

CURRICULUM VITAE

José A. Faria, Ph.D., PMP, A.M.ASCE, CDT



Endowed Chair Moss Department of Construction Management
College of Engineering and Computing
Florida International University
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Telephone: M:954-918-1354, O:305-348-3541
Email: drjosefaria@gmail.com, fariaj@fiu.edu

1. Education

Ph.D. (2005) Civil Engineering with Specialization in Operations Research, University of Maryland College Park, MD, USA

M.S. (2001) Systems Engineering, University of Maryland College Park, MD, USA

B.S. (1990) Industrial Engineering, Universidad Católica Andrés Bello Caracas, Venezuela

2. Experience

2.1. Academic administrative experience

Endowed Chair (2021-Present) Moss Department of Construction Management (MDCM)- College of Engineering and Computing (CEC), Florida International University (FIU) Miami, FL

Interim Chair (2019 – 2021) MDCM - CEC, FIU

Interim Director (2018-2019) Moss School of Construction, Infrastructure and Sustainability (MSCIS) – CEC, FIU

Director of Industry Relations (2018 - 2021) MSCIS – CEC, FIU

Faculty champion for student organizations (2008 – present)

2.1.1. Administrative achievements

Since appointed as the Interim Director of the Moss School of Construction, Infrastructure, and Sustainability (2018), and now as Endowed Chair of the Moss Department of Construction Management (2021-Present), I took upon myself to achieve the following goals:

- Increase the department's visibility.
 - The department has actively engaged a full-time marketing person to promote all activities in social and professional media.
 - The department has attended, sponsored and hosted local technology conferences with industry partners. Including
 - ABC-FIU Technology Conference 2022, 2023
 - Trimble Technology Conference 2023
 - ASCE Earth and Space Conference 2024
 - The department has increased its position in rankings. There is no one ranking for construction management, rather several independent rankings. The department rankings have raised to:
 - Second Construction Engineering School in the State of Florida
 - Seventh on The South Regional Ranking
 - Fourteen among the 25 Best Online Master's in Construction Management
- Increase grant applications and success rate.
 - The department grew from \$144K in awards in 2018 to over \$4MM in 2022
- Focus on technology and its applications in construction.
 - Successfully entered into an agreement with Trimble to establish the Trimble Technology Lab at FIU in 2020 followed by a grand opening in 2021.
 - Implemented the use of OnScreen Takeoff and RSMeans in the estimating courses.
 - Implemented the use of PROCORE in the management of Construction Project courses.
- Increased enrollment.
 - The total enrollment has increased from 384 in 2019 to 497 in 2023.
- Increase industry satisfaction.
 - By providing top notch graduates, hosting events, and improving communication.
- Increase community outreach.
 - To high schools and local community colleges
 - Hosted SheBuilds Summer camp for girls (2019,2021,2022,2023,2024).
 - Hosted Trimble Summer camp (2021,2022,2023,2024).
- Increase donations and donor's relations.
 - Secured a \$1.2 MM gift from the Lennar foundation to launch a certificate program in construction trades, used this funding to apply for several state and federal grants.
 - Meeting with key donors as often as once a month, to maintain an outstanding relationship and network.

As leader of the Moss Department of Construction Management, I am convinced that I have shined in the achievement of my goals.

2.1.2. Supervision and mentoring

In the department I directly supervise 36 individuals, and I'm responsible for a department of 77 individuals including full time faculty, adjuncts, staff and OPS. I take a mentoring approach to those who report to me, always encouraging everyone to improve professionally and personally. Everyone's opinion is taken into consideration, and maintaining a safe and collegial environment is a priority for me. My departmental administration has been an example of open doors, transparency, fairness, and motivation setting a high standard of professionalism as an example for others to follow.

2.2. Diversity, equity, and inclusion

Being from a Latin America heritage I understand firsthand the importance of working in environments that foster diversity of origin, cultures, sex and religions. As faculty I've always been mindful of the diversity in the classroom, trying to avoid stereotypes when using examples and to promote equality among the students.

As chair of a diverse group of faculty members I am very aware of the different cultures, we maintain a very respectful environment where individuals can express their opinions and beliefs without fear of retaliation or feeling as outsiders. We hold celebrations with diversity in foods and customs where everyone can feel part of one family.

Our plan for inclusion and diversity includes the participation of the student chapters including National Association of Women in Construction, we launched a summer camp for high school girls with the participation of the female master students, faculty, and alumni.

As a department chair, I adhere to FIU's policy to increase diversity. When we have an opening for a faculty position, every member of our search and screen committee participates in a "Strategies and Tactics for Recruiting to Increase Diversity and Excellence (STRIDE)" workshop. These workshops are designed to provide background information and concrete advice about practices that make searches more successful (in producing diverse candidate pools and hiring candidates). Whenever we look for a staff position, we provide equal opportunities to everyone, and encourage diversity by posting the opportunity in several channels.

2.3. Teaching

Teaching Philosophy

I believe in teaching students with hands on activities where they can practice and reinforce the concepts offered in the theory. For my safety courses I've taken students on jobsite visits where they can see firsthand the safety hazards present in a construction site, also they can see and understand the different mechanisms used to protect employees onsite. In my estimating course, I use state-of-the-art software that is widely used in the industry so when students leave the class, they have the same tools and skills that professional estimators use in construction companies. In all other classes I use course projects that are based on material provided by members of our industry council, so students have a grasp on the real documents used in construction projects. In my internship course I provide students with certificates that can be added to their resumes to enhance their hiring potentials. When it comes to mentoring, I wrote a software that makes plans for students based on their transcripts and following the catalog pre-requisites. This allows students to understand where they are in terms of academic

progress, gives them a pathway to graduation and serves as a tool to advise about course selection every semester.

Teaching innovations

Started to teach an estimating course at Universidad Peruana de Ciencias Aplicadas with the intent of promoting FIU's name internationally, and to create a pathway for Peruvian students into FIU. I'm using HoloLens to encourage students to use technology and better understand the work. Recently engaged the faculty at Universidad Politécnica de Madrid in Spain to coordinate a collaborative approach to teaching between the institutions. Additionally, I am engaged with Napier University in Scotland to start a student exchange program.

Teaching history

2021- Present Teaching Professor Moss Department of Construction Management (MDCM)- College of Engineering and Computing (CEC), Florida International University (FIU) Miami, FL

2019 – 2021 Associate Teaching Professor MDCM - CEC, FIU

2018 – 2019 Associate Teaching Professor Moss School of Construction, Infrastructure and Sustainability (MSCIS) CEC, FIU

2017 -2018 Associate Teaching Professor School of Construction (SoC) - CEC, FIU

2012 – 2017 Associate Teaching Professor OHL School of Construction CEC, FIU

2009 – 2012 Assistant Teaching Professor Department of Construction Management CEC, FIU

2006 – 2009 Assistant Professor. Department of Construction Management CEC, FIU

2005 – 2006 Adjunct Professor. Civil and Environmental Engineering (CEE), and Institute for Systems Research (ISR). University of Maryland (UMD) College Park, MD USA

2005 – 2005 Adjunct Assistant Professor. Kogod School of Business American University Washington D.C. USA

2004 – 2005 Instructor of Record CEC, ISR, UMD.

2001 – 2004 Teaching Assistant CEC, ISR, UMD.

2001 – 2004 (Summers only) Research Assistant U.S. Department of Energy. Washington D.C

I started teaching at FIU in 2006, over the last sixteen years I have taught sixteen (16) courses over thirty-four (34) semesters to 2,115 students. The following is a detailed list of courses including a description, (semesters), and [enrollment]:

BCN 3730 CONSTRUCTION SAFETY (Fall 2011 [37], Fall 2012 [23], Spring 2013 [30], Summer 2013 [12], Fall 2013 [23], Spring 2014 [15], Summer 2014 [13], Spring 2015 [29], Summer 2015 [17], Spring 2016 [34], Summer 2016 [25], Spring 2017 [38], Summer 2017 [38], Spring 2018 [37]). Total: 14 terms, 371 students.

Introduces occupational safety hazards associated with the construction industry. Emphasis placed on recognition, evaluation, and control of safety hazards particularly as they relate to the Occupational Safety and Health Act.

BCN 3949 INDUSTRY INTERNSHIP (Fall 2018 [1], Spring 2019 [2], Spring 2020 [12], Summer 2020 [16], Fall 2020 [9], Spring 2021 [9], Summer 2021 [14], Spring 2023[1]) Total: 8 terms, 64 students.

This course provides an opportunity for students to gain supervised, practical work experience in their particular field of interest within the industry. Prerequisites: Consent of advisor or Department Chair.

BCN 4561 ENVIRONMENTAL CONTROL IN BUILDINGS I (Spring 2012 [32], Spring 2013 [33], Spring 2014 [31], Spring 2015 [19], Spring 2016 [21], Spring 2017 [48], Summer 2017 [16]) Total: 7 terms, 200 students.

A study of the concepts of thermal and plumbing systems in residential and commercial buildings, including code provisions and cost estimates.

BCN 4564 ENVIRONMENTAL CONTROL IN BUILDINGS II (Fall 2015 [28], Fall 2016 [31], Fall 2017 [38], Spring 2018 [35]) Total: 4 terms, 132 students.

Concepts and practices of electrical systems in the construction of residential and commercial buildings, including code provisions and cost estimates.

BCN 4612 CONSTRUCTION COST ESTIMATING II (Summer 2011 [15], Fall 2011 [31], Spring 2012 [42], Summer 2012 [12], Fall 2012 [31], Spring 2013 [25], Summer 2013 [9], Fall 2013 [21], Spring 2014 [34], Summer 2014 [12], Fall 2014 [24], Spring 2015 [11], Summer 2015 [9], Fall 2015 [14], Spring 2016 [18], Fall 2016 [30], Spring 2017 [19], Fall 2017 [41], Fall 2020 [30]) Total: 19 terms, 428 students.

Quantity take-offs and pricing, and the application of computing techniques in construction estimating

BCN 4703 MANAGEMENT OF CONSTRUCTION PROJECTS (Summer 2011 [27], Summer 2012 [37], Summer 2016 [17], Summer 2018 [21]) Total: 4 terms, 102 students

Management of construction project field operations and procedures as they relate to contract management, planning, control, coordination, quality, safety, documentation, and resource management.

BCN 5618 FUNDAMENTALS OF CONSTRUCTION ESTIMATING (Summer 2012 [17], Fall 2012 [10], Fall 2013 [13], Spring 2014 [6], Spring 2015 [43], Spring 2016 [38], Spring 2017 [34], Spring 2018 [33], Spring 2019 [20], Spring 2020 [33], Fall 2020 [36], Fall 2021 [35], Spring 2023 [25]) Total: 13 terms, 343 students.

Principles and practices of estimating, providing application, and drill in surveying quantities of labor and materials for general construction projects: excavation, concrete and formwork, carpentry, masonry, structural steel, lath and plaster, interior finishes.

BCN 5626 CONSTRUCTION COST ANALYSIS AND CONTROL (Summer 2011 [39], Summer 2012 [19], Summer 2013 [35], Summer 2014 [29]) Total: 4 terms, 122 students.

Description of different types of estimating techniques in relation to different stages in a construction project. Productivity analysis, measurement of progress, and techniques of cost control are covered.

BCN 5706 INTERDISCIPLINARY ASPECTS OF HOUSING (Spring 2020 [12]) Total: 1 term, 12 students.

Recognition and definition of those factors which affect the planning, financing, and construction of housing projects. The operations and responsibilities of a multidisciplinary team dealing with decision process. This course takes a critical look at the housing delivery system to include: how the housing industry operates, various technologies prevalent in housing construction, and constraints to housing. The course will also look at the future, examining problems and forces that will shape opportunities.

BCN 5716 PRODUCTIVITY IN CONSTRUCTION (Spring 2012 [24]) Total: 1 term, 24 students.

An in-depth study of common issues relating to productivity improvements in construction.

BCN 5738 CONSTRUCTION SAFETY MANAGEMENT (Fall 2011 [36], Spring 2012 [37], Fall 2012 [22], Spring 2013 [60], Fall 2013 [11], Spring 2014 [38], Fall 2014 [25], Fall 2015 [20], Fall 2016 [13], Fall 2017 [17]) Total: 10 terms, 279 students.

Introduce the graduate student in Construction Management to the important elements essential in managing the safety function of a construction company.

BCN 5905 DIRECTED INDEPENDENT STUDIES (Spring 2012 [1], Fall 2012 [1], Fall 2013 [2], Spring 2019 [2], Spring 2020 [1])

Individual studies under supervision of faculty, tutor, or advisor. Requires prior approval of advisor and Director.

BCN 5906 SPECIAL TOPICS (Fall 2021 [1])

Intensive study for small group of students in a particular topic, or a limited number of topics not otherwise offered in the curriculum.

This was a course offered with Robert Hacker in StartUP FIU. I only served as an intermediary for the department.

BCN 5949 GRADUATE CONSTRUCTION MANAGEMENT INTERNSHIP (Fall 2018 [4], Spring 2019 [1], Spring 2020 [4], Summer 2020 [7], Fall 2020 [8], Spring 2021 [6], Summer 2021 [1], Summer 2022 [1], Spring 2023[1]) Total: 9 terms, 33 students.

Supervised work in construction management. Evaluation and reports required. Prerequisites: Consent of advisor and School Director.

In prior institutions I taught the following courses:

- Quantitative Methods for IT Management
- Multi-objective Optimization
- Decision Analysis for Engineers
- Life Cycle Cost Estimation
- Project Performance Measurements

2.4. Research

2.4.1. Grants received

Since 2018 I have received over \$4.7MM in a combination of grants (\$3.5MM) and private funding (\$1.2MM), \$3.6MM of those as a PI. This effort is above and beyond the requirements for a non-tenure track faculty. These grants have also provided scholarships to CM students in the BSCM and MSCM, also they are supporting a group of 14 people between adjunct instructors and staff.

Co-PI (2022) Florida Department of Education Pre-apprenticeship program \$355,630

Co-PI (2021) Dep. of Labor Susan Harwood Training Grant "Infectious Diseases Including COVID" \$200,000

Co-PI (2021) Dep. of Labor Susan Harwood Training Grant "Fall Protection" \$160,000

PI (2020) Rebuild Florida Workforce Recovery Training Program from the Florida Department of Economic Opportunity \$2,648,829.00 (We received the notice to intend funding, award pending to signing final scope)

PI (2019) Miami Community Ventures One Community One Goal Initiative The Beacon Council Economic Development Foundation, INC. \$90,000

PI (2019) Florida Department of Education Pathways to Career Opportunities \$400,372

Co-PI (2019) Florida Department of Education Pathways to Career Opportunities \$428,417

Co-PI (2019) Dep. of Labor Susan Harwood Training Grant "Excavation & Trenching Hazards" \$160,000

Co-PI (2018) Dep. of Labor Susan Harwood Training Grant "Electrical Hazards in Construction" \$155,000

PI (2017) Dep. of Labor Susan Harwood Training Grant "Fall Prevention in Construction" \$150,000

2.4.2. Private Gifts and Service Agreements

PI (2019) Lennar Foundation "Certificate Program in Construction Trades" \$596,105

PI (2018) Lennar Foundation "Certificate Program in Construction Trades" \$596,105

PI (2020) The BEACON COUNCIL ECONOMIC DEVELOPMENT FOUNDATION, INC. \$90,000

PI (2020) Trimble Inc. "Software and hardware gift to establish a Trimble Technology Lab"

2.4.3. Publications

S.A. Gabriel, J.F. Ordóñez, and J.A. **Faria**. "Contingency Planning in Project Selection Using Multiobjective Optimization and Chance Constraints," August 2005, ASCE Journal of Infrastructure Systems.

S. A. Gabriel, J.A. **Faria**, G.E. Moglen 2005. A Multi-objective Optimization Approach to Smart Growth in Land Development. Socio-Economic Planning Sciences.

Moglen, G.E., S.A. Gabriel and J.A. **Faria**. A Framework for Quantitative Smart Growth in Land Development. Journal of The American Water Resources Association, Vol. 39, No. 4, August 2003

2.4.4. Conferences

DIMENSIONS 2022 – Las Vegas, NV – panelist on “How Ingenuity Might Solve the Labor Shortage”

DIMENSIONS 2022 – Las Vegas, NV – panelist on “leading a Trimble Technology Lab”

INFORMS 2005 – San Francisco, California. Session Chair of : “Applications to Land Development”.

INFORMS 2004 - Denver, Colorado. Minimum Spanning Trees and Multi-objective Optimization for Smart Growth Land Development Planning.

INFORMS 2002 - San Jose, California. Smart Growth as a Multi-objective optimization problem.

2.4.5. Scholarship Awarded

INFORMS 2002 – Institute for the Operations Research and the Management Sciences

CMAA 2003 - Construction Management Association of America Mid-Atlantic

3. Accomplishments

2022 Successfully launched the first apprenticeship in construction for a university in Florida.

2021 Launched the first Trimble Summer camp for kids, providing education to the high school kids about construction management.

2020 Secured a private gift worth tens of millions of dollars in hardware and software, prompting the creation of the Trimble Technology Lab at FIU. This lab gives FIU worldwide recognition as one of the 25 labs across 14 countries on 5 continents.

2020 Successfully navigated through the Covid transition helping full time faculty and adjuncts to adapt into a new platform.

2020 Introduced a Bachelor's to Master pathway in the construction management catalog.

2019 Implemented a self-designed system to plan student's graduation to help our advisors providing guidance to students increasing graduation rates and student's satisfaction.

2019 Received authorization to pioneer a remote teaching setting for the Occupational Safety and health Administration (OSHA).

2019 Successfully completed the accreditation self-report and visit of the program and submitted the requirements for the SACS accreditation.

2019 Worked with the faculty to reduce the total number of credits to graduate down to 120, provided 12 credits in electives for students including internship opportunities, eliminated pre-requisites to simplify the path to graduation.

2019 Launched a dual enrollment program with local high schools to increase the awareness of Construction Management among the youth providing them with an edge if they decide to continue their education in Construction Management.

2018 Launched the Certificate Program in Construction Trades, a privately funded initiative to provide careers to people in the communities that are not otherwise able to pay for their studies. This **free** 14 weeks program provides three (3) nationally recognized certifications to individuals of low income, returning veterans, returning citizens from minor offenses, youth from the foster care system and other individuals in need. Besides the free education, the program offers free transportation, meals, career opportunities and graduation gift.

2018 Evaluated the feasibility of starting a BS in Construction Management Online. This initiative counts with the support of the faculty who is developing new courses online every semester.

2018 Signed an agreement with Volunteer State Community College to become a host site for their OSHA training institute educational center (OTIEC). We have already successfully completed the first six courses and are adding more to the calendar.

2015 Applied for a Concrete Industry Management (**CIM**) program at FIU. The courses in the curriculum were approved and included in the Catalog of Courses for the 2017-2018 year. The program proposal was withdrawn at the college level due to the lack of funds.

Community impact

On the community we make a difference as we continue with the success of the Lennar founded Certificate Program in Construction Trades. We are teaching FREE of cost to our constituents by offering classes in homeless shelters, community centers, justice system institutions, and other locations providing a new skills and job opportunities to the people that need it the most. We are changing the lives of those who live and work in our community, thus far we have trained over 600 people in the community. Our faculty has received the Susan Harwood Training grant five years in a row, with this we have trained over 3,500 people in safety free of charge in our community. We launched the first solar panel apprenticeship in the State of Florida, and the first pre-apprenticeship and apprenticeship programs in the State of Florida managed by a university. Funds received from private and public institutions towards the certificate program have been leveraged to foster the research productivity of the department.

4. Industry Experience

I have experience in Industry as I held the following positions:

2010 – 2010 Project Manager / Superintendent La Hacienda La Victoria – Venezuela

1995 – 2000 Process Engineer/ Project Manager AMBEC Owings Mills, MD USA

1994 – 1995 Latin America Sales Manager AMBEC Owings Mills, MD USA

1993 – 1994 Systems Engineer AMBEC Owings Mills, MD USA

1990 – 1993 Project Engineer Pepsi Cola Caracas, Venezuela

1989 -1989 Intern in Lagoven, Caracas/Maturin, Venezuela

5. Certifications

2018 OSHA 500 Construction Trainer ID. Volunteer State Community College -EXPIRED-.

2012 CSI's Construction Documents Technologist

2005 PMP: Project Management Professional from PMI: PMP 286.458

6. Professional Affiliations

ABC: Associated Builders and Contractors of America (Faculty Advisor for FIU Chapter)

AGC: The Associated General Contractors of America (Faculty Advisor for FIU Chapter)

ASCE: Associate Member of American Society of Civil Engineers

ASPE: American Society of Professional Estimators (Faculty Advisor for FIU Chapter and former member of the board for Chapter 49)

Omega Rho: International Honor Society – INFORMS

Sigma Lambda Chi: Construction Management Honors Society (Faculty Advisor for FIU Chapter)

USGBC: U.S. Green Building Council

C.I.V.: Colegio de Ingenieros de Venezuela (Professional Engineers) Number 82.568 (1990)

7. Languages

Spanish: Fluent - Native language

English: Fluent - Second language

8. Awards

2022 FIU President's Council "Real Triumphs Faculty Award"

The **President's Council Real Triumphs Faculty Award** recognizes faculty who: Engage in significant research, partnership or creative initiatives that make an impact in their field, in the community and/or the world; Promote student learning, innovation and collaboration in teaching, mentorship or advising; Demonstrate distinguished leadership within the university, the profession, and the larger community.