

William R. Schleiter

Overview

Name: **William R. Schleiter**

Date: **February 9, 2018**

Present rank: **Distinguished Lecturer, Engineering Fundamentals**

Years at UTK: **20½**



Introduction

Welcome. This page intends to provide a concise overview of my dossier. The style is informal - no impersonal third-person narrative allowed. Since a large part of my work revolves around the use of technology in teaching, I thought it appropriate to format this document for the web while still providing it in a traditional sequential format as well. For the printed record, the web address of this package is <http://netlore.com/wrs/dossier>. All sections of the web version can be accessed via the menu at the top. Supporting material is linked throughout. A [pdf version](#), without supporting material, is also available. Your time and consideration in reviewing this information is sincerely appreciated.

To summarize my career, I've never been driven by a job description, but by a desire to perform at the highest possible level and to continually learn and improve. I've always been proactive and self-directed and I'm always looking for new and better ways of doing things. I have a skill set that combines an engineering and teaching education along with experience in industry, business, and education. I combine this with an avid interest in and experience with applying computer tools and technologies to enhance whatever I do. My expectations for myself have always been well above those of my position and this has always led to significant responsibilities that usually exceed those of others in similar assignments.

I have always received performance review ratings of outstanding or exceeds expectations in most categories. It is my desire to continue to teach and contribute to the educational process and for my performance and contributions to be recognized and appreciated. I close this introduction with a few notable quotes from my annual performance reviews.

"a critical part of the success of Engineering Fundamentals"

"an outstanding contributor to the Engineering Fundamentals program, and an indispensable member of the team."

"Highly valued member of EFD who consistently performs above his rank."

"a leader in developing and applying instructional technology."

Vita

I grew up in Indiana, graduated with a BS in Mechanical Engineering, and worked as a computer-aided design engineer for 12 years in Oak Ridge, TN. I have taught as an instructor/lecturer/senior lecturer in the Engineering Fundamentals division at the University of Tennessee, Knoxville since 1997. While teaching I earned a Masters of Science degree in Instructional Technology in 2005. In 2012 I was promoted to senior lecturer (the first year that designation was available) and in 2016 was promoted to distinguished lecturer. I've started my own business and done consulting in the areas of web system development and computer-aided engineering. While at UT I've received several significant teaching awards, presented papers at several conferences, and have regularly volunteered to help with engineering related events.

Teaching

I always try to put myself in the students' shoes and I try to see things from their perspective. I make myself available and continually try to improve whatever course I am teaching. I have team-taught large freshman engineering classes for more than 15 years and have always received very positive feedback from students. This feedback is especially significant considering the large class size and topics. I have developed or co-developed new curriculum and all supporting materials for all of the engineering fundamentals classes. I have been a campus leader in the implementation of technology in teaching. I have implemented a fully on-line class. I have a **blog** to share thoughts, ideas, resources, and experiences. It is notable that the class materials for virtually all classes that I've been involved with are still available via the web.

Support

I believe the work that I've done in support of my teaching responsibilities is what really distinguishes me from most faculty. The development of a comprehensive web system for managing the large, multi-section courses taught in EF is my most significant accomplishment. This system allows all faculty in EF to be much more effective and efficient. Major components of the system are a student database, a gradebook, parameterized on-line homework, a dropbox, a discussion board, a survey system, a calendar, team management, and a Banner interface. Another significant responsibility outside of teaching has been the configuration and administration of departmental computer resources. In 2014, in addition to my teaching responsibilities, I have led the effort to create a departmental makerspace - the **Innovation and Collaboration Studio**. This is now (2017) expanding and evolving into a college resource.

Research

Formal research is not a requirement of my position. However, I have presented papers at several engineering education conferences, have been involved in several NSF grants, and have been involved in many informal studies. In AY 2012-2013 I served as the OIT faculty fellow. I have also been heavily involved in OIT led pilot programs for classrooms response systems (clickers), mobile devices, and learning management systems.

Service

Professional service highlights include teaching a portion of the Governor's School for Sciences and Engineering every summer since 2004, assisting with the Tennessee Science Olympiad, assisting with the First Robotics regional competition, and assisting with various college of engineering recruiting and outreach activities.

William R. Schleiter

Vitae

Contact Information

Work

The University of Tennessee
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213 Perkins Hall
Knoxville, TN 37996-2020

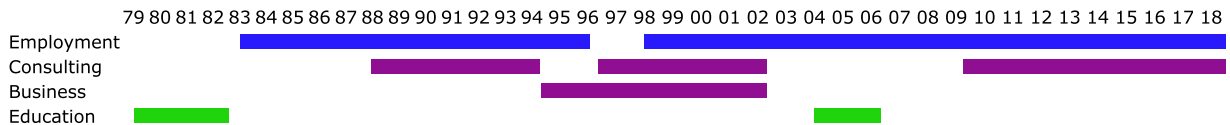
office: **865-974-9810**
e-mail: **wschleiter@utk.edu**
web: **<http://web.utk.edu/~wschlete>**

Home

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Knoxville, TN 37931-1845

cell phone: **865-384-2813**
e-mail: **wschleiter@gmail.com**
web: **<http://www.netlore.com>**

Education and Employment Timeline



Professional Experience

1997 **The University of Tennessee** Knoxville, TN <http://ef.engr.utk.edu>



now Instructor/Lecturer(2005)/Senior Lecturer(2012)/Distinguished Lecturer(2016) in Engineering Fundamentals. Responsibilities include:

- Development, coordination, and teaching of all Engineering Fundamentals (EF) classes - Introduction to Physics for Engineers I and II (EF 151 and EF 152), Computer Methods in Engineering Problem Solving (EF 105), Computer Solution of Engineering Problems (EF 230), and Fundamentals of Engineering Review (EF 402).
- Development and administration of the custom course course management system used for all EF classes.
- Configuration, administration, and maintenance of instructional computer labs, recitation rooms, and administrative computing resources.
- Assisting in the training and oversight of graduate and undergraduate teaching assistants.
- Departmental liaison to university technology organizations - TEC, LMS, PRS
- Assisting with engineering education research, outreach, and minority program initiatives.
- Mentor for incoming EF faculty
- Development of the **Innovation and Collaboration Studio** - student makerspace

2008 **Schleiter Consulting** Knoxville, TN <http://www.netlore.com/consulting>



now iPhone application programming. Develop and market iPhone/iPad applications. Web site programming and development.

1995 **Creative Information Solutions** Oak Ridge, TN
↓
2001 <http://www.netlore.com/cis>

Primary individual in consulting company established to perform custom system development. Completed projects include the design, programming, and installation of a digital video based network security camera system, a highly customizable data driven Internet catalog system, a database system to manage golf tournament volunteers, and a six-month project as Technical Operations Manager for Technology 2020, a technology enhanced office and meeting facility focused on providing resources for developing small businesses.

1993 **Visual Technologies, Inc.** Knoxville, TN <http://www.netlore.com/vis>
↓

2001 Developed and marketed a low-cost motion analysis software package, the Visual Instruction System, for IBM compatible PC's. Involved learning C and MS-Windows programming, video capture, digital video manipulation, and printing technologies. Primary person responsible for creating the installation procedure, online help files, written manual, video training tutorial, and software packaging and distribution. Over 100 systems were installed and in use by high schools, colleges, physical therapy centers, and golf professionals.

1988 **Schleter Consulting** Knoxville, TN
↓

1993 Worked with PC Magazine on annual PC-CAD reviews.

1983 **Lockheed Martin Energy Systems** Oak Ridge, TN
↓

1995 CAD/CAM systems support: Responsibilities included software installation, configuration, CAD interface programming, training, operation, operating system installation, system management, hardware installation, and systems programming for Unix (primarily Silicon Graphics), Windows/NT, and VAX/VMS systems running ProEngineer and ANVIL CAD/CAM software. Significant accomplishments included: implementation and management of a large network of SGI/ProEngineer workstations; Implementation of a secure Unix network; Creation of a variety of custom CAD data import/export procedures; Design, development, and implementation of a custom relational database and file management system for approval and storage of CAD drawings.

Education

2004 **University of Tennessee** Knoxville, TN
↓

2005 **Master of Science in Instructional Technology.**
Project - **Developing Video Tutorials**

1979 **University of Missouri-Rolla** Rolla, MO
↓

1982 **Bachelor of Science in Mechanical Engineering**, Summa Cum Laude.

Professional Organizations

State of Tennessee Licensed Professional Engineer, 1998 - 2015
American Society for Engineering Education

Awards and Honors

- University of Tennessee, 2014 OIT Project RITE grant, **Increasing Engagement with Independent Student Projects Supported by Institutional Resources**
- University of Tennessee, 2012-2013 OIT Faculty Fellow, **UTK 2012 Faculty Fellow Blog**
- University of Tennessee, 2010 Project RITE grant, **Enhancing On-Line Interaction with Graphical Tools**, November, 2010
- Turning Point Technologies, **Distinguished Educator Designation**, September, 2010
- University of Tennessee, Innovative Technology Consulting Faculty Spotlight, **Click to Engage!**, April, 2010
- University of Tennessee, College of Engineering, Leon & Nancy Cole Superior Teaching Award, April, 2008 (**nomination letter**)
- University of Tennessee, Citation for Excellence in Teaching, Honors Banquet, April, 2001

Publications

- **Implementing a Robotic Programming Project in a First Semester "Programming for Engineers" Course** FYEE 2015 Annual Conference
- **Effectively Using Online Homework** FYEE 2014 Annual Conference
- **Web Based Project Reports** FYEE 2014 Annual Conference
- **A Success Enhancement Program After the First Test in Freshman Engineering** ASEE 2012 Annual Conference
- **Effects of an Early Homework Completion Bonus** ASEE 2012 Annual Conference
- **Research Initiation Grant: Increasing Student Engagement in Homework** NSF EEC - Engineering Education Research Initiation Grant Award 1137013
- EF 230 Computer Solution of Engineering Problems - course lab notes (**Fall, 2011**)
- **Work in Progress - Enhancing On-Line Interaction with Graphical Tools:** Presented at 41st ASEE/IEEE Frontiers in Education Conference, October, 2011 (**Presentation**)
- **Short, Hands-On Team Design Projects in a Freshman Engineering Class:** Presented at ASEE 2010 Annual Conference and Exposition
- EF 105 Computer Methods in Engineering Problem Solving - course lab notes (**Spring, 2008**)
- **UTK EFD Custom On-line Homework System:** Information and Paper Presented at ASEE 2006 Annual Conference and Exposition
- **The Engage Program: Implementing and Assessing a New First Year Experience at the University of Tennessee:** Journal of Engineering Education, 91(4), 441-446, 2002.

Technology Skills

I use technology in all that I do. Over the course of the last 30 years I've been used or dabbled with literally 100's of different hardware and software platforms. Listed here are the ones that I have done significant work with.

- Web Programming - PHP, Javascript, jQuery, AJAX, Java, Flash, Perl, Node
- Web Technologies - SVG, CSS, HTML, XML
- Web Server - Apache
- Databases - MySQL, Oracle, Access
- Application Programming - Objective C, Visual C, Visual Basic, Fortran, MATLAB
- Computer Aided Design - ProEngineer(Creo), Autodesk Inventor, Mechanical Desktop, Autocad, Anvil, 3D Printing
- Operating Systems - Windows, MacOS, Linux, SunOS, IRIX, HPUX, VAX/VMS, DOS

Examples of Systems Developed:

- **Custom Class Management Web System**
- **Masonry Partition Wall Design**
- **Out-of-Plane Wall Design**
- **Dollywood Zipline Analysis**
- **Masonry Wall Internal Bracing**
- **Brick Arch Design**
- **iPhone Stopwatch App**
- **Security Camera System**
- **Video Analysis System**
- **Volunteer Management System**
- Web/PDA Based Contact Lens Inventory System
- Shopping Cart System
- Document Life Cycle Management System
- Computer Aided Design System Implementation and Support

William R. Schleiter

Teaching

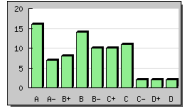
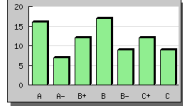
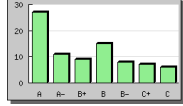
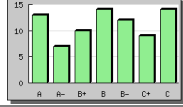
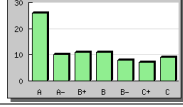
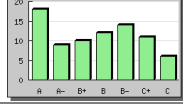
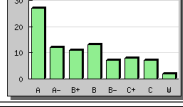
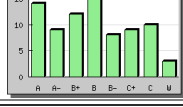
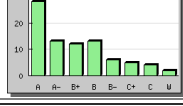
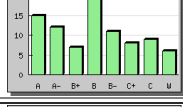
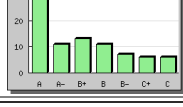
Teaching History Summary

I started at UT in 1997 with a half-time assignment of coordinating engineering graphics classes. A few years later those classes were combined with others into a sequence of two 6 hour integrated freshman engineering classes that combined graphics, programming, physics, and design, and I became involved with all aspects of those classes. The subsequent evolution of those class into the current set of core classes that are required of all freshman engineering students happened in 2005, and I was heavily involved in that development as well. I co-developed all materials for the two physics classes (EF 151 and EF 152) and I have completely developed the two computer classes (EF 105 and EF 230). In 2014 I fully implemented an online version of EF 230 that ran concurrently with normal sections. I've also been involved in an effort to implement more hands-on activities such as programming robots and arduino microcontrollers to supplement the traditional teaching of programming in EF 230.

I don't know what is considered a standard teaching load, but I'd venture to guess that the number of students that I'm responsible for is relatively high compared to most faculty, and all this while also spending a significant amount of time on support tasks. As shown by the data below, I have worked with almost 13,000 students over the past 15 years. My ratings in the lecture environment have always been very high. The ratings for the lab classes are lower, but those classes represent an entirely different environment in which I prepare the material and assignments while graduate teaching assistants present the material and interface with the students.

If you are viewing this document online, the links on the charts provide access to the course web sites and the raw data behind the evaluation numbers. This data includes students' free form comments. If you view the [EF 151 data](#) you'll see that, for a class this size, there is a very positive feedback from students and that my ratings are identical to those of Dr. Richard Bennett, a 30 year veteran with numerous teaching awards. In addition, the students overall enjoy the true team teaching style that we've developed. This style and approach not only keeps the students attention better in lecture, but the implicit benefits of having two people involved in every aspect of the class leads to redundancy, better decisions, and fewer things forgotten - all important factors in delivering a quality class to a large number of students.

Lecture Classes

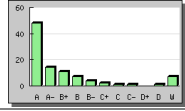
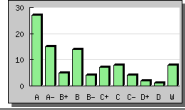
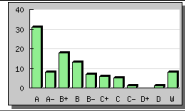
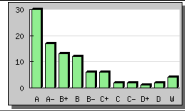
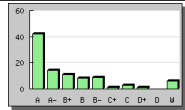
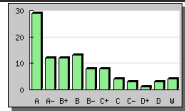
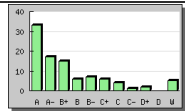
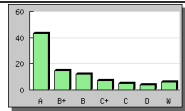
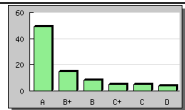
Classes		People		EF Survey ^{2,3}	SAIS, ECE ⁴				Grade Dist ²
Semester	Courses ¹	Fac/GTA	Students		1	2	3	4	
Spring, 2017	EF 152	2/8	499						
Fall, 2016	EF 152	2/3	159	4.2	4.5	4.5	4.6	4.5	
Spring, 2016	EF 151	2/3	211	4.3	4.2	4.3	4.3	4.2	
Fall, 2015	EF 151	3/9	597	4.5	4.2	4.1	4.3	4.2	
Spring, 2015	EF 151	2/3	214	4.4	4.3	4.3	4.3	4.2	
Fall, 2014	EF 151	3/8	560	4.3	4.1	4	4.2	4	
Spring, 2014	EF 151	2/3	192	4.4	4.1	4.2	4.2	4.1	
Fall, 2013	EF 151	2/7	506	4.0	3.7	3.7	3.8	3.7	
Spring, 2013	EF 151	2/2	182	4.4	4.2	4.2	4.3	4.1	
Fall, 2012	EF 151	2/6	453	4.4	4.1	4.2	4.2	4.1	
Spring, 2012	EF 151	2/2	161	4.6	4.2	4.2	4.5	4.3	
Fall, 2011	EF 151	2/3	409	4.4	4.2	4.3	4.4	4.2	
Spring, 2011	EF 151	2/6	136						
Fall, 2010	EF 151	2/6	440						
Spring, 2010	EF 152	2/5	296						
Fall, 2009	EF 152	2/2	143						
Spring, 2009	EF 151	2/3	160						
Spring, 2009	EF 152	2/5	344						
Fall, 2008	EF 151	2/5	420						
Fall, 2008	EF 152	2/3	134						
Spring, 2008	EF 151	2/3	159						
Fall, 2007	EF 151	2/5	334						

Classes		People		EF Survey ^{2,3}	SAIS, ECE ⁴				Grade Dist ²
Semester	Courses ¹	Fac/GTA	Students		1	2	3	4	
Spring, 2007	EF 151	2/3	158						
Fall, 2006	EF 151	2/5	342						
Spring, 2006	EF 151	2/3	176						
Fall, 2005	EF 151	2/7	289						
Spring, 2005	EF 102	5/20	377						
Fall, 2004	EF 101	4/22	505						
Spring, 2004	EF 102	5/22	313						
Fall, 2003	EF 101	7/24	395						
Spring, 2003	EF 102	7/26	358						
Fall, 2002	EF 101	8/29	464						
Spring, 2002	EF 102	6/27	383						
Fall, 2001	EF 101	7/29	485						

Total Students: 10954

- Course materials for all semesters of all classes are available via the links above.
EF 151 - (4 credit lecture/lab) - Physics for Engineers I
EF 152 - (4 credit lecture/lab) - Physics for Engineers II
EF 101 - (6 credit lecture/lab) - Engineering Approach to Physical Phenomena
EF 102 - (6 credit lecture/lab) - Fundamentals of Engineering Mechanics
- All ratings based on EF Surveys (~90% response rate)
EF scale 1 (very good) to 5 (poor) converted to SAIS scale 5 (very good) - 0 (very poor)
- Lecture Evaluation Question: "Rate the overall quality of Prof. Schleter's effectiveness in presenting the material."
If the rating is linked, the link shows a page with all the student responses.
- Fall, 2016 the university switched from SAIS to ECE. The numbers shown are the weighted average for these 4 ECE questions: 1 (contribute), 3 (responsive), 4 (respectful), 5 (feedback)

Lab Classes

Classes		People		EF Survey ^{2,3}	SAIS				Grade Dist ²
Semester	Courses ¹	Fac/GTA	Students		1	2	3	4	
Spring, 2016	EF 230	2/3	145	mentor					
Fall, 2015	EF 230	2/4	306	mentor					
Spring, 2015	EF 230	2/3	165	mentor					
Fall, 2014	EF 230	1/4	283	3.5	na	na	na	na	
Spring, 2014	EF 230	1/3	131	3.4	na	na	na	na	
Fall, 2013	EF 230	1/4	238	3.1	2.8	3.1	2.8	2.9	
Spring, 2013	EF 230	1/3	140	3.8	3.6	3.8	3.7	3.7	
Fall, 2012	EF 230	1/4	216	3.5	3.4	3.5	3.5	3.3	
Spring, 2012	EF 230	1/3	121	3.9	3.2	3.3	3.1	3.1	
Fall, 2011	EF 230	1/3	177	3.3					
Spring, 2008	EF 105	1/4	166	3.4					
Fall, 2007	EF 105	1/4	416	3.0					

Total Students: 2504

- Course materials and ratings are available via the links above.
EF 105 - (1 credit lab) - Computer Methods in Engineering Problem Solving
EF 230 - (2 credit lab) - Computer Solution of Engineering Problems
- All ratings based on EF Surveys (~90% response rate)
EF scale 1 (very good) to 5 (poor) converted to SAIS scale 5 (very good) - 0 (very poor)
- Labs were developed and coordinated by me and taught by GTAs.
Lab Evaluation Question: "Rate the overall quality of the class."

William R. Schleiter

Support

The work that I've done in support of my teaching responsibilities is what really distinguishes me from most faculty. In addition to a significant teaching load, I've also used my skills and expertise to apply and build technology tools. These tools allow Engineering Fundamentals to be very efficient in providing a well-organized and coordinated experience to our large numbers of students.

Custom Class Management Web System Overview

EF classes are somewhat unique in that they are large, multi-section classes run by a team of instructors, graduate assistants, and undergraduate assistants. Thus, coordination and communication are vital to a successful class. The benefits are many - the custom system allows us to be more efficient and effective in our teaching while providing a platform for readily incorporating new teaching methods. The system continues to receive very positive feedback from students who consistently rate the EF classes as some of the best managed classes they've had, and the software as much better than other systems such as Blackboard, Moodle, Webassign, Mastering Physics, etc. Having a custom system allows us to do things that would otherwise be difficult or impossible to do.

Two important concepts used in the development of the web system were long-term access and open access. Basically, all courses remain online indefinitely and all non-proprietary and non-personal information is openly accessible via the web, thus facilitating the free and open exchange of resources and ideas.

We finish each semester of our large classes with a summary of the web site statistics for the students. To demonstrate the magnitude of use of the web system, here are a few data points from the Fall, 2015 EF 151 class:

- Page views: 6,047,316
- Logins: 84,662
- Homework answers: 216,370 correct out of 412,032 tries
- Grades recorded: 50,745

Custom Class Management Web System Features

Listed below are some of the major components of the system along with highlights of some of the capabilities provided.

- **Online Homework**

The online homework system has been in continuous development over the last 15 years and has evolved as we've identified needs specific to the type of classes we teach. Some of its many features are listed below. The [Inside Engage newsletter of March, 2009](#) provides a nice summary of most of the system's features.

- parameterized numeric, multiple choice, and 'immediate feedback' multiple choice question types
- flexible formatting options
- ability to display parameters overlaid on images
- support for display of equations
- computer code segments as images (to prevent copy/paste)
- try penalties, early completion bonuses, and prorated due dates
- hints, common mistakes, unreasonable answer flags
- discussion board integration
- students notes capability, note images
- MATLAB and Javascript interface
- problem sets/pools
- a flexible and integrated units conversion utility
- team online homework

- **Student Database**

Managing student information is an important part of the web system. The official class roll for all classes can be imported from Banner. Overview and detailed lists for students can be filtered by groups, sections and overall. Student background information and pictures can be viewed in all modes. Utilities for things like sending and logging emails, student notes, surveys, missed exams, missed labs, help attendance, name tags, assigned exam seating, bar-coded exam labels, and final exam scanning and posting are also available.

- **Online Gradebook**

The gradebook evolved due to the limitations of Blackboard's handling of large classes. Features include grade entry by section or team, filtering by category, entry of individual problem scores for exams, calculation of grades and adjustments by combining other grades, viewing of pictures while entering grades, and automatic statistics. A very flexible grade summary sheet capability is also provided that incorporates all facets of grading into a single list that greatly enhances the process of reviewing and assigning final grades. A class rank feature allows students to know at any point of time how they compare to the entire class.

- **Discussion Board**

An asynchronous discussion board capability is also part of the web system. This utility provides a means for efficient communications with students. The main use of the discussion board has been in providing help for online homework, and it direct, filtered links to/from the online homework which optimize its use in this mode. After years of use, we've also developed a historical record of common questions, thus the discussion board system now presents several semesters results when students search for help. The [Fall, 2015 EF 151 discussion board](#) had over 1400 posts.

- **Banner Interface**

Class rolls drive the web system, thus it was critical to have a method for easily importing the class rolls from our Banner system. Unfortunately this was not a trivial task -it involved saving banner web pages and parsing them to extract the needed data. The loading of final grades to banner was also a non-trivial task. Banner does not allow for the import of grades - it requires the instructor to view each set of 25 students and click a radio button for the desired grade. This is tedious and prone to error, especially with large classes. To automate this process I used the EF web system to create a Javascript routine that can automatically be run for each Banner screen. In addition to importing class rolls, student information such as major and class can be imported.

- **Dropbox**

With a large class the logistics of collecting work from students is difficult - we require all reports and computer solutions to be turned in via our dropbox. Blackboard's dropbox was unusable for a large class. Our dropbox allows grouping by student, section, team. Also allows for online rubrics so that feedback can be provided to students and all members of a team.

- **Calendar**

The web calendar implemented as part of custom web system allows for a sequence of activities to be automatically assigned to dates based on the current semester's information. In addition, homeworks, notes, due dates, and other materials are all automatically available via the calendar without any redundant data entry. Here is an example of the [Fall, 2015 EF 151 calendar](#).

- **Feedback and Surveys**

A simple but effective method for administering questionnaires is another component of the web system. Start and end times, flexible and automatic grading, and instant statistics by section or class are some of the features.

- **Team Management**

Teamwork is an important part of the EF 151 and EF 152 classes. Our web site allows for the definition and tracking of teams with team assignment made randomly or via a flexible formula system that can use section, grade and background information. A team self-select feature is also

available. Teams can create **portfolios** which are automatically indexed and summarized for the entire class.

Classroom Response System

EF was one of the first large classes at the university to adopt the use of personal response systems for lectures. We were involved with the pilot project run by OIT in 2008, and we've used the current Turningpoint Technologies system ever since it was selected in 2009. I have not only developed a proficiency with using the system in class, but I've also become active in the user community and was named a Distinguished educator by the vendor in 2010. I've also created an interface that allows us to easily load and analyze the response data with our own web system. This provides us with invaluable information on the effectiveness of the response system while also providing students with feedback on the results. I have served on several campus committees in this area.

For use in our computer classes I've developed a complete web based response system that completely integrates into our web site, addresses some of the limitations of the TurningPoint web system, and provides for flexible and convenient polling features at no extra cost to the student.

Innovation and Collaboration Studio

In 2014 I proposed creating a "makerspace" for engineering students with the idea that motivated students needed a place where they could play, be creative, and learn new technologies that are not directly associated with a specific class. A small space was established with limited resources. Now (2016) this has evolved into a college-wide initiative in which I am tasked with directing the effort to create a larger space that can be utilized by all engineering departments.

Computer Labs

From 2001 until 2010 I was responsible for all aspects of our departmental computer labs. The purpose of this custom arrangement was to address the special needs of an engineering computer lab and to best integrate it with our classes. I was responsible for two labs and one classroom totaling approximately 80 computers. This involved equipment specification, installation, and maintenance. I was among the first in the university to utilize 'imaging' to reduce the work required to update software within the labs. Along with the assistance of a single undergraduate assistant, I implemented printer quotas, networked storage for all students, and departmental user accounts. Most of my work of late has been interfacing with OIT for the software and printer administration now that they have finally been able to provide most of these capabilities.

Technical Support

While a small part of my job, I also take an active part in participating in OIT and other technology related activities such as the LMS evaluation committee, the mLearning pilot project, the campus LANMAN community, and the monthly IT Community of Practice meetings. In addition, I provide departmental support with hardware and software issues for our administrative computers, printers, and copiers.

William R. Schleiter

Research

Formal research and publication is not required of a lecturer position, but my activities in these areas show my commitment to the ideals and goals of the university above and beyond standard expectations. As can be seen, my interests and strengths lie in the application of instructional technology and the pedagogy of engineering education.

The types of classes EF teaches inherently provide a living laboratory for trying new things. Every day we are faced with decisions on how to best help students learn. We try new methods and approaches based on our intuition and past experience. These informal trials are in essence applied research topics. The "let's try presenting it a different way," "let's try this type of exam", and "lets set up this lab exercise to see if it helps them understand" are all examples of this. We have a distinct advantage over most trials of this type in that the custom course web system that I've developed provides a flexible tool for quickly and easily implementing and evaluating many of these new ideas. The resources listed below represent the work I've done or have assisted in an attempt to document and share some of the results of our years of experience.

Publications

- **Implementing a Robotic Programming Project in a First Semester "Programming for Engineers" Course** FYEE 2015 Annual Conference
- **Effectively Using Online Homework** FYEE 2014 Annual Conference
- **Web Based Project Reports** FYEE 2014 Annual Conference
- **A Success Enhancement Program After the First Test in Freshman Engineering** ASEE 2012 Annual Conference
- **Effects of an Early Homework Completion Bonus** ASEE 2012 Annual Conference
- **Research Initiation Grant: Increasing Student Engagement in Homework** NSF EEC - Engineering Education Research Initiation Grant Award 1137013
- EF 230 Computer Solution of Engineering Problems - course lab notes (**Fall, 2011**)
- **Work in Progress - Enhancing On-Line Interaction with Graphical Tools:** Presented at 41st ASEE/IEEE Frontiers in Education Conference, October, 2011 (**Presentation**)
- **Short, Hands-On Team Design Projects in a Freshman Engineering Class:** Presented at ASEE 2010 Annual Conference and Exposition
- EF 105 Computer Methods in Engineering Problem Solving - course lab notes (**Spring, 2008**)
- **UTK EFD Custom On-line Homework System:** Information and Paper Presented at ASEE 2006 Annual Conference and Exposition
- **The Engage Program: Implementing and Assessing a New First Year Experience at the University of Tennessee:** Journal of Engineering Education, 91(4), 441-446, 2002.

William R. Schleiter

Service

University Service

- **Tennessee Governor's Schools for Science and Engineering** - 2004 to present - taught a portion of the engineering classes since 2004. This program is a highly competitive 5 week summer program designed to provide elite high school students exposure to science and engineering while also earning college credit.
- **Tennessee Science Olympiad** judge and event coordinator - volunteered to assist with judging, coaches training, and coordinating various events since 2005.
- **First Robotics** volunteer - assisted with robot inspection, web site evaluation, field setup, the kickoff meeting, and the robot quick build since 2011.
- **The University of Tennessee College of Engineering** - assisted with events such as the Engineering Sneak Peak weekend, Homecoming weekend, and Engineer's Day.
- Actively participated in many Tennessee Teaching and Learning Center events.
- Actively participated in OIT events such as the monthly IT Community of Practice, the Classroom Response System evaluation team, and the Learning Management System evaluation team.
- Coordinated the creation and growth of the **Innovation and Collaboration Studio**. This is a college resource that provides a makerspace environment for students' personal projects.

Professional Service

- **American Society for Engineering Education** - I have attended several conferences and participated in organization committee meetings.
- **First Year Engineering Experience** - I have attended several conferences and participated in organization committee meetings.

Community Service

- **Knoxville Electric Vehicle Club** - I have been a member since 2014. The purpose of the club is to share information and raise awareness about electric vehicles.
- Former Licensed Professional Engineer in the state of Tennessee - license # 20786
- **AYSO soccer** coach - 2001-2006 - I was coach and assistant coach of my daughter's teams. I completed the required training to be a certified U16 coach.
- President of the Karns Girls Soccer booster club - 2007 - I assisted with the transition from an informal entity to formal 'Booster Club' status.
- Volunteer for Boys & Girls club sponsored golf tournaments from 1999 to 2007. I assisted the club with computer needs involved with running the tournaments. My main involvement was the creation of a database system to assist with volunteer registration and scheduling.

William R. Schleter

Biography



I was born William Raymond Schleter in 1961 in Denver, Colorado to Joseph and Nancy Schleter. While growing up in rural central Indiana, I went to **Greenfield Central High School**. Looking back, I now know that I was extremely lucky to attend a good school with some great teachers. My college years were spent at the **University of Missouri-Rolla** where I received a BS degree in Mechanical Engineering in 3½ years.



My first job took me to east Tennessee where I worked in the Computer-Aided Engineering department at the **Y-12 Plant** in Oak Ridge for 12 years. It was there that I was fortunate to get experience with a lot of neat technologies, and to learn what I really liked doing was making computers do things. In 1995, when Y-12 stopped being a fun place to work, I chose to venture out on my own. I did **independent software development and consulting work** for a few years where I learned that the business aspects of consulting were critical to being successful, and I did not enjoy the business aspects of consulting.



Somewhere in the midst of working and playing I found time to be married on October 18, 1988 to a very special person - Zeni Batte. We have have two wonderful daughters, Zeni Marie (1989) and Amy Linn (1991) who grew up way too fast in the **Karns community** near Knoxville, TN. Amy graduated from **Rose Hulman University** May, 2013 with a degree in mechanical engineering while she played **soccer** for the Fightin' Engineers. She married Andrew Eslinger (also a Rose ME grad) in July, 2013. They are currently living in Clarksville, TN where he flies **Chinooks** for the US Army and she works at **CIG**. Zeni is a special person who completed the **Future Program** at the University of Tennessee and **Project Search** at East TN Children's Hospital.



In the Summer of 1997 I was asked to help out with running the **University of Tennessee's** engineering graphics classes. That task evolved into becoming part of the team that teaches **Engineering Fundamentals** classes at UT. While working I earned a MS degree in **Instructional Technology** at UT in December, 2005. Years later I'm still trying to pass that first set of engineering classes :)

