

V. William DeLuca, Associate Professor
North Carolina State University
College of Education
Department of Science, Technology, Engineering and Mathematics Education
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Education

West Virginia University, Morgantown, WV., Ed.D. in May, 1985 with major in Technology Education

West Virginia University, Morgantown, WV., M.A. in May, 1979 with major in Technology Education

California University of Pennsylvania, California, PA., B.A. in May, 1978 with major in Industrial Arts Education

Professional Experience

1997-Present North Carolina State University, Associate Professor, Technology Education

1992-1996 North Carolina State University, Assistant Professor, Technology Education

2004-2009 Director of Graduate Programs, North Carolina State University, Technology Education Program

1985-1991 North Carolina State University, Assistant Professor, Occupational Education

1981-1985 Central Preston High School, Teacher of Industrial Arts/Technology Education

1985 Fairmont State College, Instructor of Introduction to Computers, Evening Program

1981-1982 West Virginia University, Instructor of Introduction to Computers, Evening Program

1979-1981 Shortline School, Reader, West Virginia, Teacher of Industrial Arts

1978-1979 Valley High School, Pine Grove, West Virginia, Teacher of Industrial Arts

Scholarly Publications

Books

DeLuca V. W., Haynie W. (2006) (3rd ed.). Safety System Design. Reston Va: International Technology Education Association

Electronic Media/Software

DeLuca V.W. & Shettig E. (in print). Simple machines: history and application in mechanisms, Lexington, KY: WhiteBox Learning. (*Electronic media, MS Text*)

DeLuca V.W (in print). The Mousetrap Car reversed engineers including predictive analysis of performance. **Lexington, KY: WhiteBox Learning.** (*Electronic media, HS Text*)

DeLuca V.W & Shettig E. (2011). Plug-in electric vehicle history and design. **Lexington, KY: WhiteBox Learning.** (*Electronic media*)

DeLuca V. W. (2011). Green Car 2.0: background, engineering design, fabrication and evaluation, *Level I and Level II*. Lexington, KY: WhiteBox Learning.

DeLuca V. W., Bowman, B. & Robertson T. (2010). Structures engineering design: background, engineering design, fabrication and evaluation, *Level I and Level II*. Lexington, KY: WhiteBox Learning.

DeLuca V.W & Shettig E. (2010). Plug-in electric vehicle design rally curriculum guide and rally rules. Retrieve from <http://step.gridc.net>, 65 pages.

DeLuca V.W & Shettig E. (2010). Remote control plug-in electric vehicle rally curriculum guide and rally rules. Retrieve from <http://step.gridc.net>, 81 pages.

DeLuca V.W. & Lari N. (2009). Green research for incorporating data in the classroom (GRIDc): learning activities, tutorials and virtual data acquisition. Retrieve from <http://www.gridc.net>.

DeLuca V. W., Robertson T. (2007). C02 dragster design: background, design specification modeling, fabrication and evaluation, *Level I and Level II*. Pittsburg, KS: Pitsco.

Media

North Carolina Museum of Natural Science, Sustainable Transportation Education Program (STEP) display in the new wing of the museum showcases the winners of our competitive event and informs the public about electric vehicles. (informal science education)

Green Street Racer, a documentary that covers the Green Street Academy EV program, an implementation of the Sustainable Transportation Education Program. I am one of the featured commentary. Published my Wide Angle Youth Media, Baltimore MD.
<http://vimeo.com/47443896>

Chapters in Books

DeLuca, V. W. & Marshall K. (2005). Robotics—Radio Control: student edition. In R.E. Peterson (Eds.), *The Tech-Know Project student edition 2*. Cincinnati, Ohio: Centre Point Learning

Marshall, K. & DeLuca V.W. (2005). Robotics—Radio Control: teacher edition. In R.E. Peterson (Eds.), *The Tech-Know Project teacher edition 2*. Cincinnati, Ohio: Centre Point Learning

DeLuca, V. W. & Sanders D. (2005). System control: student edition. In R.E. Peterson (Eds.), *The Tech-Know Project student edition 1*. Cincinnati, Ohio: Centre Point Learning

Sanders, D & DeLuca V.W. (2005). System control: teacher edition. In R.E. Peterson (Eds.), *The Tech-Know Project teacher edition 1*. Cincinnati, Ohio: Centre Point Learning

Referred Journals and Conference Proceedings

National/International

DeLuca, V. William and Larin Nasim (in print), Developing student's metacognitive skills in a Data-Rich Environment. *Journal of STEM Education*.

DeLuca, V. William and Larin Nasim (2011), The GRIDc Project: Developing student's thinking skills in a data-rich environment. *Journal of Technology Education*, 23(1).

DeLuca, V. William and Lari, Nasim. (2011). *The GRIDC Project: Developing Students' Thinking Skills in a Data-Rich Environment*. *Journal of Technology Education*, Fall 2011.

DeLuca V. W., Carpenter P. & Lari, N. (2010) GRIDc: Renewable energy data streaming into classrooms. *Technology and Engineering Teacher*. 70(3), 30-35.

Varnado T. & DeLuca V. W. (2007). Analysis of problem solving techniques used by students when learning about new technologies. *North Carolina Journal of Technology Education*.

Choi, Y. & DeLuca V. W. (2006). Comparative study of attitudes toward technology by semantic differential technique of the middle school students in Korea and United States. *Journal of Korean Practical Arts Education*. 19(3), 113-129.

Haynie W. J., DeLuca V. W. & Matthews B. (2005). Perceptions and practices of technology student association advisors on implementation strategies and teaching methods. *Journal of Technology Education*. (refereed)

Stamey, J., DeLuca, V. W., Saunders, B., Johnson, B. (February, 2005). Learning objects in decision science and computing. Southeast Decision Science Institute. (refereed conference proceedings)

DeLuca V. W. (1992). Survey of technology education problem-solving activities. *The Technology Teacher*. 51(5), 26-29.

DeLuca, V. W. (1991). Implementing technology education problem-solving activities. *Journal of Technology Education*, 2(2), pp. 5-15.

DeLuca V. W. (1991). The effect of text structure on cognitive performance. *Journal of Industrial Teacher Education*. 28(4), 64-71.

DeLuca, V. W. & Haynie, W. J. (1991). Perceptions and practices of technology student association advisors on implementation strategies and teaching methods. *Journal of Technology Education*. 3(1), 4-15.

DeLuca, V. W. (1988). Intelligent technologies: a new basic for technology education. *The Technology Teacher*, 47(7), pp. 7-10.

DeLuca, V. W. (1987). Implementing technology education: planning for change. *The Technology Teacher*, 47(3), pp. 3-6.

Technical Reports, Curriculum Products and non-Refereed Publications

DeLuca, V. W. (Spring 2007). Specialty area report for continuing approval-- graduate technology education programs. North Carolina State University. (49 pages)

Lee, H., DeLuca V. W. (2005). TeKnowledgey Greenhouse: An Engineering and Education Learning Community. Final report submitted to the NSF

DeLuca, V. W (Eds.). (2004). Structural systems. Raleigh, NC: North Carolina Department of Public Instruction. *Adopted curriculum for high schools in North Carolina*.

DeLuca, V. W. (Ed.). (1997) Technology education: manufacturing systems, Raleigh, NC: Public Schools of North Carolina, Department of Public Instruction. . *Adopted curriculum for high schools in North Carolina*.

DeLuca, V. W. (Ed.). (1997) VOCATS test item bank: manufacturing systems, Raleigh, NC: Public Schools of North Carolina, Department of Public Instruction. *End-of-grade test for Vocational Education*.

DeLuca, V.W. (1995) Technological problem solving in manufacturing, ITEA Technology Bank.

DeLuca, V. W. & Gunter, F. (1991). Training needs assessment of the construction industry in North Carolina. North Carolina Department of Community Colleges.

DeLuca, V. W. and Haynie, W. J. (1990). Using microcomputers to converge color TV's. *School Shop*. 49(6), pp. 17-19. (*non-refereed*)

DeLuca, V. W. and Haynie, W. J. (1990), Final Report: Updating, computerization, and field validation of competency-based test-item banks for selected construction and communication courses in North Carolina, RFP 90-A-07, North Carolina State Department of Public Instruction.

DeLuca, V. W. (April 2, 1990), Technology education problem-solving activities-- summary of research findings, ITEA Curriculum Committee Report.

DeLuca, V. W. and Haynie, W. J. (February 20, 1989), Final Report: Updating, computerization, and field validation of competency-based test-item banks for selected manufacturing technology education courses in North Carolina, RFP 88-R-03, North Carolina State Department of Public Instruction.

Refereed Scholarly Presentations

National Invited

DeLuca, V.W. & Carpenter, P.P. (2009, November 4). *GRID_c and STEP: Renewable Energy Sources and Alternative Transportation*. Invited session (1 of 17) presented at the Education Technology Showcase, Hart Senate Office Building, Washington, D.C.

National and International

Ernst, J.V., Clark, A.C., DeLuca, V.W., & Bottomley, L.J. (2013, July). Professional development system design for grades 6-12 technology, engineering, and design educators. Published Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Atlanta, GA.

Ernst, J.V., Clark, A.C., & DeLuca, V.W. (November, 2012). Flexible professional development for technology education. Mississippi Valley Technology Teachers Education Annual Conference/Southeastern Technology Education Annual Conference, Nashville, TN.

DeLuca, V. W. (2012, March 15) Plug-in Electric Vehicle (PEVs): Research, Education, Outreach. ITEEA 74th Annual Conference, Long Beach, CA.

DeLuca, V. W., Clark, A., Ernst, J. & Lari, N.(2011, October 13) Work in Progress: data rich learning environment for engineering education. Frontiers in Education Conference, Rapid City, South Dakota

DeLuca, V.W., Carpenter, P.P. (2011, July 18-21). The education/ industry connection in the electrification of transportation. Raleigh, NC

- DeLuca, V.W., Carpenter, P.P. & Schettig, E.J.(2010, March 18-20). *Residential Energy Data Available for Teaching*. International Technology and Engineering Education Association (ITEEA) 72nd Annual Conference, Charlotte Convention Center, Charlotte, NC.
- DeLuca, V.W., Carpenter, P.P. (2010, March 18-20). *Solar Center Virtual Tour with GRETA*. International Technology and Engineering Education Association (ITEEA) 72nd Annual Conference, Charlotte Convention Center, Charlotte, NC.
- DeLuca, V.W. & Carpenter, P.P. (2009, November 19). *Developing Curriculum: Green Research for Incorporating Data in the Classroom*, Presented at New Ideas in Educating a Workforce in Renewable Energy and Energy Efficiency, Albany, NY.
- DeLuca, V.W. & Carpenter, P.P. (2009, March 27). *Green Research for Incorporating Data in the Classroom*. Presented at the International Technology Education 71st Annual Conference, Louisville, KY
- Salinger, G, DeLuca, V.W. & Hatcher, M. (2009, March 26). NSF R&D Funding Opportunities. Presented at the International Technology Education 71st Annual Conference, Louisville, KY
- Busby, J., Carpenter, P.P. & DeLuca, V.W. (2009, March 26). *Virtual Education Community for Renewable Energy*. Presented at the International Technology Education 71st Annual Conference, Louisville, KY
- DeLuca, V.W., Barrett, G.W. (November 9-11, 2008) GRIDc: “Working Together for Sustainability – On Campus and Beyond” (*conference theme*). Poster presented at Association for the Advancement of Sustainability in Higher Education (AASHE) 2nd Biennial Conference, Raleigh, NC.
- DeLuca, V.W., & Robertson T. (February 22, 2008) learning for tomorrow: knowledge-based engineering. Presented at the International Technology Education Association (ITEA) 70th Annual Conference, Salt Lake City, Utah.
- Haynie, J. W. & DeLuca V. W. (February 21, 2008). Safety system design: the labs have changed and so have the hazards. Presented at the International Technology Education Association (ITEA) 70th Annual Conference, Salt Lake City, Utah.
- DeLuca, V. W. (August, 2008). GRIDc: green research for incorporating data in the classroom. Poster presented at CCLI PI Conference. Washington DC. (*Invited*)
- DeLuca, V. W., et al. (March, 2007). The Tech-know project- a hands-on workshop. Presented at the International Technology Education Association (ITEA) 69th Annual Conference, San Antonio, March 15-17.

- Robertson, T., & DeLuca, V. W. (March, 2007). Knowledge-based engineering demonstration. Invited presentation sponsored by Pitsco. Presented at the International Technology Education Association (ITEA) 69th Annual Conference, San Antonio, March 15-17.
- DeLuca, V. W (February, 2005). TeKnowledgy Greenhouse: An Engineering and Education Learning Community. Poster session presented at the NSF Engineering & Computing Education Grantee Meeting 2005, Washington DC, February 16-18. (*Invited*)
- Peterson, R.E, DeLuca, V. W., Shown, T. (April, 2005). Presented at the International Technology Education Association (ITEA) 67th Annual Conference, Kansas City, April 3-5.
- DeLuca V. W. & Sanders D. The Tech-Know project: control systems. Presented at the international conference of the International Technology Education Association (ITEA), Albuquerque, March 18-20, 2004
- DeLuca, V.W. (March 23, 2001). North Carolina's Internet Learning System for Manufacturing. Paper presented at the International Technology Education Annual Conference, Atlanta, GA. (*refereed*)
- DeLuca, V.W. (2001, March, 2001). North Carolina's Internet Learning System for Manufacturing. Paper presented at the International Technology Education Annual Conference, Atlanta, GA.
- DeLuca V. W. (1995, March). Technological problem solving in manufacturing curriculum. Paper presented at the International Technology Education Association's 57th Annual Conference, Nashville, TN.
- DeLuca V.W. (1991, March). The Problem-Solving Activity Paradigm: We Can Teach More. Paper presented at the International Technology Education Association's 53rd Annual Conference, Salt Lake City, Utah.
- DeLuca, V. W. (1991). Technology education problem-solving activities: we can teach more! ITEA Technology Bank.
- DeLuca V. W. and Blanford T. (1990, April). Developing problem-solving skills by using engineering problems and thinking skills as content organizers. Paper presented at the International Technology Education Association's 52nd Annual Conference, Indianapolis, IN.
- DeLuca V. W. (1989, March). Implement curriculum to maximize cognition based on current cognitive science research. Paper presented at the International Technology Education Association's 51st Annual Conference, Dallas, TX.

DeLuca V. W. and Haynie J. W. (1989, March). A systems approach to safety for technology education. Paper presented at the International Technology Education Association 51st Annual Conference, Dallas, TX.

DeLuca, V. W. (1987, March). Selecting and implementing technology education activities. Paper presented at the International Technology Education Association 49th Annual Conference, Tulsa, OK.

DeLuca, V. W. (1986, March). Using mental tools to develop technological problem solving skills, Paper presented at the International Technology Education Association 48th Annual Conference, Kansas City, KA.

DeLuca, V. W. & Peterson R. (1986, March). Automating a wood manufacturing system. Paper presented at the International Technology Education Association 48th Annual Conference, Kansas City, KA.

State

DeLuca. V. W. & Lari N. (November 12, 2008) GRIDc: green research for incorporating data in the classroom. Poster presented at National Advisory Board Meeting & Poster Sessions, The William and Ida Friday Institute for Educational Innovation, North Carolina State University, Raleigh, NC

Varnado T. , DeLuca V. W. (April, 2007). Analysis of problem solving techniques used by students when learning about new technologies. Presented at the North Carolina Council on Technology Teacher Education Spring Conference, Greensboro, NC, April 13 (*refereed*).

DeLuca V. W. Structural system curriculum. Presented at North Carolina Technology Education Associations Winter Conference 2004. High Point, NC, January 20-23 2004. (*non-refereed*)

DeLuca V.W, (2002, December 9). Enhancing education with open-source software and a vision of tomorrow, LuLu Tech Circus, Raleigh, NC. (*non-refereed*)

DeLuca V. W. (2002, September 26). Enhancing technology education instruction with open-source software. EdTech2002, Raleigh, NC. (*refereed*)

DeLuca V.W. (2002, July 18). A look at the future: Proposed revisions to the NC construction systems curriculum. North Carolina Work Force Development Summer Conference, Greensboro, NC. (*non-refereed*)

DeLuca V. W. (2001, September 13). Internet Learning System: R & D. Presented at NC State's Instructional Technology Exposition 2001, Raleigh, NC. (*refereed*)

- DeLuca V. W. (2001, February 13). Internet learning System: R & D. Presented at the Emerging Issues Forum, Raleigh, NC. (*refereed*)
- DeLuca, V.W (November 29, 2001). Using technology to engage students in learning. Paper presented at the North Carolina Educational Technology Conference, Greensboro, NC (*refereed*)
- DeLuca V. W. (2001, February 13). Internet learning System: Research and Development. Presented at the Emerging Issues Forum, Raleigh, NC. (*refereed*)
- DeLuca V. W. (2000, September 20). Internet Learning System: Solutions to enhance instruction. Presented at NC State's fifth annual Instructional Technology Exposition, Raleigh, NC. (*refereed*)
- DeLuca V.W. and Sanders C. (2000, July 20). Manufacturing systems internet curriculum guide. Presented at the North Carolina Vocational Education Summer Conference, Raleigh, NC. (*non-refereed*)
- DeLuca V. W. (1997, July 30). North Carolina Manufacturing Curriculum, Presented at NC-Technology Education Summer Conference, Greensboro, NC. (3hr. Workshop)
- DeLuca V. W. (1995, January 31). North Carolina Manufacturing Curriculum Update, Presented at NC-Technology Education Winter Conference, Greensboro, NC.
- DeLuca, V.W. (1993, September 17). High-tech activities for the study of technologies. Presented to the NCSU Board of Trustees.
- DeLuca V. W. (1990, October). Problem solving and TSA: a summary of research findings. Presented at the Epsilon Pi Tau (EPT) Fall Meeting, Raleigh, NC.
- DeLuca V. W. (1988, November). Developing action strategies. Presented at the SDPI/NC-TEA Technology Education Update, High Point, NC.
- DeLuca V. W. (1987, November). Teaching about the technology of high-rise construction. Presented at the NC-TEA/SDPI Technology Curriculum Update Workshop, Charlotte, NC.
- DeLuca V. W. (1987, November). Testing and evaluating the integrity of student design and construction prototypes. Presented at the NC-TEA/SDPI Technology Curriculum Update Workshop, Charlotte, NC.
- DeLuca, V. W. (1986, August). The mental-tool process. Paper presented at the meeting of the North Carolina Council of Vocational Teacher Educators (NCCVTE), Greensboro, NC.

DeLuca, V. W. (1986, November). Three year plan for change in the classroom. Presented at the North Carolina SDPI/NCIAA Fall In-Service Workshop

Regional

DeLuca, V.W. & Carpenter, P. (October 3-4, 2008). Green Data, Green Lab: The renewable energy technologies project at NCSU. Presented at Southeastern Technology Education Conference, Old Dominion University, Norkolk, VA.

Stamey, J., DeLuca, V. W., Saunders, B., Johnson, B. (February, 2005). Learning objects in decision science and computing. Presented at the Southeast Decision Science Institute Thirty-Fifth Annual Meeting, Raleigh, February 23-25, 2005

Workshops

DeLuca, V. W. (1993, December 3). The integration of academics in manufacturing. Presented to at-risk students from West Lake Middle School, Raleigh, NC.

DeLuca, V.W. (1992, August 5). Manufacturing Systems. Workshop conducted at the NC Vocational Education Summer Workshop, Raleigh, NC.

DeLuca, V. W. (1991, August 7-8). Design and Problem Solving in Technology Education. Workshop conducted at the NC Vocational Education Summer Workshop, Raleigh, NC.

DeLuca V. W. (1990, August). Problem solving: a basic skill for technological literacy. Presented at the 1990 Vocational Education Summer Workshop, Raleigh, NC.

DeLuca V. W. (1990, August). Developing and implementing problem-solving activities. Presented at the 1990 Vocational Education Summer Workshop, Raleigh, NC.

DeLuca V. W. & Haynie J. (1989, August). Developing computerized competency test-item banks. Presented at the 1989 Summer Vocational Workshop, Raleigh, NC.

DeLuca V. W. & Haynie J. (1989, August). N.C. safety program: a systems approach, Presented at the 1989 Summer Vocational Workshop, Raleigh, NC.

DeLuca V.W. (1989, August). Introduction to engineering workshop. Presented at the 1989 Summer Vocational Workshop, Raleigh, NC.

DeLuca V. W. (1988, August). Automated manufacturing system design: a problem solving approach. Presented at the 1988 Summer Vocational Workshop for Industrial Arts/Technology Education, Greensboro, NC.

DeLuca V. W. (1988, February). Design in manufacturing. Presented at NC-TEA/SDPI Technology Curriculum Update Workshop, Raleigh, NC.

DeLuca V. W. (1988, January) Developing and implementing technology education. Presented at NCCTTE meeting, Camp Caraway, NC.

DeLuca, V. W. (1986, August). Tech-fest: new "hands-on" ideas available for automated manufacturing. Presented at the North Carolina Vocational Education Summer Workshop, Greensboro, NC.

DeLuca, V. W. (1986, August). Beyond house building: teaching construction as a technology system. Presented at the North Carolina Vocational Education Summer Workshop, Greensboro, NC.

Externally Funded Grants

Transforming Teaching Though Implementing Inquire, An NSF funded project, DR k-12. W. DeLuca (co-PI). \$1.9M

Building Design Apps for Early Engineering Education (2010-2012). An NSF funded project (1037677). Division of Engineering Education and Centers in Engineering Education, S. Ferguson (PI); W. DeLuca (co-PI) , \$149,928.00

2010 Clean Fuel Advanced Technology Project: NC State University- Joyner Visitor Center (2010-2012). Sponsored by the NC Department of Transportation and NC Solar Center. W. DeLuca & S. Fair (co-Director). \$79,542.00

Sustainable Transportation Education Program (STEP): Middle School (2010-2012). Funded by Progress Energy. W. DeLuca & P. Carpenter (Co-Director). \$15,000 yearly.

Sustainable Transportation Education Program (STEP): High School (2010). Funded by United States Navy. W. DeLuca & P. Carpenter (Co-Director). \$2,500.00.

GRIDc II: Green Research for Incorporating Data in the Classroom Phase 2 (2009-2012). An NSF funded project, Division of Undergraduate Education, Course, Curriculum and Laboratory Improvement, W. DeLuca (PI), \$400,024.00.

Sustainable Transportation Education Program (STEP): Middle School. Funded by Progress Energy. W. DeLuca & P. Carpenter (Co-Director). \$15,000.

Games Requiring Advanced Developmental Understanding and Achievement in Technological Endeavors [GRADUATE]. An NSF funded project (0833452) . Division of Research on Learning in Formal and Informal Settings, Innovative Technology Experiences for Students and Teachers. L. Annetta (PI); W. DeLuca (co-PI), \$1,497,220.00

Grid-C: Green Research for Incorporating Data in the Classroom (2006-2009). An NSF funded project, Division of Undergraduate Education, Course, Curriculum and Laboratory Improvement, W. DeLuca (PI), \$199,986.00

Cross-college collaboration with “a lab for all reasons”. An NSF funded grant, David Ollis (PI); W. DeLuca (Sinior Researcher), \$500,000.00.

TeKnowledge Greenhouse: An engineering and education learning community. An NSF funded grant, H. Lee (PI); W. DeLuca (co-PI), \$100,000.

Internal Funded Grants and Contracts

DeLuca V. W. (2002, May). Enhancing technology education instruction with open source software. Funded by DELTA for \$12,858

DeLuca V. W. (1999) Internet Learning System Research and Development Project, North Carolina University General Administration, \$9,300.00

DeLuca V. W. (2000) Development of North Carolina’s Technology Education Interactive Web Learning and Resource System, North Carolina Department of Public Instruction, \$10,600.

DeLuca, V.W. and Walker, D. (1997), Teaching Problem Solving as Content to Enhance Critical Thinking Ability, Small Grants School-Based Research Program, \$5,000.00.

DeLuca, V. W. (1990), Training Needs Assessment of the Construction Industry in North Carolina, North Carolina Department of Community Colleges, \$24,145.00.

DeLuca, V. W. and Haynie, W. J. (1989), Updating, computerization, and field validation of competency-based test-item banks for selected construction and communication courses in North Carolina, North Carolina State Department of Public Instruction, \$12,500.00.

DeLuca, V. W. and Haynie, W. J. (1988), Updating, computerization, and field validation of competency-based test-item banks for selected manufacturing technology education courses in North Carolina, North Carolina State Department of Public Instruction, \$12,000.00.

DeLuca, V. W. (1988), Develop instructional material and equip facilities to introduce industrial arts education majors to basic components and devices of computerized control systems, NCSU Instructional Computing Grant, \$1,500.00.

Courses Taught

Graduate Courses

TED 552/752 Emerging Technologies
TED 555/752 Developing and Implementing Technology Education Programs
TED 558/758 Teaching Creative Problem Solving
TED 610/621 Special Topics-- Internet Development for Technology Education, Robotics Systems, Computerized Control Systems, Computer Applications in Industry and Education., Construction, Robotics and Automation, and Robotics and Automation System Design

Undergraduate Courses

TDE 331 Engineering Design
TDE 384 Computer Applications in Industry
TDE 221 Construction Technology
TDE 330 Manufacturing Technology
TDE 110 Materials and Processes
IA 364 Wood Processing

Instructional Development

TDE 131 Technology through Engineering and Design I (New Course, approved Fall 2010)
TDE 331 Technology through Engineering and Design II (New Course, approved Fall 2010)
Advanced Licensure Master's Degree in Technology Education (New Degree Program, 2001)
TED 552 Curricula for Emerging Technology (Revised Course, 2001)
TED 555 Developing and Implementing Technology Ed (Revised Course, 2001)
TED 646 Field-based Research in Technology Ed (New Course, 2001)
TED 641 Internship in Technology Education (New Course, 2001)
TED 115 Wood Processing (Revised Course, 1986, 1989, 1996)
Technology Education Master's Degree Program (Revised Curriculum, 1992)
EOE 545 Emerging Technologies (New Course, 1992)
TED 384 Computer Applications in Industry (New Course, 1989)
TED 430 Manufacturing Technology (New Course, 1989)
IA 364 Wood Processing II (Revised Course, 1986)
IA 359 Electrical Technology I (Revised Course, 1986)
IA 360 Electrical Technology II (Revised Course, 1986)

Graduate Education

Doctoral Dissertation Directed/Chaired

Tillman, M. (Aug, 2009). Factors Contributing to the Development of Distance Education through Preliminary Online Training and Identifying Various Levels of Technical

- Competencies by Online Instructors within the University of North Carolina System, North Carolina State University. (co-Chair)
- Pierce, E. (May, 2007). The Technology Connections Initiative in the Wake County Public School System and Its Effect on Scale Scores and Passing Rates on State Tests, North Carolina State University. (Chair)
- Carpenter, P. (December, 2006). Cyber connections across age differences: how communication technologies enhance social communication in learning communities in online college courses, North Carolina State University. (Chair)
- Stamey, J. (December, 2006). Dissertation: A comparison of the performance of undergraduate statistics students using intelligent learning objects versus those receiving traditional classroom instruction, North Carolina State University. (Chair)
- Matthews, B. (May 2004). The Effects of Direct and Problem-based Learning Instruction in an Undergraduate Introductory Engineering Graphics Course. North Carolina State University. (co-Chair)
- Sanders, C. (May 2002). Integrating Multimedia in Technology Education to Improve College Student Comprehension, Problem-solving Skills, and Attitudes Toward Instructional Effectiveness. North Carolina State University. (Chair)
- Aurher, A. (May, 1999). The effect of direct and indirect instruction on teaching technological problem solving. North Carolina State University. (Chair)
- Kranc, B. (May, 1997). The impact of individual characteristics on telecommunication distance learning cognitive outcomes in adult students. North Carolina State University. (co-Chair)
- Caple, C. (Dec., 1996). The effects of spaced practice and spaced review on recall and retention using computer assisted instruction. North Carolina State University. (Chair)
- Osler, J. (Dec., 1996). The effect of an ergonomically designed computer-based tutorial on elementary student's recall. North Carolina State University. (Chair)
- Hillis, D. R. (1992). Using a computer-based simulation with an artificial intelligence component and discovery learning to formulate training needs for a new technology. North Carolina State University. (co-Chair)
- Barnette, E. J. (1990). The identification of major concepts that define technological literacy for precollege education. North Carolina State University. (co-Chair)
- Watkins P. S. (1988). The use of three discrete measures of the environment in a test of Holland's person-congruence construct. North Carolina State University. (co-Chair)

Professional Service

Member, North Carolina Department of Public Instruction's curriculum development team for a new state wide course in technology and engineering. 2007-2008

Member, North Carolina Department of Public Instruction's committee to restructure the scope and sequence of North Carolina's Technology education curriculum, 2005-2006

Coordinator, North Carolina Department of Public Instruction's Structural Systems Curriculum Development Team.

Coordinator, North Carolina Department of Public Instruction's Structural Systems Curriculum Development Team, 2001-2004

Competitive Events Coordinator, North Carolina Technology Student Association Competitive, 1990-Present.

Chair, Jesse R. Dills Scholarship Committee, 1997-99-2000-2001Present

Member, North Carolina Manufacturing Curriculum Committee, 1997-2001

Consultant, to evaluate and improve the State's Manufacturing Systems, Level I & II, implementation in North Carolina Secondary Schools. (NC-SDPI), 1993-1994

Chair, of a team charged with developing Manufacturing Systems, Level II course for North Carolina Secondary Schools (NC-SDPI),1993

Member, of a team charged with developing Structures, Level II course (NC-SDPI), 1993.

Member, North Carolina Technology Education Advisory Committee

Advisory Committee, Enloe High School Introduction to Engineering Program 98-99

Invited participant, 1992 Vocational Education Summer Workshop Planning Conference

President, North Carolina Vocational Association's Technology Education Division, 1990-1991

Membership Committee, North Carolina Vocational Association, 1990-1991

Board of Directors, North Carolina Vocational Association, 1989-1991

Advisory Committee Member, North Carolina State Department of Public Instruction, Technology Education, 1989-1993

Board of Directors, North Carolina Technology Student Association, 1989-1990

Advisory Committee, Enloe High School Introduction to Engineering Program, 1988-1990

President, North Carolina Technology Education Association (NCTEA), 1989-1990

Program of Work Committee, North Carolina Vocational Association, 1989-90

Advisor, SDPI Introduction to Engineering Pilot Program, 1988-1990

Nomination Committee, North Carolina Vocational Association's Technology Education Division, 1989-90

Chair, North Carolina Council of Technology Teacher Education Facilities Committee, 1988

Member, NC-IASA Competitive Events Standards Review Committee, 1986-1987

Member, Visitation Standard Review Committee to North Carolina A & T State University, North Carolina Department of Public Instruction, 1987

Event Supervisor, Science Olympiad 1997 National Tournament, May 17, 1997

Editorial Review Board, Journal of Technology Education, 1998-99

Member, Council on Technology Teacher Education (CTTE) small grant review committee.

Research Committee Member, Council Technology Teacher Educators (CTTE), 1988-99Present

TECA Manufacturing Contest Coordinator, TECA Eastern Regional Conference 1996, Norfolk, VA, February 22-23, 1996.

Curriculum Committee Member, International Technology Education Association (ITEA), 1988-1990

Judging Coordinator, Technology Student Association National Conference, Winston-Salem, North Carolina, 1989

Planning Team Member, Technology Student Association National Conference, Winston-Salem, North Carolina, 1988

Promotion Committee Member, International Technology Education Association Annual Conference, Norfolk, Virginia, 1988

Chair, International Technology Education Association 1993 Annual Conference Finance Committee

Member, Joint CTTE and ITEA task force to study and recommend a model for integrating instruction about technology student organization in teacher preparation programs.

University, College and Department Service

Member, Administrative Board of the Graduate School, spring 2008-present

Member, Garage Roundtable, Planning group for the University's Entrepreneurship Initiative, 2008-present

Graduate School Internal Evaluator, served as the internal evaluator for the Graduate Schools assessment of the Agriculture Education program in the College of Agriculture and Life Sciences. 2008

Initial Planning Group, The "Garage" a university Entrepreneurship Initiative project. In July 2008, in response to Chancellor James Oblinger's call to "develop an educated and entrepreneurial work force," the Entrepreneurship Initiative was formed with Dr. Tom Miller as its executive director.

Member, Administrative Board of the Graduate School, 2006-spring 2008

Chair, Building, Equipment, Safety and Space Committee, 2004-2005

Member, Graduate Studies 2004-2005

Friday Institute Space Design Committee 2004-2005

Member, Instructional Technology Collaboratory 2004-2005

Member, Math and Science Collaboratory 2004-2005

Faculty Senate, Spring 2004

Member, Personal Policy Committee, Spring 2004

Member, University Housing Committee, Spring 2004

College Representative, 1998 North Carolina State Science Olympiad Tournament, Hosted by NCSU. 1997-Present

Member, College of Education and Psychology Teacher Education Committee, 1997-1998
Academic Year. 1996-Present

SACS Student Affairs Subcommittee, Reviewed the administrative response to recommendation in the Self Study Report. 1996

Chair, College of Education and Psychology Courses and Curriculum Committee, 1995

Member, EPT Initiation Team for the Fall 1993, Spring 1994 and Spring 1996 Epsilon Pi Tau Initiation Ceremony.

Member, University Self-Study Subcommittee on Student Development

Member, OED Graduate Program Task Force

Member, College Courses and Curriculum Committee

Member, Undergraduate Third Year Field Experience Steering Committee

Member, Distinguished Performance Award Committee

Departmental Representative, State Employees Combined Campaign (United Way)

Chair, OED Courses and Curriculum Committee

Member, OED Graduate Program Task Force

Professional Society Membership

American Society for Engineering Education (ASEE)

International Technology and Engineering Education Association (ITEEA)

Council on Technology Teacher Education (CTTE)

American Vocational Association (AVA)

Epsilon Pi Tau (EPT)

North Carolina Council on Technology Teacher Education (NCCTTE)

North Carolina Technology Education Association (NCTEA)

North Carolina Vocational Association (NCVA)