

Electrical Engineering

The Master of Science in Electrical Engineering may be earned with thesis option or non-thesis option. Either option may be used as preparation for further graduate study or employment in industrial research, development or design.

Also a strong Ph.D. program is available for those who wish to pursue a research and/or teaching career in Industry, Government or Academia.

Master's Degree Requirements

Thirty-one (31) credit hours; a thesis is optional. Students must have at least 21 hours of ECE courses that cover at least three specialty areas and have at least three credit hours of advanced-level (700-level) ECE courses. Students electing the Option B non-thesis option must meet core course requirements; have ECE courses that cover at least three specialty areas' and have at least three credit hours of 700-level ECE courses.

The Master's degree is offered online through Engineering OnLine. Applications to these MS on-line programs are through the ECE Department and all students must comply with ECE program requirements.

Doctoral Degree Requirements

Approximately 54 credit hours are required beyond the M.S. degree or 72 credit hours beyond the B.S. degree. For those with an NC State MS degree in our department, no additional courses are required. For those with an NC State MS degree in another department, 6 credit hours are required in our department. For those with a non NC State MS degree, 12 credit hours of coursework are required. For those with only a Bachelors degree 30 credit hours of coursework are required. The remaining credit hours are research.

The department wishes to evaluate a Ph.D. student's research potential as quickly as possible. Consequently, all Ph.D. students are required to pass a qualifying review before the end of their third semester of study. This review is based on the student's academic performance to date and the results of a project with one of their committee members. Results are presented to the committee in both written and oral form. Based on this review, the committee will decide if the student may continue in the Ph.D. program.

Student Financial Support

The department offers financial support to qualified students in the form of teaching assistantships, research assistantships, and fellowships. These sources of support generally include coverage of tuition and fees.

More Information

Electrical Engineering Program Website (<https://www.ece.ncsu.edu/grad/>)

Admissions Requirements

Admission to the M.S. program requires a B.S. in electrical engineering, computer engineering or computer science, and an overall undergraduate GPA of at least 3.0. For non-native English speakers, the minimum acceptable TOEFL score for admission to the M.S. program is 90 (minimum 18 in each area, with minimum of 19 on Speaking). Admission is further limited by available room in the elected program of study.

Meeting the above minimum requirements alone does not guarantee admission.

Applicants to the Master's and PhD programs who do not have a Bachelor's degree in Electrical Engineering or Computer Engineering, but have a closely related degree from an accredited college or university, must have taken the following pre-requisite courses: Courses equivalent to ECE 109, ECE 209, ECE 212, ECE 220, ECE 301, ECE 302 and ECE 303.

All international applicants from non English speaking countries must submit TOEFL scores. The TOEFL must have been taken within two years of the date of anticipated admission. On the TOEFL iBT, students must have a minimum of 18 on each section of the test with a minimum total of 90. Scores on previous versions of the TOEFL are considered with the same qualitative standard. On the IELTS, we require a minimum score of 6.5 in each section. This requirement also applies to US citizens whose principal language of instruction has not been English (for example, most applicants from Puerto Rico and the Virgin Islands).

TOEFL - institution code 5496; department code 66

Admission to the Ph.D. program requires a B.S. or M.S. in electrical engineering, computer engineering or computer science with an expectation of an overall GPA of at least 3.25. The minimum acceptable TOEFL score for admission to the Ph.D. program is 90 (minimum 18 in each area, with minimum of 19 on Speaking). Admission is further limited by available room in the elected program of study, and meeting the minimum requirements as given above does not guarantee admission.

Applicant Information

Electrical Engineering (MS)

- **Delivery Method:** On-Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

Electrical Engineering (PhD)

- **Delivery Method:** On-Campus
- **Entrance Exam:** None
- **Interview Required:** None

Application Deadlines

- **Fall:** January 9 (US and Intl)
- **Spring:** July 1 (US and Intl)

Degrees

Faculty

Full Professors

Harald Ade

David E Aspnes

B. Jayant Baliga

Mesut E. Baran

Salah M. A. Bedair

Subhashish Bhattacharya

Donald L. Bitzer
Alper Yusuf Bozkurt
Gregory T Byrd
Rada Yuryevna Chirkova
Mo-Yuen Chow
Huaiyu Dai
William Rhett Davis
Alexandra Duel-Hallen
Michael James Escuti
Do Young Eun
Brian Allan Floyd
Paul D. Franzon
Edward F. Gehringer
John J. Grainger
Edward Grant
Robert Wendell Heath
Brian L Hughes
Iqbal Husain
Ki Wook Kim
Frederick Anthony Kish Jr.
Robert Michael Kolbas
Hamid Krim
Ning Lu
Srdjan Miodrag Lukic
Leda Lunardi
Thomas Kenan Miller III
Veena Misra
Rainer Frank Mueller
John F. Muth
H. Troy Nagle Jr.
Jagdish Narayan
Arne Nilsson
Omer Oralkan
Mehmet Cevdet Ozturk
Harilaos George Perros
Douglas Stephen Reeves

Eric Rotenberg
Georgios Rouskas
Xipeng Shen
Mihail Lorin Sichitiu
Zlatko Sitar
Matthias F. M. Stallmann
Daniel D. Stancil
Michael B. Steer
J. K. Townsend
James Tuck
Daryoosh Vashaei
John Victor Veliadis
Ioannis Viniotis
Mladen Alan Vouk
Wenye Wang
Jonathan Wierer
Fen Wu
Huiyang Zhou

Associate Professors

Jacob James Adams
Dror Zeev Baron
Michela Becchi
Aranya Chakraborty
Stanley Cheung
Alexander G. Dean
Sevgi Gurbuz
Ali Gurbuz
Ismail Guvenc
Khaled Abdel Hamid Harfoush
Michael W. Kudenov
David S. Lalush
Edgar Lobaton
Zeljko Pantic
Nuria Gonzalez Prelcic

Anderson Rodrigo de Queiroz

David Ricketts

Nitin Sharma

Cranos M. Williams

Assistant Professors

Aydin Aysu

Amay Jairaj Bhandodkar

Michael Daniele

Demetry Farfurnik

Caterina M. Gallippi

Yaoyao Jia

Shih-Chun Lin

Yuan Liu

Jianqing Liu

Spyridon Pavlidis

Bradley Galloway Reaves

Muhammad Shahzad

Wenyuan Tang

Chau-Wai Wong

Tianfu Wu

Chenhan Xu

Practice/Research/Teaching Professors

Jordan Besnoff

Gregory Edward Bottomley

Laura J Bottomley

James Paul Dieffenderfer

Robert Joseph Evans

John Gajda

Rachana Ashok Gupta

Seth E. Hollar

Douglas C. Hopkins

Andrew J. Rindos III

Steven D. Jackson

Robert Dwight Oden Jr.

Bongmook Lee

David Lee Lubkeman

Hatice Orun Ozturk

Tania Milkova Paskova

James Lee Reynolds

Elena Nicolescu Veety

Leonard Wilson White

Donna G Yu

Wensong Yu

Professors Emeritus

George F. Bland

John R. Hauser

Wilbur Carroll Peterson

Winser E. Alexander PhD

Tildon H Glisson Jr

Michael A. Littlejohn

Carlton M. Osburn

Sarah Ann Rajala

Wesley E. Snyder

Adjunct Faculty

Mihail Devetsikiotis

Yan Solihin

Teaching Associate Professors

Mihail Cutitaru

Frederick J. Livingston