

Kyle Webb – Curriculum Vita

Senior Instructor, Energy Systems Engineering
Oregon State University - Cascades
Ray Hall 301D
1500 SW Chandler Ave
Bend, OR 97702
(541) 322-3134
<http://web.engr.oregonstate.edu/~webbky>

A. EDUCATION AND EMPLOYMENT INFORMATION

Education:

2013	University of Colorado Ph.D. Electrical Engineering
2005	Oregon State University M.S. Electrical Engineering
1998	Dartmouth College – Thayer School of Engineering B.E. Electrical Engineering
1997	Dartmouth College A.B. Engineering

Employment:

2019 to present	Senior Instructor I, Energy Systems Engineering/Engineering Science OSU-Cascades Bend, OR
2015 to 2019	Instructor, Energy Systems Engineering OSU-Cascades Bend, OR
2012-2015	Instructor, Department of Mechanical and Aerospace Engineering University of Colorado Colorado Springs Colorado Springs, CO
2009-2012	Lecturer, Department of Mechanical and Aerospace Engineering University of Colorado Colorado Springs Colorado Springs, CO
1999-2009	R&D Engineer Agilent Technologies Colorado Springs, CO
1998-1999	R&D Engineer Hewlett-Packard Company Colorado Springs, CO

B. TEACHING, ADVISING, AND OTHER ASSIGNMENTS

1. Instructional Summary

Term	Institution	Course	Course Title	Enrollment
S22	OSU-C	EGNR 103	Engineering Computation and Algorithmic Thinking	24
S22	OSU-C	ENGR 103	Engineering Computation and Algorithmic Thinking - Lab	24
S22	OSU-C	ENGR 203	Electrical Fundamentals III	2
W22	OSU-C	ENGR 102	Design Engineering and Problem Solving	28
W22	OSU-C	ENGR 102	Design Engineering and Problem Solving - Laboratory	28
W22	OSU-C	ENGR 202	Electrical Fundamentals II	7
W22	OSU-C	ENGR 202	Electrical Fundamentals II – Laboratory	7
W22	OSU-C	ESE 430	Feedback Control System	14
F21	OSU-C	ENGR 201	Electrical Fundamentals I	19
F21	OSU-C	ENGR 201	Electrical Fundamentals I – Laboratory	19
F21	OSU-C	ESE 330	Modeling and Analysis of Dynamic Systems	26
S21	OSU-C	ENGR 202	Electrical Fundamentals II	14
S21	OSU-C	ENGR 202	Electrical Fundamentals II – Laboratory	14
S21	OSU-C	ESE 470	Energy Distribution Systems	20
W21	OSU-C	ENGR 201	Electrical Fundamentals I	18
W21	OSU-C	ENGR 201	Electrical Fundamentals I – Laboratory	18
W21	OSU-C	ESE 498	Capstone Design	15
F20	OSU-C	ESE 330	Modeling and Analysis of Dynamic Systems	24
F20	OSU-C	ESE 430	Feedback Control System	10
F20	OSU-C	ESE 497	Capstone Design	15
S20	OSU-C	ENGR 202	Electrical Fundamentals II	9
S20	OSU-C	ENGR 202	Electrical Fundamentals II – Laboratory	9
S20	OSU-C	ESE 470	Energy Distribution Systems	37
W20	OSU-C	ENGR 112	Introduction to Engineering Computing	20
W20	OSU-C	ENGR 112	Introduction to Engineering Computing - Laboratory	20
W20	OSU-C	ENGR 201	Electrical Fundamentals I	12
W20	OSU-C	ENGR 201	Electrical Fundamentals I – Laboratory	12
W20	OSU-C	ESE 498	Capstone Design	23
F19	OSU-C	ESE 330	Modeling and Analysis of Dynamic Systems	33
F19	OSU-C	ESE 497	Capstone Design	23
S19	OSU-C	ENGR 202	Electrical Fundamentals II	10
S19	OSU-C	ENGR 202	Electrical Fundamentals II – Laboratory	10
S19	OSU-C	ESE 330	Modeling and Analysis of Dynamic Systems	32
W19	OSU-C	ENGR 201	Electrical Fundamentals I	10
W19	OSU-C	ENGR 201	Electrical Fundamentals I – Laboratory	10
W19	OSU-C	ESE 471	Energy Storage Systems	31
W19	OSU-C	ESE 498	Capstone Design	28
F18	OSU-C	ESE 470	Energy Distribution Systems	35
F18	OSU-C	ESE 497	Capstone Design	28
S18	OSU-C	ENGR 202	Electrical Fundamentals II	9
S18	OSU-C	ENGR 202	Electrical Fundamentals II – Laboratory	9
W18	OSU-C	ENGR 201	Electrical Fundamentals I	7
W18	OSU-C	ENGR 201	Electrical Fundamentals I – Laboratory	7
W18	OSU-C	ESE 471	Energy Storage Systems	29
W18	OSU-C	ESE 498	Capstone Design	28
F17	OSU-C	ESE 470	Energy Distribution Systems	36
F17	OSU-C	ESE 497	Capstone Design	28
F17	OSU-C	ESE 499	Feedback Control Systems	22

Term	Institution	Course	Course Title	Enrollment
S17	OSU-C	ENGR 112	Introduction to Engineering Computing	5
S17	OSU-C	ENGR 202	Electrical Fundamentals II	17
S17	OSU-C	ENGR 202	Electrical Fundamentals II – Laboratory	17
S17	OSU-C	ESE 470	Energy Distribution Systems (indep. study)	2
W17	OSU-C	ENGR 201	Electrical Fundamentals I	7
W17	OSU-C	ENGR 201	Electrical Fundamentals I – Laboratory	7
W17	OSU-C	ESE 471	Energy Storage Systems	21
W17	OSU-C	ESE 498	Capstone Design	28
F16	OSU-C	ESE 470	Energy Distribution Systems	25
F16	OSU-C	ESE 497	Capstone Design	28
S16	OSU-C	ESE 499	Feedback Control Systems	20
W16	OSU-C	ESE 471	Energy Storage Systems	27
W16	OSU-C	ESE 498	Capstone Design	24
F15	OSU-C	MIME 101	Introduction to MIME	14
F15	OSU-C	ESE 470	Energy Distribution Systems	26
F15	OSU-C	ESE 497	Capstone Design	24
S15	UCCS	MAE 3055	MechEtronics II	48
S15	UCCS	MAE 3055	MechEtronics II – Laboratory	48
S15	UCCS	MAE 4020/5020	Numerical Methods with MATLAB	17
S15	UCCS	MAE 4421	Control of Aerospace and Mechanical Systems	35
F14	UCCS	CS 1090	Introduction to Programming Using MATLAB	35
F14	UCCS	MAE 3055	MechEtronics II	48
F14	UCCS	MAE 3055	MechEtronics II – Laboratory	48
F14	UCCS	MAE 3401	Modeling and Simulation of Dynamic Systems (Honors)	12
S14	UCCS	MAE 2055	MechEtronics I – Laboratory	48
S14	UCCS	MAE 3055	MechEtronics II	45
S14	UCCS	MAE 3055	MechEtronics II – Laboratory	45
S14	UCCS	MAE 3401	Modeling and Simulation of Dynamic Systems	40
S14	UCCS	MAE 4020/5020	Numerical Methods with MATLAB	23
F13	UCCS	MAE 2055	MechEtronics I	48
F13	UCCS	MAE 2055	MechEtronics I – Laboratory	48
F13	UCCS	MAE 3055	MechEtronics II	25
F13	UCCS	MAE 3055	MechEtronics II – Laboratory	25
S13	UCCS	MAE 2055	MechEtronics I	24
S13	UCCS	MAE 3020	Numerical Methods with MATLAB	10
S13	UCCS	MAE 3055	MechEtronics II	7
F12	UCCS	MAE 2055	MechEtronics I	24
F12	UCCS	MAE 3055	MechEtronics II	9
S12	UCCS	MAE 2055	MechEtronics I	23
S12	UCCS	ECE 3240	Electronics Laboratory II	20
F11	UCCS	MAE 3055	MechEtronics II	13
F11	UCCS	ECE 3230	Electronics Laboratory I	24
S11	UCCS	MAE 2055	MechEtronics I	25
F10	UCCS	MAE 2055	MechEtronics I	36
S10	UCCS	MAE 2055	MechEtronics I	24
F09	UCCS	MAE 1502	Principles of Engineering	21
F09	UCCS	MAE 1502	Principles of Engineering	20

2. Student Evaluations of Teaching (OSU-C courses only):

Q1: The course as a whole was: 1 (very poor) ... 6 (excellent)

Q2: The instructor's contribution to the course was: 1 (very poor) ... 6 (excellent)

N: # of respondents/total enrollment

Term	Course	Course as a whole		Instructor's contribution		N
		Course Median	Dept. Median	Course Median	Dept. Median	
S22	ENGR 103	Not yet available				7/23
S22	ENGR 203 ³	-	-	-	-	0/2
W22	ENGR 102	4.1	4.6	5.0	5.0	11/28
W22	ENGR 202	6.0	4.6	6.0	5.0	2/7
W22	ESE 430	5.8	5.0	6.0	5.2	8/14
F21	ENGR 201	5.0	5.0	5.0	5.4	1/16
F21	ESE 330	4.5	5.1	5.5	5.3	6/25
S21	ENGR 202	6.0	4.7	6.0	4.9	1/7
S21	ESE 470	5.8	5.1	5.8	5.3	4/20
W21	ENGR 201	6.0	4.7	6.0	4.9	2/18
W21	ESE 498	5.3	4.7	5.3	4.9	3/15
F20	ESE 330	5.7	4.8	6.0	4.9	5/24
F20	ESE 430	4.5	4.8	5.0	4.9	2/10
F20	ESE 497	5.3	4.8	5.7	4.9	5/15
S20	ENGR 202	5.8	5.6	6.0	5.8	3/8
S20	ESE 470	5.0	4.6	5.8	5.1	15/37
W20	ENGR 112	4.9	4.6	5.3	4.9	12/20
W20	ENGR 201	5.0	4.6	5.5	4.9	4/12
W20	ESE 498	5.8	5.0	5.8	5.2	4/23
F19	ESE 330	4.9	4.8	5.6	5.0	11/33
F19	ESE 497	5.0	4.8	5.8	5.0	6/23
S19	ENGR 202	5.0	4.6	5.0	4.7	1/10
S19	ESE 330	4.3	4.9	5.1	5.1	11/32
W19	ENGR 201	5.0	4.5	5.5	4.7	2/10
W19	ESE 471	3.5	4.9	4.5	5.1	10/31
W19	ESE 498	5.8	4.9	5.8	5.1	7/28
F18	ESE 470	5.5	4.7	5.7	4.9	10/35
F18	ESE 497	5.7	4.7	5.8	4.9	10/28
S18	ENGR 202 ²	5.3	4.6	5.9	4.6	5/9
W18	ENGR 201 ²	-	-	-	-	0/7
W18	ESE 471 ⁴	-	-	-	-	0/29
W18	ESE 498	5.3	4.7	5.3	4.9	14/28
F17	ESE 470	4.3	4.7	4.6	4.9	22/36
F17	ESE 497	4.8	4.7	4.6	4.9	20/28
F17	ESE 499	5.0	4.7	5.3	4.9	14/22
S17	ENGR 112 ³	-	-	-	-	0/5
S17	ENGR 202 ²	5.0	4.8	5.9	4.9	10/17
S17	ESE 470 ³	-	-	-	-	0/2
W17	ENGR 201 ²	5.8	4.2	6.0	4.3	3/7
W17	ESE 471	5.0	4.8	5.2	4.9	14/21
W17	ESE 498	5.3	4.8	5.6	4.9	19/28
F16	ESE 470	5.1	4.6	5.7	4.8	21/25
F16	ESE 497	4.9	4.6	5.2	4.8	24/28
S16	ESE 499	5.0	4.7	5.6	4.9	15/20

Term	Course	Course as a whole		Instructor's contribution		N
		Course Median	Dept. Median	Course Median	Dept. Median	
W16	ESE 471	5.0	4.6	5.3	4.8	15/27
W16	ESE 498	5.1	4.6	5.6	4.8	13/24
F15	MIME 101	5.5	4.5	5.5	4.7	7/14
F15	ESE 470	4.5	4.5	4.8	4.7	18/26
F15	ESE 497 ¹	-	-	-	-	0/24

Notes:

¹ Co-taught - SETs for my contribution to the class were not made available to the students.

² For ENGR 201 and 202, a single set of SETs are administered for the lecture and lab sections.

³ SETs not administered due to low enrollment

⁴ Co-taught – SETs were provided only for my portion of the class, not the other instructor, but they were accidentally administered by, and very clearly intended for, the other instructor.

3. Curriculum Development (OSU-C courses only):

Course notes available online: <http://web.engr.oregonstate.edu/~webbky/CourseMaterial>

Courses previously not offered at OSU-Cascades

ENGR 102: Design Engineering and Problem Solving

Complete development of all course material, including course notes, homework assignments, lab exercises, course website, and exams.

ENGR 102: Design Engineering and Problem Solving - Laboratory

Developed weekly lab excises for first-year engineering course. Students learned to build and test simple electronic circuits and program microcontrollers. Labs built toward and culminated in course project, in which students built and tested solar-powered battery chargers.

ENGR 103: Engineering Computation and Algorithmic Thinking

Complete development of all course material, including course notes, homework assignments, course website, and exams.

ENGR 103: Engineering Computation and Algorithmic Thinking - Laboratory

Developed weekly lab excises for first-year engineering course. Lab exercises built toward and culminated in a course project, in which students built and tested hand-cranked battery charging systems, including 3-D printed mechanical assemblies and microcontroller-based charge monitoring.

ENGR 203: Electrical Fundamentals III

Creation of an electronics laboratory at OSU-Cascades, including specification and procurement of all necessary lab equipment and supplies. Complete development of all weekly lab exercises.

ENGR 112: Introduction to Engineering Computing

Complete development of all course material, including course notes, homework assignments, lab exercises, course website, and exams.

ENGR 201: Electrical Fundamentals I

Complete development of all course material, including course notes, homework assignments, course website, and exams.

ENGR 201: Electrical Fundamentals I - Laboratory

Creation of an electronics laboratory at OSU-Cascades, including specification and procurement of all necessary lab equipment and supplies. Complete development of all weekly lab exercises.

ENGR 202: Electrical Fundamentals II

Complete development of all course material, including course notes, homework assignments, course website, exams, and a hands-on project in which students design and implements an electronic project of their choosing.

ENGR 202: Electrical Fundamentals II - Laboratory

Specification and procurement of all necessary lab equipment and supplies. Complete development of all weekly lab exercises.

ESE 330: Modeling & Analysis of Dynamic Systems

Complete development of all course material, including course notes, homework assignments, course website, exams, and in-class lab exercises using programmable robotic kits.

ESE 499: Feedback Control Systems

Complete development of all course material, including course notes, homework assignments, course website, and exams.

Courses undergoing complete overhaul

ESE 470: Energy Distribution Systems

Course learning outcomes modified to make this a course in electrical power system fundamentals. New textbook selected. Complete development of all course material, including course notes, homework assignments, course website, and exams.

ESE 471: Energy Storage Systems

Complete development of all course material for one half of this course (co-taught), including course notes, homework assignments, course website, and exams.

Courses converted to a *flipped-classroom* format

ENGR 201: Electrical Fundamentals I
ENGR 202: Electrical Fundamentals II
ESE 470: Energy Distribution Systems

Developed video lecture modules to be watched by students prior to each class, and created corresponding online quizzes to be completed after watching each set of video modules. Developed example problems, along with detailed solutions, to work through with students during each class meeting.

Video modules, along with course notes, available online:

<http://web.engr.oregonstate.edu/~webbky/ENGR201.htm>

<http://web.engr.oregonstate.edu/~webbky/ENGR202.htm>

4. Instructional Grants

OSU-Cascades

2019 Learning Innovation Grant: Lightboard Video Recording Min-Studio (\$7458)
2018 Learning Innovation Grant: MinSeg Robot Kits for Systems and Controls Labs (\$5950)
2017 Learning Innovation Grant: Oscilloscopes for Electrical Fundamentals Labs (\$9636)

UCCS

2014 Teaching Enhancement Grant: NI myRIO DAQ for in-class demos (\$500)
2013 Teaching Enhancement Grant: Digilent Analog Discovery USB instrument for in-class (\$199)
2012 Teaching Enhancement Grant: Camtasia screen-capture software and wireless microphone for lecture capture (\$429)

C. SCHOLARSHIP AND CREATIVE ACTIVITY

1. Publications:

Thomas R. Amundson, Kyle M. Webb, Rebecca N. Webb, Numerical power output predictions for low-bandgap thermophotovoltaic cells coupled with a latent-heat energy storage system, *Journal of Energy Storage*, Volume 6, May 2016, Pages 204-212, ISSN 2352-152X. (30% contribution)

Kyle M. Webb, T.S. Kalkur, Compensation of self-heating-induced timing errors in bipolar comparators, *Microelectronics Journal*, Volume 47, January 2016, Pages 31-39, ISSN 0026-2692. (100% contribution)

Webb, K.M.; Kalkur, T.S., "A Circuit-Based Approach for the Compensation of Self-Heating-Induced Timing Errors in Bipolar Comparators," *Bipolar/BiCMOS Circuits and Technology Meeting (BCTM), 2012 IEEE*, pp.1-4, Sept. 30 2012-Oct. 3 2012. (100% contribution)

Webb, K.; Song H., "Compensation Scheme of a 50 Ω Bond Wire Interconnect Using Time-Domain Reflectometry," *Journal of Microelectronics and Electronic Packaging*, Vol. 8, No. 3, 2011. (100% contribution)

2. Grants:

2018 Webb, Kyle (PI) & Webb, Rebecca (Co-PI). CCA Proof of Concept Grant/OSU-Cascades ESE Department. VertueLab (Oregon BEST). \$54,987.

D. SERVICE

1. University Service

OSU-Cascades

OSU-Cascades Campus

Winter 2022	Promotion Review Committee – N. Rush - Chair
Winter 2022	Promotion Review Committee – R. Scheirer - Chair
Winter 2022	Promotion Review Committee – K. Smith - Chair
Winter 2022	Promotion Review Committee – S. Towne - Chair
2021-2022	ESE Solar District Cup Team – Faculty Advisor
Fall 2021	Promotion Review Committee – C. Hagen
Spring 2021	PROT Committee –C. Hagen
Winter 2021	Promotion Review Committee – T. Burnett
Winter 2021	Promotion Review Committee – N. Dahl
Winter 2021	PROT Committee – D. Lynn
Winter 2021	PROT Committee – P. Ball
Winter 2020	Promotion Review Committee – P. Baldivieso
Fall 2019	Promotion Review Committee – J. Goldsmith
Winter 2019	Search Committee – ESE Instructor
Fall 2018	PROT Committee – S. Ganzhorn – Chair
2018 – 2021	Sustainability Committee – Co-Chair
2018 – 2021	Teaching Excellence Committee
2018 – present	OSU-Cascades Cycling Club – Faculty Advisor
2016 - 2018	Experiential Learning Committee
Spring 2018	PROT Committee – P. Baldivieso
Winter 2018	Search Committee – Physics Instructor – Chair
Winter 2018	Search Committee – Mathematics Instructors
Winter 2018	PROT Committee – K. Biles
Winter 2017	PROT Committee – M. Orr
Winter 2017	Search Committee – ESE Assistant/Associate Professor
2016 - 2017	Honors College/Baccalaureate Core Committee
Summer 2016	Search Committee – ESE Research Engineer
Spring 2016	Search Committee – Mathematics Instructor
Winter 2016	PROT Committee – S. McMahon
Winter 2016	Search Committee – Computer Science Instructor
2015 - 2017	Long-Range Development Planning Committee
2015 - 2017	LRDP Committee – Sustainability Advisory Group
Fall 2015	PROT Committee – T. Montgomery

Energy Systems Engineering Program

ABET Accreditation

Collect, compile, and document assessment materials for ESE courses. Developed an electronic documentation system for collection of ABET assessment materials.

Senior Exit Interviews

Instituted a practice of conducting annual online surveys and in-person interviews of all graduating ESE seniors to collect feedback to help guide future direction of the ESE program and curriculum

Industry Outreach

Constantly working to establish new connections between the ESE program and local/regional industry. Relationships help ensure a continued supply of projects for the ESE Capstone Design course, a supply of guest lecturers for ESE course and seminars, and contacts for internships and jobs for ESE students.

UCCS

2014-2015	UCCS Green Action Fund – Faculty Advisor
2014-2015	UCCS Sustainability Committee
Fall 2014	MAE Instructor Search Committee
Fall 2013	MAE Instructor Search Committee – Chair
2012-2014	MAE Course Scheduling Coordinator
2012-2014	SAE Baja Club - Advisor
2012-2014	MAE Laboratory Committee – Chair

E. AWARDS

2014	UCCS Outstanding Instructor Award
2014	College of Engineering and Applied Science Teacher of the Year
2012	College of Engineering and Applied Science Lecturer of the Year