imaging



Benjamin G. Kassawsky
Professor
Ph.D., Georgia Institute of Technology
Biomaterials and immune engineering



Wesley E. Boitch
Distinguished Professor & UF Term Professor
Ph.D., University of Florida
Dosimetry, computational medical physics and radiation dose assessment



Ayegeul Gunduz
Professor & First Brain Mapping Professor
Ph.D., University of Florida
Human brain mapping, neuromodulation and neural interfacing



Parisa Rashidi
Professor, UF Research Foundation Professor & IC3 Co-Director
Ph.D., Washington State University
Medical artificial intelligence (AI) and pervasive health



Xiao Fan
Assistant Professor
Ph.D., University of Alberta
Computational approaches to study genetic architecture of rare diseases and interpretation of genetic variants



Jamal Lewis
Associate Professor
Ph.D., University of Florida
Biomaterials, drug delivery and immunoeengineering



Markia Bove
Instructional Assistant Professor
Ph.D., University of Florida
Biomechanics of bone, 3D imaging, inclusive design and engineering education research



Gregory A. Hudalla
Associate Professor, Integra LifeSciences Term Professor & Graduate Coordinator
Ph.D., University of Wisconsin
Molecular engineering for immunotherapies and immune modulation



Carlos Rinaldi-Ramos
Dean's Leadership Professor & Chemical Engineering Department Chair
Ph.D., Mass. Institute of Technology
Nanomedicine and magnetic nanoparticles



Ruogu Fang
Associate Professor & J. Crayton Pruitt Family Term Fellow
Ph.D., Cornell University
Artificial intelligence (AI), brain dynamics and medical image analysis



May Manay
Instructional Assistant Professor
Ph.D., University of Florida
Bio-signals & systems, bio-instrumentation lab and engineering education



Christine E. Schmidt
Distinguished Professor & J. Crayton Pruitt Family Endowed Chair
Ph.D., University of Illinois
Biomaterials for neural tissue regeneration and neural interfacing



Meghan Ferrall-Fairbanks
Assistant Professor
Ph.D., Georgia Institute of Technology
Quantitative systems biology, mathematical modeling, cancer heterogeneity and evolutionary dynamics



Walter Lee Murfee
Professor & Associate Chair for Undergraduate Studies
Ph.D., University of Virginia
Cell dynamics, microcirculation, angiogenesis, lymphangiogenesis and neurogenesis



Brittany Taylor
Assistant Professor
Ph.D., Rutgers University
Nanomedicine, regenerative rehabilitation, biomaterials, and tendon injury and disease



Blanka Sharma
Associate Professor
Ph.D., Johns Hopkins University
Nanomedicine, biomaterials, targeted drug/gene delivery and immunoeengineering



Daniel Ferris
Robert W. Adenbaum Professor
Ph.D., University of California, Berkeley
Biomechanics, neuromechanical control, locomotion, mobile brain imaging, robotic exoskeletons and bone prostheses



Jennifer A. Nichols
Associate Professor & J. Crayton Pruitt Family Term Fellow
Ph.D., Northwestern University
Biomechanics, musculoskeletal modeling, predictive simulation, medical imaging and machine learning



Chris Geiger
Instructional Associate Professor
Ph.D., Northwestern University
Senior Design and engineering education research



Cheris Stahler
Professor & Department Chair, J. Crayton Pruitt Family & UF Foundation Preeminence Professor
Biomaterials, controlled release, regenerative medicine and diabetes



Sarah Furtney
Instructional Associate Professor, Undergraduate Coordinator & J. Crayton Pruitt Family Term Fellow
Ph.D., Clemson University
BME cellular engineering laboratories and engineering education research



Ivana Parker
Assistant Professor
Ph.D., Georgia Institute of Technology
Trained immunity, systems biology, HIV/TB, host-pathogen interactions and applied proteomics



Edward A. Phelps
Associate Professor
Ph.D., Georgia Institute of Technology
Biomaterials, host biology, diabetes, and immune engineering



Lakiesha M. Williams
Professor & Associate Chair for Graduate Studies
Ph.D., Mississippi State University
Traumatic brain injury, soft tissue mechanics, bio-inspired design and materials characterization

UF BME Collaborative Community:

- 28** PRIMARY FACULTY
- 65+** AFFILIATE FACULTY
- 30+** CENTERS & INSTITUTES
- 16** COLLEGES
- 5** HOSPITALS

AREAS OF SPECIALIZATION



Neural Engineering



Biomaterials & Regenerative Medicine



Modeling & Biomedical Data Science



Biomedical Imaging & Applications



Biomechanics & Bionics



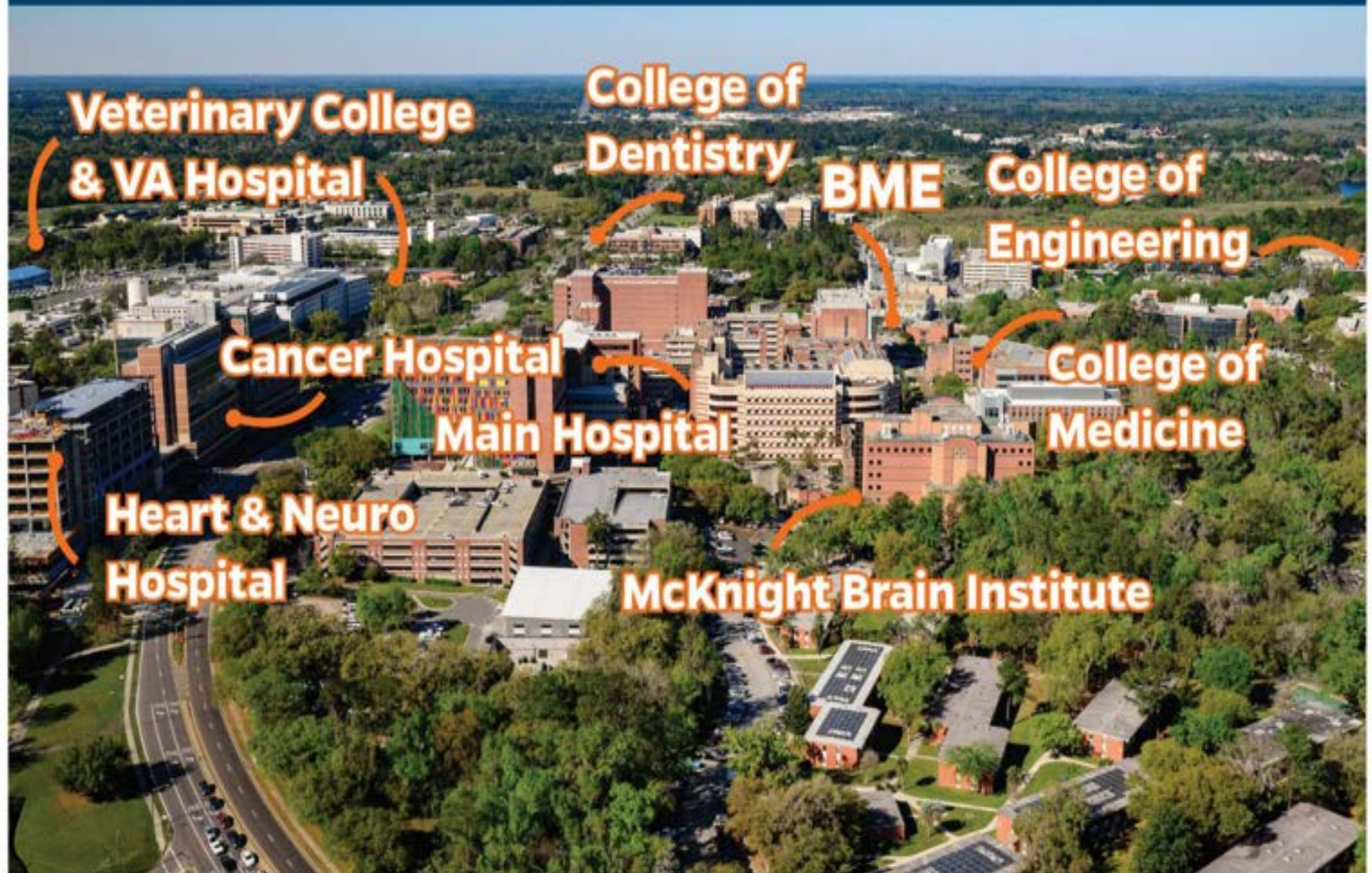
Molecular & Cellular Engineering

UF BME Department Crossovers/Collaborations



A VIBRANT & COLLABORATIVE RESEARCH ENVIRONMENT

BME is centrally located near the College of Medicine and various world-class research centers.





UF BME – RECOGNIZED NATIONAL IMPACT

#12

**BEST PUBLIC
BIOMEDICAL ENGINEERING
GRADUATE PROGRAM**

By U.S. News & World Report, 2024

#10

**BEST PUBLIC
BIOMEDICAL ENGINEERING
UNDERGRADUATE PROGRAM**

By U.S. News & World Report, 2024

UF UNIVERSITY of
FLORIDA

J. Crayton Pruitt Family Department of
Biomedical Engineering



RESEARCH PRODUCTIVITY BEYOND THE NUMBERS



29

PATENTS
FILED

8

PATENTS
ISSUED

7

LICENSES /
OPTIONS

2

START-UPS

UF INNOVATE

ACCELERATE

UF INNOVATE BY THE NUMBERS

SNAPSHOT OF OUR INNOVATION ECOSYSTEM



\$10.4B+

GENERATED IN PRIVATE INVESTMENT



300+

STARTUPS LAUNCHED BY TECH LICENSING



7,900+

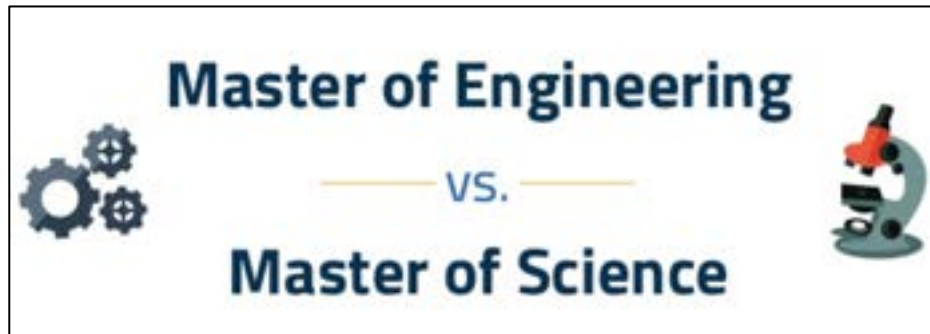
JOBS CREATED WITH STARTUPS

UF BME Graduate Programs





- All master's students admitted as MS (non-thesis)
- MS = Master of Science
- ME = Master of Engineering
 - No difference in curriculum, only type of degree
 - Must have BS degree from ABET-accredited program
 - See Graduate Advisor for paperwork required to change programs



- Coursework-based degree (30 credits total)
 - Core curriculum (10 credits)
 - BME electives (6 credits)
 - Specialization electives (13 credits)
 - Any grad level course in College of Engineering or Medicine
 - Final project course (1 credit)
- Non-Thesis students require a Supervisory Chair
 - Faculty member who will supervise final project
- Final Examination fulfilled by Capstone Project
 - Academic Research
 - Clinical Immersion
 - Internship Project
 - BME Report

- Academic Research
 - Conduct academic research within a laboratory at UF
- Clinical Immersion
 - Conduct clinically-focused research with a supervisor at UF
- Internship Project
 - Conduct an internship (typically 2-3 months) with a sponsoring company or US government laboratory outside of UF
- BME Report
 - Robust literature review that summarizes and critiques a specific research topic within the field of biomedical engineering
- Registration for Final Project Work
 - BME 6907: MS Final Project
 - Must enroll in second-to-last or final semester
 - BME 6905: Individual Work in BME

- 30 credits total
 - Core curriculum (10 credits)
 - BME electives (6 credits)
 - Specialization electives (9 credits)
 - Any grad level course in College of Engineering or Medicine
 - Thesis research (5 credits)
- More focus on conducting independent research
- Master's thesis students require a thesis committee
 - Chair + 1 other faculty member
 - Committee members are there to help guide your thesis and provide critical feedback – interact with them often!
- Must elect thesis option ***by the end of the 2nd term***

- **Core courses – 10 credits**

- BME5401: Biomedical Engineering Physiology
 - Should only be taken if no prior undergrad physiology course, or did not receive B or better in undergrad physiology
- BME6018: Clinical Correlations
- BME6936: BME Seminar
- BME Math course (choice of 6 options)

- **BME Electives – 6 credits**

- Any grad level course in BME
- Examples:
 - BME6360: Neural Engineering
 - BME6938: Biomedical Data Science
 - BME6330: Cell & Tissue Engineering
 - BME6938: Immune Engineering

- **Specialization electives – 12 credits**
 - Any graduate level course in the College of Engineering or College of Medicine
 - Examples:
 - EMA6580: Science of Biomaterials
 - EEE5283: Neural Signals, Systems & Technology
 - ECH6937: How Cells Sense Mechanical Forces
 - GMS6757: Intro to Alzheimer's Disease & Related Dementias
- **Supervised Teaching – 4 credits**
- **Research – 58 credits**
- **Exams**
 - Departmental Comprehensive Exam (DCE) – end of 1st year
 - Qualifying Exam (Proposal Defense) – within 2.5 years of doctoral study
 - Final Defense – year 5

- **PhD –Fully funded**
 - ALL PhD students fully funded through **faculty grants** or **external fellowship**
 - Assistantships - \$32,000 annual stipend
 - Tuition waiver + benefits
 - Dependent on satisfactory progress
 - Fellowships – Stipend amount varies
 - Students apply for these directly (NSF, NDSEG, NIH etc)
 - BME provides “bonus” for some, up to \$10,000

Low Cost of Living in Gainesville

UF BME Stipend: \$32,000 annually

- Tuition waiver
 - Health insurance
 - Retirement benefits
- Other student benefits (gym, cultural & athletic events, etc.)

Program	Location	COL	Income Needed
Duke University	Durham, NC	8.3% higher	\$32,500
Cornell University	Ithaca, NY	9.3% higher	\$32,800
University of Wisconsin, Madison	Madison, WI	12.7% higher	\$33,800
University of Virginia	Charlottesville, VA	19.2% higher	\$35,767
Georgia Tech	Atlanta, GA	21.6% higher	\$36,467
University of Michigan	Ann Arbor, MI	23% higher	\$36,900
University of North Carolina	Chapel Hill, NC	28.9% higher	\$38,667
University of Texas	Austin, TX	43.8% higher	\$43,133
MIT	Boston, MA	70.4% higher	\$51,133
University of California, San Diego	San Diego, CA	78.2% higher	\$53,467
Columbia University	New York, NY	87.3% higher	\$56,200
Stanford University	Palo Alto, CA	380.9% higher	\$144,267

Application deadline Fall 2026 admission - December 5

- All Application requirements (BME + UF) → click "Application Requirements and Process": [BME Admission](#)
- BME Ph.D. Supplemental Application: [BME Supplemental Application](#)
- Resume
- Degree certificates in English and native language (international applicants)
- Statement of purpose
- 3 letters of recommendation (At least one from faculty speaking to research)
- English proficiency test scores (international applicants)
- For Application **fee waiver click here:**
https://ufl.qualtrics.com/jfe/form/SV_eRNCqvyx3AUwMe2

- During the Application Process...
 - Reach out to faculty directly via email
 - Mention that you're applying to UF BME and interested in their labs
 - Offer to set up virtual meeting/phone call (15-30 minutes)
- Save these dates for interview/campus visit: **February 19 – 22, 2026**

Professional Development & Grad Student Life



GRAD STUDENT ACTIVITIES/PROFESSIONAL DEVELOPMENT

Student Organization & Outreach

- American Society for Biomechanics (ASB)
- Biomedical Engineering Society (BMES)
- BME Diversity & Inclusion Initiative
- Graduate Student Council (GSC)
- Society for Biomaterials (SFB)
- Generational Relief in Prosthetics (GRiP)
- Student Safety Council (SSC)
- Student Association for the Support of Science (SASS)
- Student Advancement Council (SAC)



NOVEMBER BME GRAD STUDENT RECESS



Let's Get Crafty!

NOV. 29, 1 - 2 PM
BMS JG32

November is Diabetes Awareness Month!

For this month's Recess event, we will collaborate with the UF Diabetes Institute to create a very simple Gator-themed craft to donate to the pediatric endocrinology patients at UF Shands.

Supplies, instructions, and snacks (to-go) provided!

JANUARY BME GRAD STUDENT RECESS

Popcorn and a Puppy!

Thursday, January 20th
11:30am - 12:30pm

Popcorn!
Fun games!
Beau the Therapy Dog!

Courtyard between BMS & Communicore





UF BME COMMUNITY

Success is built on a strong
community...
It's all about the people



alafair
BIOSCIENCES

Arthrex
Helping Surgeons Treat Their Patients Better

axogen

Edwards

Exactech

INTEGRA
LIMIT UNCERTAINTY

KLS martin
GROUP

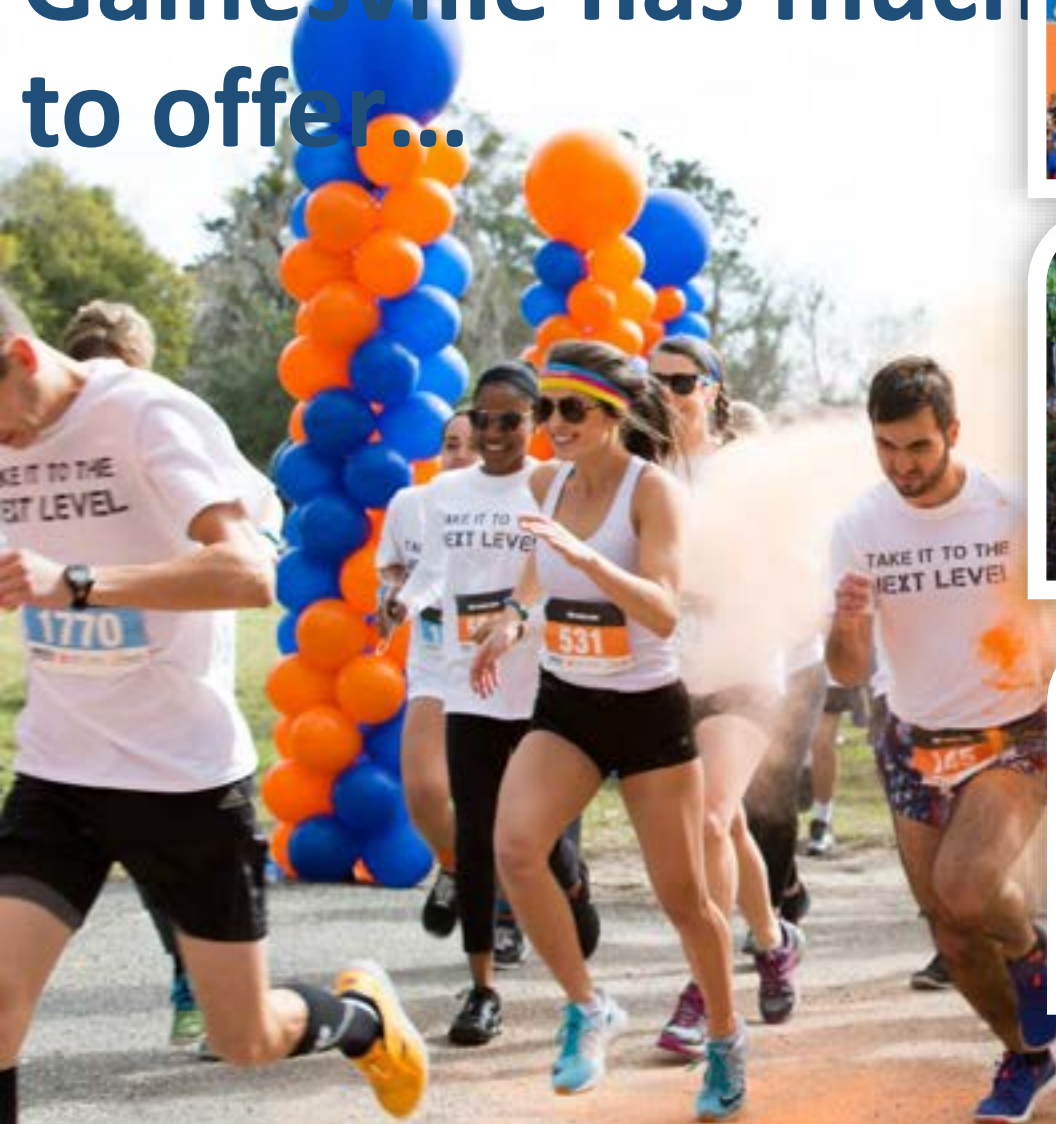
**Millipore
Sigma**

rti surgical

stryker



Gainesville has much
to offer...



Questions?



Fee Waiver

Reach out to us anytime!

Jamal S. Lewis, Ph.D.
Associate Professor & Graduate Coordinator
jlewis@bme.ufl.edu

Ade Kumuyi, MS
Graduate Academic Advisor
grad@bme.ufl.edu

UF | Herbert Wertheim
College of Engineering
UNIVERSITY *of* FLORIDA