

PROFESSIONAL VITA
[as of March, 2015]
Michael Ernest Leverington

EDUCATION

Ph.D. Education, Curriculum and Instruction

University of Nevada, Reno, Reno, Nevada, December, 2010

Dissertation: "Advanced Cognitive Abilities of Incoming STEM Students"

G.P.A.: 4.0

Master of Science, Computer Science

University of Nevada, Reno, Reno, Nevada, December, 2010

Thesis: "The Five Step Programming Process"

G.P.A.: 4.0

Master of Arts, Educational Psychology

University of Northern Colorado, Greeley, Colorado, December, 1995

Studies in Cognition/thinking/learning skills

G.P.A.: 4.0

Bachelor of Arts, Physics-Teaching, *summa cum laude*

University of Northern Colorado, Greeley, Colorado, December 1991

Secondary Science Teaching Certificate, December, 1991

G.P.A.: 4.0

Commercial (Single- & Multi-Engine) Certificate

Flight Instructor (Single-Engine, Instrument) Certificate

FAR Part 91 Flight Training, Fort Collins Downtown Airport

Fort Collins, Colorado, August, 1979 to October, 1982

TEACHING

University of Nevada, Reno, Reno, Nevada

[Fall, 2006 to present]

CPE 201: Digital Design

CPE 411/611: Digital Computer Architecture and Design

CS 103: Introduction to technical problem solving strategies

CS 105: Broad introductory Computer Science course (CS 0)

CS 135: Introductory programming (CS 1) with C++

CS 241: Programming with Matlab, MathCad, and Excel for Engineers

CS 446/646: Principles of Operating Systems

Ed Tech - Tech Ed

[Spring, 2000 to present]

Develop and maintain a website for supporting online education and course testing materials. Developed new courses for University and Community College

Bently Nevada, LLC / General Electric Power Systems

[Summer, 1998 to January, 2003]

Several technical courses related to data acquisition and analysis used in power generation and petroleum refining machinery industry

- development and delivery of courses

Patrick Gallagher, Supervisor

Southern Utah University, Cedar City, Utah

[Summer 1998 to Summer 2005]

Internet Instructor

CS 2920, sections 30 and 31 (Intro C++ and Intro Java)

CS 5920, sections 40 and 41 (Advanced C++ and Advanced Java)

Greeley Central High School, Greeley, Colorado

[Secondary Science - 1991 to 1998]

- Advanced Placement Physics "B" (algebra-based) and "C" (calculus-based)

- Advanced Placement Computer Science ("A" and "AB")

- General and Applied Math Physics

- Introduction to Computer Science

- Astronomy

- Integrated Science II (process-based science incorporating several disciplines)

- Global Science (combination Earth Science and Environmental Study)

- Pre-Algebra (one semester taught)

Jon Helwick, Principal; Keith Comfort, Department Chair

Internet Distance Education Associates (previously Center for Electronic Education and Evaluation)

[February, 1997 to June, 1998]

Develop and present 3 - day introduction to Java/C++ workshops at various locations around the country

Training high school teachers on the C++ and Java languages, including teaching techniques

(see below under Conferences/Workshops Presented for list)

Sydney Harmon, Supervisor

University of Northern Colorado, Greeley, Colorado

[Fall, 1996 to Spring, 1998]

BACS 286 Structured Programming and Applications for Business
(Introduction to C++)

Charmayne Collum, Computer Information Services Chair

AIMS Community College, Greeley, Colorado

Internet Instructor [Summer, 1998 to Summer, 2004]

CS1, CS2 using C++

CS1, CS2 using Java

John Hutson, Director of Distance Learning

Classroom Instructor [Spring, 1997 to Spring, 1998]

CSC 160/161/162 Computer Science I/II/III (Using C++)

Thelma Stevens, Department Chair

University of Northern Colorado, Greeley, Colorado

[Summer, 1996]

Physics Laboratory class - Lecturer

Willard Fadner, Department Chair

AIMS Community College, Greeley, Colorado

[Spring, 1996]

PHY 105 Conceptual Physics

James "Lyn" Robinson, Department Chair

AIMS Community College, Greeley, Colorado

[Winter, 1996]

CSC 185 Computer Science Special Topics: Object Oriented Programming

Assisted Michael Gale, the instructor of the class

Thelma Stevens, Department Chair

Weld County School District Six, Greeley, Colorado

"Flite Six" Teacher/Professional Education

- "Looking through your windows" [Spring, 1995]
 - introductory training to staff members on the use of Windows software
- "Searching for science: Advanced computer research techniques for improving your teaching"
 - [Summer, 1995]
 - middle-level training of educators on the use of databases, Internet research, CD Rom usage, and other research software usage
- "Taming your spreadsheet: Tips and tricks for Excel users"
 - [February, 1996]
 - middle-level training of educators and staff on expanded use of spreadsheets
- "Clarisworks on IBM, Too!"
 - [March, 1996]
 - introductory-level training for educators and staff who use this software

University of Northern Colorado - Frontiers of Science Institute, Greeley, Colorado

[Summers, 1993 & 1994]

Summer long (8 week) advanced science program for selected science students from around the state

- developed and delivered leading edge Physical Sciences classes for students
- mentored 10 students on Physical Science Projects each summer
- team-managed 40 students on field trips two to three times per week, including camping trips

Vickie Cook, F.S.I. Coordinator

University of Northern Colorado, Greeley, Colorado

[Fall, 1994]

Physics Laboratory class – Lab Instructor

Willard Fadner, Chair

AIMS Community College, Greeley, Colorado

[January, 1987 to May, 1989]

- Aviation Simulator Class Curriculum Coordinator
- All levels of Aviation Simulator Classes (intro to Commercial Airline levels)
- Instrument Ground School
- also completely redeveloped Aviation Simulator curriculum into five-class program and produced training program format for Eastern Airlines

Marvin Bay, Department Chair

Larimer County Voc-Tec Community College, Fort Collins, Colorado
(now known as Front Range Community College)
[March, 1987 to May, 1988]

- Developed curriculum and text, and taught
 - Aviation Private Pilot Ground School
 - Aviation Instrument Pilot Ground School

Free-lance flight instruction and consultation, Northern Colorado area
[October, 1982 to December, 1987]

- Single-engine training
 - Private Pilot
 - Instrument Pilot
 - Commercial Pilot
 - Airline Transport Pilot
 - Flight Instructor Training, Single-engine & Instrument

CONFERENCE/WORKSHOP PRESENTATIONS

"Using Role Play for an Upper Level CS Course", Consortium for Computing Sciences in Colleges (CCSC) Southwestern Region [April, 2009]

- first author, with colleague Murat Yüksel, and Professor Mike Robinson
- co-developed, co-facilitated, and then reported on use of role play in Yüksel's operating system course

"Work in Progress: Exposing the Cool Stuff in C.S.", Frontiers in Education (FIE) 08 Conference [October, 2008]

- first author, with Advisor Jennifer Mahon, Ph.D. and Department Chair Yaakov Varol, Ph.D.
- reported on innovated CS0 classroom activities

"The Newton Network: Direct Connection to Classroom Teachers", Nevada Online Education Consortium (NOEC) Conference [March, 2006]

- workshop presented on statewide teacher network

"Developing a Rubric that Specifies Levels of Interactive Technology Use in the Classroom", American Educational Research Association (AERA) Annual Conference [April, 2006]

- first author, with Advisor Pamela Cantrell, Ph.D.
- presented research findings on evaluating the levels of technology use in the K-12 classroom

"Bringing It Together: The Dynamic Teaching Model", Northern Rocky Mountain Research Association (NRMERA) Annual Conference [October, 2005]

- first author, with Advisor Pamela Cantrell, Ph.D.
- presented on a teaching model devised by Dr. Cantrell and myself

Northern Colorado Internet Chamber of Commerce Charter Meeting [2/2/98]
- Round-table discussion, "The Future of Java"
Ull-Tra Training Group, Ft. Collins, Colorado

Internet Distance Education Associates presentations
Kentwood High School, Kent, Washington
- 3-day, training teachers C++ programming [7/7 - 7/9/97]
- 3-day, training teachers Java programming [7/10 - 7/12/97]

National Educational Computing Conference [6/28/97]
- 3-hour, pre-conference workshop on Java programming
Sponsored by Microsoft™
Washington State Convention and Trade Center,
Seattle, Washington

Center for Electronic Education and Evaluation presentation
Middletown High School South, Middletown, New Jersey
- 3-day, training teachers C++ programming [3/20 - 3/22/97]
Whiteside Area Vocational Center, Sterling, Illinois
- 3-day, training teachers C++ programming [3/6 - 3/8/97]
John Connally High School, Austin, Texas
- co-presented with textbook author Todd Knowlton
3-day, training teachers C++ programming [2/19 - 2/21/97]

"Coaching in the classroom", Denver Association of Physics Teachers, University of Denver [Spring, 1995] { Co-presented with Dr. Courtney Willis (UNC), and Ms. Dana Podell (one of my students) }

"News from the trenches: Developing and implementing integrated science", National Science Teachers Association, Denver Convention Center, [Fall, 1993] (MC and facilitator of four teacher panel)

"Using artificial intelligence to study image processing", National Association of Physical Sciences/American Association of Physics Teachers, Washington, D.C. [Spring, 1992]

"Digital image processing using a personal computer", Colorado/Wyoming Academy of Sciences, University of Northern Colorado, Greeley, Colorado [Spring, 1991] (Won presentation award)

"Why physics students should be in student government", Colorado/Wyoming Academy of Sciences, University of Wyoming, Laramie, Wyoming [Spring, 1990]

CONFERENCES/PROGRAMS ATTENDED

Special Interest Group Computer Science Education (SIGCSE) [March 2008-15]
- ACM education conference

Nevada Online Education Consortium (NOEC) [March 2005, 2006]
- online education workshops

Advanced Placement Computer Science Consultants Workshop [June, 1997 & July, 1998]
Educational Testing Service - College Board
Clemson University, Clemson, South Carolina
Dr. Owen Astrachan, Instructor

"Premier" Advanced Placement Institute of Arizona [June, 1996]
Tucson, Arizona
Theresa Cuprak and Cathy Sauls, Instructors

Advanced Placement Institute [July, 1995]
University of Nevada, Las Vegas
John McGehee, Instructor

"Getting Comfortable Teaching with Space" [December, 1995]
University of Northern Colorado w/ U.S. Space Foundation
- training on incorporating space teaching into the classroom

"Inside Windows" Seminar [Spring, 1995]
Denver Convention Center - Mastering Computers, Inc., Denver, Colorado
- training on the advanced uses of Windows

U.S. West Teacher Network Training Program [June, 1994 - May, 1995]
University of Northern Colorado w/ U.S. West Communications, Greeley, Colorado
- training teachers to use Internet facilities, and share with other teachers

COSGA - Conference on Student Government Associations [Spring, 1991]
Texas A & M University, College Station, Texas
- Student leadership training, attended as UNC Student Body President

COSGA - Conference on Student Government Associations [Spring, 1990]
Texas A & M University, College Station, Texas
- Student leadership training, attended as UNC Student Body Vice President

RESEARCH

- Dissertation, researched student cognitive development as a result of taking introductory Physics and Calculus (Defended: Fall, 2010]
- Master's Thesis, researched the use of a formalized programming process that incorporates learning psychology with high quality top-down program structure and development [Defended: Spring, 2010]
- With Advisor, Pamela Cantrell, Ph.D., conducted research on teacher professional development related to improving teacher content knowledge in the area of Earth Science and specifically related to plate tectonics, earthquakes, and volcanoes [Fall, 2004 to Fall, 2006]
- With Advisor, Pamela Cantrell, Ph.D., conducted research on teacher professional development related to using technology tools in the classroom [Fall, 2004 to Fall, 2005]
- Conducted image evaluation work on Jovian moon Io with Dr. Nick Schneider (CU Boulder) on NSF/REU summer scholarship, presented paper to local group [Summer, 1991].
- Studied artificial Intelligence using personal computers with Dr. Robert Walch (UNC). Sought ways to make a computer become a "learning system" that would internally "vote" and take a "best guess" on astrophysical images. Wrote and received a \$3,000 grant for this work. [Fall, 1990 - Spring, 1991]

PUBLISHED

Leverington, M., Advanced Cognitive Abilities of Incoming Students, PhD Dissertation, 2010.

Leverington, M., The Five Step Programming Process, Master's Thesis, 2010.

Leverington, M., Yüksel, M, Robinson, M. (2009). Using role play for an upper level CS course. *The Journal of Computing Sciences in Colleges*, 23 (4), 259-266.

Leverington, M., Mahon, J., Varol, Y. (2008). Work in Progress: Exposing the Cool Stuff in C.S. Frontiers in Education Conference, 2008, 38th Annual. 22-25 Oct. 2008.

Cantrell, P., Liu, L., Leverington, M., & Taylor, J. (2007). The effects of differentiated technology integration on student achievement in middle school science classrooms. *International Journal of Technology in Teaching and Learning*, 3(3), 36-54.

Advanced Placement Computer Science (C++) Study Guide
South-Western Publishers, June, 1998

“Programming in Java”, contract writing for Todd Knowlton, Java Textbook
South-Western Publishers, Spring, 1998

“A Java Laboratory Curriculum” for teachers and students to learn and use Java and J++.
Published and distributed through Microsoft™ Developing Tools Division, released January,
1998.

"Physics and Thinking", *draft revision three*, [1996] Published by Weld County School District
Six, used as classroom text for two levels of physics class at Greeley Central High School.

Jeppesen Sanderson publishing company [1989] Various products. Wrote first video in Flight
Instructor training program, wrote audio tape texts, and textbook segments.

"Practical Effective Flight Instruction", [1988] Self-published, used as a classroom text by
AIMS Community College for teaching Certified Flight Instruction class.

HONORS/RECOGNITION

Through a University-wide survey of first and second year students, identified by undergraduates
at the University of Nevada, Reno as “a positive influence in their transition” to the
University.
[Spring, 2011]

Selected as Advanced Placement Reader and A.P. Faculty Consultant by the Educational Testing
Service -

- College Board Advanced Placement Program for A.P. Computer Science.
[1997 to 2008]
- A.P. Reading - graded Advanced Placement Exams for E.T.S. College Board,
Reader (grader), June, 2006, 2007, 2008 (finished 6 year term)
Table Leader June, 2000 to June, 2005 (6 year term)
Reader (grader), June, 1997, 1998, 1999

Interviewed in "Goals 2000", Colorado statewide standards newsletter [Fall, 1994]
- development of inquiry-based physics program

Interviewed in "The Heart of Teaching", National educational reform newsletter [Fall, 1993]
- development of astronomy lesson outside on football field

UNC Outstanding Educator [1991]

UNC Physics Department Scholar [1988, 1989, 1990]

UNC Dean's List [1988 - 1991]

FAA Gold Seal Flight Instructor (for activity and success with students) [Fall, 1986]

SERVICE

University of Nevada, Reno

- University Academic Standards Committee
- Technology Task Force (College of Education)
- Presenter to Nevada Bound, Engineering Days, STEM Presentation

Computer Science and Engineering Department, 2006 to present

- Chair, Web Committee
- Department Undergraduate Committee
- Chair, TA Training Committee

Nevada Online Education Consortium, 2005 to 2007

- at large executive (2005)
- Treasurer (2006, 2007)

Colorado/Wyoming Academy of Sciences Board Member, 1996 to 1998

Colorado Student Association Board Member, 1990 to 1991

UNC Student Government (Student Representative Council)

- President [1990/1991]
- Vice President for Student Services [1989/1990]

OTHER - ENGINEERING

Systems Integration Engineer, January, 2003 to August, 2004

- Bently Nevada, LLC / General Electric Power Systems
- Tim Gross, Supervisor