Professional Background

Name: Dennis Hite

Department: Electrical and Computer Engineering

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Office Address: EB217-k

M.S.E. in Electrical Engineering (2005) University of Alabama in Huntsville

Bachelors of Science (Physics Major) (1998) Purdue University

II. Teaching Activities: Summary list of courses taught, theses advised

EE100 Fundamentals of Computer, Electrical, and Optical Engineering

EE100L Fundamentals of Computer, Electrical, and Optical Engineering Laboratory

EE202 Introduction to Digital Logic Design

EE213 Electrical Circuits I

EE223 Design and Modeling of Electric Circuits and Systems

EE 410 Sensors and Actuators

EE410 MATLAB, Measurement, and Project Design

CPE449L Introduction to Information Assurance Laboratory

MAE491 Senior Design II

EE494 Electrical Engineering Design Projects

OPE 459 Optical Engineering Design I

OPE 460 Optical Engineering Design II

III. Teaching materials developed:

In 2019 I created a new Course EE 490 Sensors and Actuators and offered it in the summer 2019 term.

In 2017 I became the instructor of record for EE202 Digital Logic Design Lab. I modified and updated Course Material for EE 202 to include new Verilog exercises, logic board, and lab experiments.

In 2016 I modified and improved the material developed for "MATLAB, Measurement, and Project Design" for a new required course EE223-- "Design and Modeling of

Electric Circuits and Systems". This course is currently offered for the first time in the spring 2017 term.

In 2016 participated, along with other instructors; in modifying the content of ours circuits course EE213. In the past EE213 covered DC circuit analysis and EE313 covered AC circuit analysis. Now both topics are covered in the one semester EE213 course

In 2014 I developed a new course titled "MATLAB, Measurement, and Project Design". The material included course notes and hands on exercises. The course was well received by the students and two sections were offered in the summer 2014 and 2015.

I worked with Dr Charles Corsetti in an effort to reorganize the EE Senior Design course which included developing sources of external funding to support the course. The external funding has been tied to outreach projects and resulted in several successful senior projects.

I have developed a set of lectures that are delivered via a Tablet PC and LCD projector for the EE202 Introduction to Digital Logic Design course. I have also restructured the Sections I teach to include a Hardware Development Language project in step with current design trends.

I have developed a set of lectures that are delivered via a Tablet PC and LCD projector for the EE100 Fundamentals of Computer Electrical and Optical Engineering course. The material includes theory and real world examples utilizing the World Wide Web and computer programs for simulations.

For EE100 I developed and coordinate what I have coined the "Computer, Electrical, and Optical Engineering Freshman Lecture Series". The lectures encourage interaction between faculty and students and integrate research and learning.

I have co-authored Laboratory manual for EE100 (Fundamentals of Computer, Electrical, and Optical Engineering).

I have co-authored the textbook used in EE100 (Fundamentals of Computer, Electrical, and Optical Engineering).

I assisted in setting up a new network laboratory for CPE448 (Introduction to Computer Networks). During which I edited and contributed to the laboratory experiments for the new laboratory.

I edited and made several contributions to the laboratory exercises for CPE449 (Introduction to Information Assurance Engineering).

I created and configured a set of laboratory Virtual Machines for the CPE449 (Introduction to Information Assurance Engineering), that can be used to complete assignments offsite.

IV. Student Mentoring:

In the spring 2020 I served as an Honors Thesis Advisor for Mariah Flint. The title of the honors thesis is: *Applications of WiFi-Enabled Systems in Residential Security.*

In the spring 2022 I served as an Honors Thesis Advisor for Blake Kelly. The title of the honors thesis is: *Applications of WiFi-Enabled Systems in Residential Security.*

In the spring 2021 I served as an Honors Thesis Advisor for Jacob Klingbeil. The title of the honors thesis is: *Electric Vehicle Health Monitoring System.*

In the spring 2020 I served as an Honors Thesis Advisor for Michael Prevost. The title of the honors thesis is: *Development of a High Fidelity Headphone DAC / Amp.*

In the spring 2020 I served as an Honors Thesis Advisor for Sarah Dangelo. The title of the honors thesis is: *Remote Control of the ECE SmartKart.*

In the fall 2017 I served as an Honors Thesis Advisor for Zachary Pinz. The title of the honors thesis is: *Microstrip Patch Antenna Bandwidth Enhancement for Wireless Energy Harvesting.*

Faculty Mentor with Dr. Maria Pour on student project being presented at the 2017 Research Horizons Day "**Frequency Bandwidth of U-Slot Microstrip Patch Antennas".**

In the summer 2017 I participated in the Research and Creative Experience for Undergraduates Program with undergraduate student Sarah Dangelo. Sarah worked on the ECE Smart Kart which is a wireless electric kart developed by electrical engineering senior design teams over several semesters.

In the spring of 2016 I served as an Honors Thesis Advisor for Jurgen Sawatzki Chaw. The title of the honors thesis, which was presented at Honors Research Day, is *Autonomous Ultra Violet Swimming Pool Cleaning System.*

In the summer 2014 I participated in the Research and Creative Experience for Undergraduates Program with undergraduate student William Isaac Daniel. William worked on the ECE Smart Kart which is a wireless electric kart developed by electrical engineering senior design teams over several semesters.

In the spring 2012 and spring 2013 terms I mentored three EE senior design projects, the salt-water antenna, the ECE Smart Kart, and the LuxAphone. The projects are used at the university open house and other recruiting events.

I employed and mentored Colin Murphy, an undergraduate student, Aug 2009 – Aug 2010. His efforts led to the development of two functional electromagnetics experiments and a proposal submission to the NSF TUES program.

I participated in mentoring an EPSCoR Interm, Mr. McDuffy Pettway, on his summer 2007 project. His project was presented at the EPSCoR/ALSAMP Summer Research Conference, July 2007 at UAB.

V. Research, Creative, and Scholarly Activity:

Books and Manuals:

Fundamental Concepts in Electrical and Computer Engineering with Practical Design Problems, Reza Adhami, Peter Meenen, III, and Dennis Hite, Universal Publishers, Boca Raton, Florida, 2007.

Laboratory Tutorials and Exercises for Entry-Level Computer, Electrical, and Optical Engineers Contributors: Reza Adhami, Damien Galzi, Dennis Hite, Yoshito Kanomori, Mahesh Nalasani and Desmond Tan, Electrical and Computer Engineering Department, Spring 2007.

Concepts in Digital Signals and Systems Laboratory Manual Mahesh Nalasani and Dennis Hite, Electrical and Computer Engineering Department, August 2004.

Electrical Engineering Laboratory Explorations, 4th Edition, Mukhter Ali, Dennis Hite, and Reza Adhami, Electrical and Computer Engineering Department, July 2000.

Refereed Journal Articles:

Dennis Hite , Colin Murphy , Nagendra Singh (2014). "A Relatively Inexpensive 5.8 Ghz Microwave System for Exploring Electromagnetic Phenomena in Laboratories," *Universal Journal of Engineering Science, 2 ,* 43 - 48. doi: 10.13189/ujes.2014.020202.

Dennis Hite, Timothy B. Boykin, Nagendra Singh, and Dashen Shen, "A Simple Fermi-Dirac Integration Circuit," *American Journal of Physics,* 73, p. 856, (2005).

Timothy B. Boykin, Dennis Hite, and Nagendra Singh, "The two-capacitor problem with radiation," *American Journal of Physics,* 70, p. 415, (2002).

C. Lengacher, S. Macklin, D. Hite, and M. F. Masters, "Low cost CCD detectors for spectroscopy," *American Journal of Physics, 66,* p. 1025, (1998).

Dennis Hite, M. Deebel, E. Thoreson, C. Lengacher, R. R. Miers, and M. F. Masters, "Construction of a heat pipe oven on a low budget," *American Journal of Physics, 65,*

p. 1017, (1997).

Conference Papers:

Aleksandar Milenkovic, Milena Milenkovic, Emil Jovanov, Dennis Hite, and Dejan Raskovic, "An Environment for Runtime Power Monitoring of Wireless Sensor Network
Platforms," in *Proceedings of the 37th Southeastern Symposium on System Theory (SSST),* Tuskegee, AL, March 2005, pp. 406 - 410.

VI. Grants/Donations:

2020: Donation of $500 from the Technical Service Corporation (TSC) to support senior design outreach projects.

2020: Grant of $1000 from Alabama Space Grant Consortium/NASA EPSCoR to support senior design outreach projects.

2019: Applied for and received a $10,000 donation of 10 spectrum analyzers to support courses in ENG 109 from Gleason Research Associates..

2018: Applied for grant and awarded $1250 from the Tennessee Valley Authority (TVA) to support senior design outreach projects.

2015: Applied for grant and awarded $2500 from the Tennessee Valley Authority (TVA) to support senior design outreach projects.

2014: Applied for grant and awarded $5000 from the Tennessee Valley Authority (TVA) to support senior design outreach projects.

2013: I received an equipment donation from Synapse Wireless valued at $700 in support of EE Senior Design projects.

2013: Applied for grant and awarded $4000 from the Tennessee Valley Authority (TVA) to support senior design outreach projects including the ECE Smart Kart

2012: Applied for grant and awarded $5000 from the Tennessee Valley Authority (TVA) to support senior design outreach projects including the ECE Smart Kart

2012: Working with the University Advancement office I received a $300 donation from Bentley Automotive group in support of the wireless buggy project.

2012: I received a $600 donation from the IEEE EMC Society-Huntsville Chapter in support of the salt-water antenna project.

2011: I received an equipment donation from Wyle Laboratories valued at $3,500 in support of a new Electromagnetics Lab.

2009: Awarded ECE Research Enhancement Program Grant (Aug. 2009 to Aug. 2010), to develop lab exercises related to the department's Electromagnetics courses

VII. Honors, Awards, and Special Recognitions:

Student Government Association Outstanding Faculty Award (UAH 2009-2010)

Outstanding Graduate Student (Masters Level) Department of Electrical and Computer Engineering (UAH 2005)

Outstanding Staff Award Department of Electrical and Computer Engineering (UAH 1999)

Distinguished Physics Major Award Department of Physics (IPFW 1997)

VIII. Relevant Work Experience:

August 2019 to present (UAH- Dept. of Electrical and Computer Engineering, Huntsville, AL)

ECE Senior Lecturer

August 2005 to 2019 (UAH- Dept. of Electrical and Computer Engineering, Huntsville, AL)

ECE Lecturer

April 1999 to 2005 (UAH- Dept. of Electrical and Computer Engineering, Huntsville, AL)

ECE Laboratory Manager

August 1998 to April 1999 (UAH- Department of Physics, Huntsville, AL)

Teaching Assistant/Research Assistant

1991-1998 Indiana University-Purdue University at Fort Wayne, Fort Wayne IN

Full Time Student

Summer 1996 and 1997 (IPFW- Dept. of Physics, Fort Wayne, IN)

Physics Research Assistant

Summer 1995 (IPFW- Dept. of Physics, Fort Wayne, IN)

Physics Teaching Assistant