

Carlos J. Cabrera  
Senior Member IEEE  
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786.277.2513

## **Education**

### **Florida International University**

College of Engineering

**Doctor of Philosophy, Electrical and Computer Engineering – Candidate**

Miami, FL

### **Florida International University**

College of Computer Science

**Master of Science: Telecommunications & Networks**

Miami, FL

### **Florida International University**

College of Engineering

**Bachelor of Science: Electrical Engineering.**

Florida International University

Miami, FL

## **Computer Skills**

Microsoft Office Suite 2013, Visual Basic, C/C++, Linux, AutoCAD 2009, Java Script, VisualBasic, SKM Protection Software Design, Neural-Solution (Neural Networks), MathCAD, MathLab & Simulink, FemLab, Pspice, LabView, AutoDesk3D, OpNet, Mathematica, PowerWorld, J. D Edward applications, Odyssey, Miami Dade College legacy system, Panthersoft,

## **Seminars and Short Courses**

ABET

Program Evaluator Training, Baltimore, MD

Program Assessment, Palms Springs, CA

Advance Program Assessment, Atlanta, GA

IDEAL Workshop, Baltimore, MD

United States Department of Defense & FIU

**High Performance Computing**

Washington DC

Florida International University

**LEAP - Leadership Education Advancement Program**

Spring 2017

**Academy for the Art of Teaching Workshop**

Introduction to Teaching 2006, 2007, 2008

Miami, FL

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## **Broward College**

Central Campus  
Davie, Fl

FERPA - Family Educational Rights and Privacy Act  
Building Quality Online Courses-Online  
Teaching Online – Online  
Desire to Learn – Certification  
Blackboard - Certification

## **Miami Dade College**

Miami, Fl

Advisement Overview  
Advising for the Bachelor's Degree  
  
Advising Students with Foreign Credentials  
Registration and advisement Strategies  
Course Rubrics  
Veteran Office and Advising  
National Incident Management System  
Honors College Certification  
Delivering Blended Courses Certification  
  
Teaching in Higher Education A  
Getting Results 1: Creating a Community of Learners  
Getting Results 3: Active Teaching & Learning  
Getting Results 6: Assessing Teaching & Learning  
Strategies for Teaching & Learning 5  
Strategies for Teaching & Learning 2  
Strategies for Teaching & Learning 4

Advisement Shadowing  
Advising New Students & Consolidation Update  
Advisors orientation to current requirements  
  
Financial Aid and Advising Students  
Introduction to Incident Command System  
NSA Grants Certification  
Angel Certification  
Teaching in College: Scenarios an Online Workshop for Faculty  
Teaching in Higher Education B  
Getting Results 2: Planning for Outcomes  
  
Getting Results 5: Teaching with Technology  
Strategies for Teaching & Learning 7: S-L  
Introduction Overview  
Strategies for Teaching and Learning 1A  
Strategies for Teaching and Learning 3  
Strategies for Teaching & Learning 6

## **Academic Service Activities**

- ✚ Faculty Advisor SCIS Computer Science Graduate Student Association - Current
- ✚ Public Notary State of Florida
- ✚ Latin American and Caribbean Consortium of Engineering Institutions, Paper Review Committee – Current
- ✚ Universidad Tecnológica de Panamá, Paper Review Committee, Current
- ✚ Chairperson IEEE Florida Council - Present
- ✚ Founder, IEEE Chapter Broward College

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- ✚ Faculty Advisor IEEE, Broward College, 2006 - 2014
- ✚ Chairperson for IEEE, Broward Section, 2007 - Current
- ✚ Broward College President Technology Advisory Board, 2010 - 2014
- ✚ Computer Science Textbook Selection Committee, Broward College 2010 & 2012
- ✚ Staff Officer for Education, United States Coast Guard, Miami Beach Station, 2010 - 2014
- ✚ Staff Officer for Comm. Services, United States Coast Guard, Miami Beach Station, 2010 - 2014
- ✚ General Chair Southeastcon 2015, Ft. Lauderdale, FL
- ✚ Finance Chair Wise 2015, Miami Beach, FL
- ✚ Local Arrangement Chair ICMLA 2015, Miami Beach, FL
- ✚ General Co-Chair, ISM2015, Miami Beach, FL
- ✚ Sponsor Chair Southeastcon 2018, Tampa, FL

## **Employment**

### **2014 – Present**

#### **Florida International University**

Instructor

School for Computing and Information Sciences

Instructor in courses:

Applied Networks, Data Communications and Computer Systems

### **2015 – Present**

#### **IEEE**

#### **Chairperson Florida Council**

The Council Chair is the Chief Operating Officer of the Section and is responsible for ensuring that the Section (including Section Technical Chapters and Section Affinity Groups) are fulfilling the Section Mission and Goals. The Section Chair ensures that all local units are in compliance with IEEE Policies and local regulations.

The Council Chair manages the operations of the Section to ensure the best interests of the local members are being met. The Council Chair provides leadership, guidance to other Section volunteers and ensures that the Section activities are focused on increasing member engagement and satisfaction.

The Council Chair represents the needs of Section members by providing feedback to Region Committee and/or IEEE organizational units.

My Responsibilities include:

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- ✚     Oversee Management of the Section: The principal responsibility of a Section Executive Committee member is to oversee the management of the Section, and in so doing, serve the best interests of the IEEE, its members and the public;
- ✚     Prepare the agenda and serve as chair for all meetings of the Section Executive Committee. Exercise business judgment to act in what is reasonably believed to be in the best interest of the IEEE, its members and the general public and not on behalf of any individual, entity or interest group;
- ✚     Identify appropriate volunteers for the Section's non-elected positions and present their appointments to the Section Executive Committee for review;
- ✚     Serve as a signer on the Section bank account and authorize disbursements as approved by the Section Executive Committee;
- ✚     Sign the Section annual report of financial activity at year end;
- ✚     Establish annual Section activities, with the approval of the Executive Committee;
- ✚     Ensure that all Section Officers, Committee Chairs, Chapter Chairs and Affinity Group Chairs are aware of their responsibilities and duties;
- ✚     If a Section Officer is unable to perform his/her duties, the Chair is responsible for ensuring that the duties are completed;
- ✚     Ensure that the Section (including Section Technical Chapters and Section Affinity Groups) are conducting activities on a regular basis and this information is being report to IEEE MGA;
- ✚     Ensure that a Section Nominating Committee is established in accordance with MGA Guidelines;
- ✚     Spend sufficient time and energy to be familiar with matters requiring the Section's Executive Committee attention;
- ✚     Disclose any real or perceived personal conflict of interest with matters before the Section Executive Committee or which might otherwise conflict with the fiduciary duties owed to the IEEE;
- ✚     Review IEEE documents as they relate to the position of Section Chair, including IEEE Bylaws, IEEE Manual Policy, IEEE Financial Operations Manual and the MGA Operations Manual.
- ✚     Exhibit highest standards of collaboration and collegiality;

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✚ Provide leadership in the association's statement of vision, mission, and goals, and the corresponding strategies, plans, and budgets to achieve them;

✚ Suggest potential nominees to the Section Nominating Committee who can make a significant contributions to the work of the Section and the IEEE;

### **2006 – 2014**

Broward College – Central Campus  
Dept. of Computer Science / Engineering  
Adjunct Professor and IEEE Advisor

Intro. to Engineering, Computer Networks, Computer Applications, Advance Electronics, Electronic Communication,

### **2006 - 2014**

Miami Dade College – Inter-American \ Wolfson \ Kendall Campus  
Dept. Engineering & Computer Information System  
Instructor

Programing I, Discrete Math, Operating System, Computer Application, Computer Design, Database System, Power Electronics, Signal and Systems, Digital Communications, Analog Communications, Electronics I, Power Systems, AC Circuits, Logic Design, Senior Project Design, Data Web Applications, Mobile App Design, Data Communications, Network Security.

### **2009 - 2014**

Miami Dade College – Kendall Campus  
Dept. of Engineering  
Advisor Electrical and Electronic Engineering Programs

My primary goal is to ensure that our engineering students have the information, counsel, and resources to succeed in the College of Engineering. My responsibilities include, however not limited to:

Write upper division course descriptions for the New Bachelor Program in Electronic Engineering, Design, and Negotiated and approved the graduate school articulation agreement between Miami Dade College and Florida Atlantic University and Nova Southeastern University.

Member of: Academic Review Board and Curriculum Review Board, Advisor for the College of Engineering, in this role I advise students in the AS, AA and BS degrees' in Electrical, Computer, Mechanical, Civil engineering and Computer Science. I organize, plan and attend open houses, follow up on student registration, advise and mentor students.

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Help students define and develop realistic educational career plans through schedule planning for each semester and summer school, if appropriate. Each student should have an up-to-date academic schedule plan through to graduation. Meet with students during orientation to assist student with initial adjustment to university academic life. Meet at least once each semester with continuing students to plan for the coming semester and to review/revise long range academic program schedules.

Assist students in planning an academic program consistent with their abilities and interests.

Monitor progress toward educational/career goals and meet at least once each semester to review the progress toward completing the proposed academic program and to discuss grades and other performance indicators. Interpret and provide rationale for institutional policies, procedures, and requirements.

Follow-up with students on any report of unsatisfactory work (notice of class probation for poor attendance, notice of FA and/or failing grades, incomplete grades from past semester(s), etc.). I impose special attention to students who are placed on academic probation.

Approve all designated educational transactions (e.g., pre-registration/registration schedule, drops/adds, withdrawals, change of major and advisor, waivers, graduation requirements, etc.).

Try to make informal out-of-class/office contacts to underscore personal interest in the student as an individual. Preform intrusive advising and the end of the term,

Maintain an up-to-date Advising Portfolio, with a summary record of performance to date (grade reports, transcript, requirements completed, etc.), dates of conferences, notation of special circumstances, up-to-date and details, etc.

Inform and, if necessary, refer students to other institutional resources when academic, attitudinal, attendance, or other personal problems require intervention by other professionals. (e.g., Office of Academic Development, Academic Services, Personal Counseling, etc.)

Proactively contact and be available for student advisees on a regular basis. Consult regularly with faculty colleagues in order to have up-to-date information. For career and graduate school options,

### **Spring & Summer, Fall 2006**

Florida International University

College of Engineering and Computing

Telecommunications and Information Technology Institute – IT2

Instructor

 Electronics II Lab

 System Lab

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### **2001 -2006**

College of Engineering, Gear Up Program  
IT Specialist  
Florida International University  
Miami, Fl

Responsible for developing and executing IT strategy and goals. This includes all design, architecture, implementation and rationalization of infrastructure such as servers, data centers, wireless, voice/data/video communications, and PC hardware/software infrastructure. Develop standards, which protect company interests, properly assess staffing and budget requirements. Provide leadership and direction to individuals who must gain intricate knowledge of current processes. Evaluate recommended hardware, software, and/or program changes, also evaluated potential impact to the network/end users. Approve, prioritize, and control projects and the project portfolio as they relate to the selection, acquisition, development, and installation of major information systems. Supervise recruitment, development, retention, and organization of all IT staff in accordance with corporate budgetary objectives and personnel policies.

Approve all technology related purchases for the program, design, and installation, support of computer networks according to state contract with vendors. Committee member in the Miami-Dade School District – FIU Program, for the development of Computer and A\V Labs, Computer Courses and the administration of the IT infrastructure for the Homestead Schools. Current budget responsibility: a renewable three year \$7.5M ensuring the development and implementation of such grant. Form part of the committee that oversees the ABET and SCAS accreditation. During this period oversaw the implantation of the: VoIP network, Wireless Network and increased by 50% the number of computer in our labs.

Development of online courses,

### **Summer 2001 & 2002**

Teacher

Gear Up Summer Academy

Fundamental of Computers I and II

In this class I taught Middle and High school students basic and advance principals of computer repair. Students were taught how each component works, how to trouble shoot both software and hardware components. As a final project, students had to assemble a computer and install all necessary software. Participating schools where from the Homestead Area.

### **2000 - 2001**

Gateway Computers,

Miami, Fl

Business Solution Manager, Latin America

Established & managed client relationships, assisting in planning IT initiatives for area of responsibility. Responsible for program budgets and/or cost centers, resource allocation &

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planning to ensure delivery of business benefits. Responsible for vendor evaluation & integration; new products & services support our customers. Drive business solution across designated business platforms and or functions. Oversee Gateway network for South Florida. Recommend hardware and software products to customers, training of inside and outside sales force, oversee quotes, bids and proposals, represented Gateway in several chambers of commerce such as:

- ✚ Greater Miami Chamber of Commerce,
- ✚ Coral Gables Chambers of Commerce,
- ✚ South Miami Chamber of Commerce.

### **1998 - 2000**

Raltron Electronics  
Miami, FL

World Wide Product Manager – VCO Component.

Formulate recommendations for product development enhancements and new products and services offerings by monitoring industry needs, as well as prospect and client requests. Manage timelines with Product Development to ensure new products and services, and enhancements are released on schedule. Work with Marketing to ensure product-related promotional materials and website copies are current and effective. Other responsibilities include:

- ✚ Define the product strategy and roadmap
- ✚ Work with external third parties to assess partnerships
- ✚ Be an expert with respect to the competition
- ✚ Set pricing to meet revenue and profitability goals
- ✚ Deliver a monthly revenue forecast
- ✚ Brief and train the sales force

### **Memberships**

Institute of Electrical and Electronic Engineers – IEEE  
Registered Professional Engineer # CN206-56232

### **Academic Honors, Awards and Scholarships**

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Presidential Medal for Service, Gold 2013

Broward College “Outstanding Advisor of 2011”

Tau Beta Pi, Engineering Honor Society

Eta Kappa Nu, Electrical Engineering Honor Society

Eta Kappa Nu, Most Outstanding Graduate Student, School of Electrical Eng. FIU

Delta Epsilon Iota, Academic Honor Society

Omicron Delta, Leadership Honor Society

Sigma Xi, Research Honor Society

Florida International University, Honors Council “Outstanding Member Award”

Who’s Who Among Graduate Students in America



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Marquis Who's Who in America  
National Scholar Honor Society  
FBI - Recognition of Commitment Award 2013  
Miami Beach Police - Recognition of Commitment Award 2012  
Miami Dade Police – Recognition of Commitment Award 2006  
National Chancellor's List  
National Dean's List  
Order of the Engineer  
Undergrad & Graduate Dean's List

### **Conferences and Publications**

- ✚ 2012 Scientific Committee  
LACCEI 2011 Panama City, Panama  
Latin American and Caribbean Conference for Engineering and Technology
- ✚ Keynote Speaker, 2<sup>nd</sup> International Conference in Electronics and Telecommunications,  
Universidad Autonoma del Caribe, Barranquilla, Colombia. October 27 and 28, 2011
- ✚ 2011 Chair Technical Committee – Paper Selection committee.  
LACCEI 2011 Medellin, Colombia  
Latin American and Caribbean Conference for Engineering and Technology
- ✚ 2010 Chair Technical Committee – Paper Selection committee.  
LACCEI 2010 Arequipa, Peru  
Latin American and Caribbean Conference for Engineering and Technology
- ✚ 2012 Fifth IEEE International Conference on Biometrics Theory, Applications and  
Systems, Washington DC
- ✚ 2012 IEEE Conference on Technologies for Homeland Security, Waltham, MA
- ✚ Biometric Recognition  
2<sup>nd</sup> International Conference in Electronics and Telecommunications,  
Universidad Autonoma del Caribe, Barranquilla, Colombia. October 27 and 28, 2011
- ✚ Infra Red Hand Vein Pattern Recognition  
Ninth LACCEI Annual Conference for Engineering and Technology Innovation and  
Development for the Americas, Medellin, Colombia.
- ✚ Multimodal Biometrics, Paper Accepted  
Eighth LACCEI Annual Conference for Engineering and Technology Innovation and  
Development for the Americas, Arequipa, Peru
- ✚ Eighth LACCEI Annual Conference for Engineering and Technology Innovation and

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Development for the Americas, Arequipa, Peru

- ✚ Sixth Latin American and Caribbean Conference for Engineering and Technology, Honduras, June 4 - 6, 2008, "Multimodal Biometric Authentication High Performance Computing"
- ✚ Eight Sixth Latin American and Caribbean Conference for Engineering and Technology, "Wavelet application in Biometric Authentication"

### **Grants Awarded**

- ✚ IEEE Foundation STEM Grant \$16,000.00
- ✚ FIU, research in High Performance Computing
- ✚ Poster presented at the International Conference on High Performance Computing, Networking and Storage, SC06, Tampa, FL
- ✚ Broward College, over \$35,000.00 in travel grants awarded.

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## Teaching Statement

I have been a non-traditional student in every step of the way. I started my education in engineering at FIU, like many other students in our school, working one and sometimes two jobs while attending school on a full time basis. Although sometimes disheartened by the situation, I was always encouraged to continue and further my education, and for that I will always be grateful to the many faculty members that reached out with a voice of inspiration. Despite the many obstacles, I am now attaining the highest degree you can achieve in engineering. It has been the combination of all these experiences, good and some bittersweet, that have actually shaped my participation and role as an educator, the importance of a positive environment in and out of the classroom, mentoring students and my constant aspiration to “better tomorrow” through the powers of education.

As an engineer, I can assure that education is one of the most, if not the most, complex mathematical equations, composed of linear and non-linear variables. However, learning, and this concept applies to both educator and students, is far more complex since the cognitive process can be impeded or enhanced. One of my roles as an educator is to challenge and support my students, in every phase of the education process, which includes among others; learning, understanding and the proper transfer of content. I strongly believe in President Obama’s, statement during his visit to Miami Dade Senior High School, “...education was never meant to be difficult, it was always intended to be challenging...”

Students learn in different ways, through experiences, different influences, and with the support and guidance of their instructors. As a registered professional engineer, I stress on the importance of understanding the impact of their decision on society in order to be an effective professional. Students must understand the importance of basic principals and understand how to apply these in academia and well as in industry. In essence, as educators we must encourage our students to be successful inside as well as outside of the classroom.

**Approach:** When designing a course, I start with the course content which will determine the most important outcomes and then I prioritize appropriately. This method is usually called Backward design for curriculum development. A wide range of different assessments are used in order to involve the students, these could include real world projects or allowing the students to define the assessment, of course with guidelines.

**Challenges:** After fourteen years of teaching, I realized that each group is different. Each group of students has it’s own “dynamics”, and the approach sought out and successful in one does not guarantee success in the other group. Every instructor must realize that one of the most obvious challenges is in recognizing, understanding, respecting and in some circumstances adjusting to the diverse learning styles that each group can present. The capacity that each instructor must have to adapt and accommodated student differences is another challenging factor. Another challenge would be reaching students at their

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own level. As an instructor, my goal is to foster a positive classroom environment. Such an environment allows student to actively participate and stimulates the learning process. However, for this to happen we must be clear, as instructors, on what is expected, goals and the procedure to meet these, all while being sympathetic to individual differences.

**Environment:** I'm committed in creating an environment that allows students to participate and challenge, as they should, concepts in a professional and positive manner. This engagement directly reflects on the students learning and development. My role as an educator requires me to establish this kind of environment in the classroom, which will promote collaboration among students and instructor.

I strongly believe, in my role as an engineer and educator, that it is my responsibility to challenge and support my students, in aspects such as learning, and understanding among others. I hope to accomplish these goals not only inside but outside of the classroom as well.