Oregon TECH

2016-17 Program Assessment Report

Computer Engineering Technology B.S.

Mission, Objectives & Learning Outcomes

Oregon Tech Mission

Oregon Institute of Technology, an Oregon public university, offers innovative and rigorous applied degree programs in the areas of engineering, engineering technologies, health technologies, management, and the arts and sciences. To foster student and graduate success, the university provides an intimate, hands-on learning environment, focusing on application of theory to practice. Oregon Tech offers statewide educational opportunities for the emerging needs of Oregonians and provides information and technical expertise to state, national and international constituents.

Core Theme 1: Applied Degree Programs

Oregon Tech offers innovative and rigorous applied degree programs. The teaching and learning model at Oregon Tech prepares students to apply the knowledge gained in the classroom to the workplace.

Core Theme 2: Student and Graduate Success

Oregon Tech fosters student and graduate success by providing an intimate, hands-on learning environment, which focuses on application of theory to practice. The teaching and support services facilitate students' personal and academic development.

Core Theme 3: Statewide Educational Opportunities

Oregon Tech offers statewide educational opportunities for the emerging needs of Oregon's citizens. To accomplish this, Oregon Tech provides innovative and rigorous applied degree programs to students across the state of Oregon, including high-school programs, online degree programs, and partnership agreements with community colleges and universities.

Core Theme 4: Public Service

Oregon Tech will share information and technical expertise to state, national, and international constituents.

Program Alignment to Oregon Tech Mission and Core Themes

Our program is very hands-on and thus aligns with Core Theme 1. Our graduates are in high demand by the industries we support. This is evidence that we are aligned with Core Theme 2.

Program Mission

The mission of the Computer Engineering Technology (CET) Degree program in the Computer Systems Engineering Technology (CSET) Department at Oregon Institute of Technology is to provide an excellent education incorporating industry-relevant, applied laboratory based design and analysis to our students. The program is to serve a constituency consisting of its Alumni, employers in the high-technology industry, and the members of our IAB. Major components of the CET program's mission in the CSET Department are to:

I.   Educate computer engineering technology students to meet current and future industrial challenges,

II.   Promote a sense of scholarship, leadership, and professional service among our graduates,

III.   Enable our students to create, develop, and disseminate knowledge for the applied engineering environment,

IV.   Expose our students to cross-disciplinary educational programs, and provide high tech industry employers with graduates in the computer engineering technology profession, a profession which is increasingly being driven by advances in technology.

Program Educational Objectives

Graduates of the Computer Engineering Technology (CET) Bachelor Degree program may be employed in a wide range of high tech industries from industrial manufacturing to consumer electronics where they will be involved in solving problems through the development of hardware, software and embedded applications. Graduates may be involved in product design, testing and qualification, application engineering, customer support, sales, or public relations.

A) Demonstrate technical competency through success in computer engineering technology positions and/or pursuit of engineering or engineering technology graduate studies if desired.

B) Demonstrate competencies in communication and teamwork skills by assuming increasing levels of responsibility and/or leadership or managerial roles.

C) Develop professionally, pursue continued learning and practice responsibly and ethically.

Program Faculty Review
Program Student Learning Outcomes and Objectives were reviewed by program faculty during Fall Convocation program Assessment Meeting. No changes were made. Data from meeting is unavailable. See Analysis of Results regarding unavailable data.

Showcase Learning Opportunities
In 2015-2016 school year, the CET program started participating in the MECOP program. In the MECOP program, students participate in two 6-month internships. Many other students who do not participate in MECOP find internships on their own.

Program History & Vision

Program History
In 1965, OIT was invited to join a Technical Education consortium sponsored by a number of major computer manufacturers. In response, OIT developed an Electro-Mechanical Engineering Technology program. This program was based on a mix of existing EET, MET, Math and other support courses. The name of the program was changed to Computer Systems Engineering Technology in 1973 in order to better represent the course material and capabilities of graduates. Course offerings were expanded, refined and renumbered using CST prefixes to reflect their computer systems content. Since that time, the program has continued to evolve in order to track new developments in the field and keep graduates current. As of this time, the program is only offered on the Klamath Falls campus. The program has continuously evolved as industrial changes have warranted.

Meeting with Advisory Board
Program faculty held a meeting with their Advisory Board during the academic year.

Advisory Board Review
Meeting was held on May 5th. Data from meeting is unavailable. See Analysis of Results regarding unavailable data.

Program Enrollment

Enrollment at the beginning of the year was 63 students. The 5 year change is -23.2%.

Attachment_1_Enrollment_5_Year_History_by_Major

Program Graduates

We had three graduates this year. Graduates have remained flat for the last five years.

Attachment_2_Graduates_10_Year_History_by_Major

Employment Rates and Salaries

100% of our graduates have found employment with a median salary of $64,000.

Attachment_3_Grad_Data_First_Destination_3_Year_History_by_Major

Pass Rates on Board and Licensure Exam

N/A

Results of Board or Licensure Exam

N/A

Other Program Assessment Data

N/A

Desired Data

N/A

Closing the Loop

Describe any actions taken and re-assessment done during this academic year in response to assessment findings from prior academic years.

Unavailable due to change in program director and program assessment coordinators. See Analysis of Results regarding unavailable data.

Changes Implemented

N/A

Assessment Findings

N/A

Program Student Learning Outcomes Assessment Cycle

Program Student Learning Outcomes 3-year cycle Computer Engineering Technology B.S.	2016-17	2017-18	2018-19
OIT-BCMP 2016-17.a An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;			X
OIT-BCMP 2016-17.b An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;		X	
OIT-BCMP 2016-17.c An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;		X	
OIT-BCMP 2016-17.d An ability to design systems, components, or processes for broadly-			X

defined engineering technology problems appropriate to program educational objectives;			
OIT-BCMP 2016-17.e An ability to function effectively as a member or leader on a technical team;			X
OIT-BCMP 2016-17.f An ability to identify, analyze, and solve broadly-defined engineering technology problems;		X	
OIT-BCMP 2016-17.g An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to to identify and use appropriate technical literature.	X		
OIT-BCMP 2016-17.h An understanding of the need for and an ability to engage in self-directed continuing professional development;	X		
OIT-BCMP 2016-17.i An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;	X		
OIT-BCMP 2016-17.j A knowledge of the impact of engineering technology solutions in a societal and global context;	X		
OIT-BCMP 2016-17.k A commitment to quality, timeliness, and continuous improvement.			X

Assessment Map & Measure

F – Foundation – introduction of the learning outcome, typically at the lower-division level,

P – Practicing – reinforcement and elaboration of the learning outcome, or

C – Capstone – demonstration of the learning outcome at the target level for the degree

For each outcome, programs should identify at least 2 direct measures (student work that provides evidence of their knowledge and skills), and 1 indirect measure (student self-assessment of their knowledge and skills) for each outcome.

For every program, data from the Student Exit Survey will be an indirect measure at the capstone level.

OIT-BCMP 2016-17.g An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

Course/Event	CST 231
Legend	F- Foundation
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	CST 471
Legend	C- Capstone
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	Student Exit Survey
Legend	C - Capstone
Assessment Measure	Indirect – Student Exit Survey
Criterion	70% of students rate themselves as "proficient" or better

OIT-BCMP 2016-17.h An understanding of the need for and an ability to engage in self-directed continuing professional development;

Course/Event	CST 373 (unavailable)
Legend	P- Practice
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	CST 473
Legend	C- Capstone
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	Student Exit Survey
Legend	C - Capstone
Assessment Measure	Indirect – Student Exit Survey
Criterion	70% of students rate themselves as "proficient" or better

OIT-BCMP 2016-17.i An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;

Course/Event	CST 373 (unavailable)
Legend	P- Practice
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	CST 472
Legend	C- Capstone
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	Student Exit Survey
Legend	C - Capstone
Assessment Measure	Indirect – Student Exit Survey
Criterion	70% of students rate themselves as "proficient" or better

OIT-BCMP 2016-17.j A knowledge of the impact of engineering technology solutions in a societal and global context;

Course/Event	CST 373 (unavailable)
Legend	P- Practice
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	CST 472
Legend	C- Capstone
Assessment Measure	Direct – Assignment
Criterion	70% or more are proficient or better
Course/Event	Student Exit Survey
Legend	C - Capstone
Assessment Measure	Indirect – Student Exit Survey
Criterion	70% of students rate themselves as "proficient" or better

Analysis of Results

In 2016-2017 and 2017-2018, there were multiple changes in assessment coordinator and program director for the CET program. As a result, some information from the 2016-2017 assessment cycle is not available. The assessment provided in this document was reconstructed from archived data. Going forward, all assessment data will be collected and placed on a department server. This will prevent the loss of assessment data in the future.

Missing assessment data included notes from advisory meetings, faculty meeting, and exit survey for 2014-15 and 2015-16. Additional missing information include CST 371/372/373 Assessment for OIT-BCMP 2016-17.i, OIT-BCMP 2016-17.j, and OIT-BCMP 2016-17.h. The missing data occurs at the practice level. Note that capstone data was still available and indicates that Program Student Learning Outcomes are still being met.

Insufficient student exit survey results were collected for the indirect assessment for 2016-17. No students responded to the survey, so no data was collected. Student exit survey results are missing for 2014-15 and 2015-16. Again, this information will be uploaded and stored on a department server in the future to prevent data loss.

OIT-BCMP 2016-17.g An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.	
Criterion	Partially Met
Summary	Students successfully met this requirement at the capstone level but further improvement is needed at the fundamental level.
Improvement Narrative	In the CST 231 Lab 6 assignment, students did not write with sufficient detail for a technical report. In the future instructor should provide additional clarification and emphasise the level of detail required in a technical lab report. **Follow up for 2017-2018 Assessment.**
Attachments	*Attachment_4_Lab Assignment 6 Report 231 2016* *Attachment_5_Final Presentation 473 2017*

OIT-BCMP 2016-17.h An understanding of the need for and an ability to engage in self-directed continuing professional development;

Criterion	Met
Summary	N/A
Improvement Narrative	Only one course was evaluated. No changes need to be made based on available assessment data.
Attachments	*Attachment_6_Professional Development 473 2017*

OIT-BCMP 2016-17.i An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;

Criterion	Met
Summary	N/A
Improvement Narrative	Only one course was evaluated. No changes need to be made based on available assessment data.
Attachments	*Attachment_7_Ethics-472-2017*

OIT-BCMP 2016-17.j A knowledge of the impact of engineering technology solutions in a societal and global context;

Criterion	Met
Summary	N/A
Improvement Narrative	Only one course was evaluated. No changes need to be made based on available assessment data.
Attachments	*Attachment_8_Societal_Impacts-472-2017*

References

Program Assessment Coordinator: Kevin Pintong, Assistant Professor, Computer Systems Engineering Technology

Office of Academic Excellence

Attachment 1_Enrollment_5_Year_History_by_Major

Oregon TECH

Majors History, Fall 4th Week
November 30, 2016

The following data represents majors declared by student as of Fall 4th week. Students with multiple/dual majors have been reported
under each major in which they enrolled; therefore the student headcount will be duplicated. A small number of students that declared
a third major have now been included in this report. Data reported is combined for all levels and all locations.
Some programs may have had name changes such as CLS and have been reported as they were (historically).

Description	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	5 Year Difference	5 Year % Change
ABA Course Series	0	0	3	0	0	0	-
Accounting Certificate	0	0	0	0	1	1	-
Allied Health	0	0	0	0	3	3	-
Allied Health Management	11	5	3	2	1	-10	-90.9%
Applied Behavior Analysis	0	0	0	10	17	17	-
Applied Mathematics	41	38	47	42	33	-8	-19.5%
Applied Psychology	146	149	122	96	110	-36	-24.7%
Automat, Robot, & Cntrl Engr	0	0	0	0	1	1	-
Biology	15	8	1	1	0	-15	-100.0%
Biology-Health Sciences	136	150	150	138	151	15	11.0%
Civil Engineering	127	121	110	120	118	-9	-7.1%
Clinical Lab Science-Earlyadm	6	10	35	22	0	-6	-100.0%
Clinical Laboratory Science	62	85	94	95	2	-60	-96.8%
Communication Studies	55	42	39	47	40	-15	-27.3%
Computer Engineering Tech	82	82	81	86	63	-19	-23.2%
Dental Hygiene	226	240	211	221	202	-24	-10.6%
Diagnostic Medical Sonography	86	104	95	102	112	26	30.2%
Dispute Resolution Certificate	1	1	2	4	2	1	100.0%
Echocardiography	121	119	123	122	128	7	5.8%
Electrical Engineering	76	120	146	164	197	121	159.2%
Electronics Engineering Tech	67	58	51	37	32	-35	-52.2%
Embedded Systems Eng Tech	24	25	32	35	57	33	137.5%
Emergency Medical Services Mgt	0	0	17	20	34	34	-
EMT - Paramedic	29	30	29	28	28	-1	-3.4%
Environmental Sciences	49	49	51	48	42	-7	-14.3%
General Studies	495	736	632	1,031	1,414	919	185.7%
Geomatics	1	0	0	0	0	-1	-100.0%
Geomatics-option in GIS	13	14	10	10	7	-6	-46.2%
Geomatics-option in Surveying	49	39	26	31	30	-19	-38.8%
Health Care Mgmt-Admin Mgmt	0	10	14	19	18	18	-
Health Care Mgmt-Clinical Mgmt	0	4	10	11	25	25	-
Health Care Mgmt-Rad Science	0	3	6	12	12	12	-
Health Informatics	0	0	0	20	38	38	-
Health Sciences	1	1	0	1	2	1	100.0%
Information Technology	0	0	0	56	114	114	-
IT Accounting Option	8	4	2	1	1	-7	-87.5%
IT Applications Dev Opt	91	75	71	48	20	-71	-78.0%
IT Bus/Systems Analysis Opt	58	59	69	51	28	-30	-51.7%
IT Health Informatics Opt	54	68	59	32	17	-37	-68.5%
Magnetic Resonance Imagng Spec	0	0	0	0	4	4	-
Manufacturing Engineering Tech	129	99	109	107	101	-28	-21.7%
Marriage and Family Therapy	0	0	0	0	10	10	-
Mechanical Engineering	208	303	331	323	354	146	70.2%
Mechanical Engineering Tech	145	112	121	121	104	-41	-28.3%
Medical Lab Science-Earlyadm	0	0	0	0	17	17	-
Medical Laboratory Science	0	0	0	0	86	86	-
Mgmt Info Sys/Mgmt Acc Option	1	0	0	0	0	-1	-100.0%
Mgmt/Accounting Option	32	38	35	32	19	-13	-40.6%
Mgmt/Marketing Option	34	34	36	34	37	3	8.8%
Mgmt/Small Bus Mgmt Option	54	43	38	37	33	-21	-38.9%
MIT Applicant	0	0	1	2	0	0	-
Nuclear Medicine Technology	47	51	48	48	49	2	4.3%
Nursing	50	49	52	61	69	19	38.0%
Operations Management	61	66	65	69	70	9	14.8%
Optical Engineering	0	0	3	3	3	3	-
Picture Archive/Comm Sys Spec	0	0	1	2	3	3	-
Polysomnographic Technology	19	13	6	12	5	-14	-73.7%
Population Health Management	0	0	3	24	31	31	-
Pre-Clinical Lab Science	0	8	1	20	2	2	-
Pre-Dental Hygiene	62	65	35	37	48	-14	-22.6%
Pre-Medical Imaging Tech	273	287	253	237	226	-47	-17.2%
Pre-Medical Lab Science	0	0	0	0	27	27	-
Pre-Nursing	56	60	53	69	78	22	39.3%
Pre-Paramedic Education	0	3	3	7	0	0	-
Pre-Renewable Energy Eng	111	0	0	0	0	-111	-100.0%
Pre-Respiratory Care	11	12	8	11	9	-2	-18.2%
Radiologic Science	164	163	154	160	152	-12	-7.3%
Renewable Energy Engineering	110	206	203	180	166	56	50.9%
Respiratory Care	85	84	88	103	117	32	37.6%
Sleep Health-Polysom Tech Opt	0	0	4	6	17	17	-
Software Engineering Tech	260	268	289	309	285	25	9.6%
Spec in Entrepreneur/Small Bus	0	0	0	1	2	2	-
Specialization in Accounting	0	0	0	2	2	2	-
Specialization in Marketing	0	0	1	1	1	1	-
Specialization Travel/Tourism	0	1	0	0	0	0	-
System Engr & Technical Mgmt	0	0	2	3	0	0	-
Technology and Management	16	30	43	46	46	30	187.5%
Vascular Technology	88	95	80	93	98	10	11.4%
Total (Duplicated)	**4,146**	**4,539**	**4,407**	**4,923**	**5,371**	**1,225**	**29.5%**
Total (Unduplicated)	**4,001**	**4,414**	**4,273**	**4,786**	**5,232**	**1,231**	**30.8%**

Oregon TECH

10 Year History By Major and Degree Type
As of September 5, 2016

Specializations

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Picture Archive/Comm Sys Spec	-	-	-	-	-	-	4	4	3	-
Specialization in Accounting	-	-	-	-	-	-	-	1	-	-
Specialization in Marketing	-	-	-	-	-	-	-	2	-	-
Total	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**7**	**3**	**0**

Certificates

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Accounting Certificate	-	-	-	-	-	-	-	-	-	-
Dispute Resolution Certificate	1	2	1	2	4	1	6	11	1	2
Marketing Certificate	-	-	-	-	-	-	-	-	-	-
Polysomnographic Technology	-	-	4	14	13	11	8	6	3	9
Total	**1**	**2**	**5**	**16**	**17**	**12**	**14**	**17**	**4**	**11**

Associates

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Associate of Arts	13	8	2	5	-	1	-	-	1	1
Computer Engineering Tech	7	5	3	2	3	-	5	7	6	6
Dental Hygiene	25	26	22	25	18	27	18	23	21	9
Electronics Engineering Tech	3	1	2	1	-	-	-	-	-	-
EMT - Paramedic	19	21	22	25	27	17	28	26	26	29
Office Systems Technology	-	2	2	-	-	-	-	-	-	-
Polysomnographic Technology	-	-	1	2	3	5	6	2	4	-
Respiratory Care	23	16	15	17	-	-	-	-	-	-
Sleep Health-Polysom Tech Opt	-	-	-	-	-	-	-	-	-	3
Software Engineering Tech	7	2	3	2	2	-	-	2	9	2
Total	**97**	**81**	**72**	**79**	**53**	**50**	**57**	**60**	**67**	**50**

Bachelors

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Allied Health Management	-	-	-	1	2	4	3	2	1	-
Applied Environmental Science	1	-	-	-	-	-	-	-	-	-
Applied Mathematics	-	-	7	1	5	4	7	4	4	5
Applied Psychology	46	42	37	30	36	38	30	40	37	31
Biology	10	6	16	14	11	11	3	4	1	2
Biology-Health Sciences	-	-	-	-	-	-	10	14	20	18
Civil Engineering	23	23	29	28	20	14	23	17	15	25
Clinical Laboratory Science	23	24	24	22	22	35	27	34	49	46
Communication Studies	13	13	9	10	13	8	19	13	4	8
Computer Engineering Tech	15	7	14	8	13	3	4	3	3	3
Dental Hygiene	35	38	45	55	49	54	51	76	62	65
Diagnostic Medical Sonography	21	24	21	27	29	24	19	31	25	24
Echocardiography	6	4	16	9	21	32	31	32	29	35
Electrical Engineering	-	-	-	6	11	9	11	17	17	26
Electronics Engineering Tech	18	17	13	10	18	16	11	10	10	13

Bachelors

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Embedded Systems Eng Tech	-	-	-	1	2	2	4	1	5	3
Emergency Medical Services Mgt	-	-	-	-	-	-	-	-	-	1
Environmental Sciences	1	1	3	1	5	5	4	5	11	14
Geomatics	10	8	5	5	1	-	-	-	-	-
Geomatics-option in GIS	-	-	2	1	1	3	3	5	1	2
Geomatics-option in Surveying	-	-	1	11	13	14	10	13	1	12
Health Care Mgmt-Admin Mgmt	-	-	-	-	-	-	-	-	1	2
Health Care Mgmt-Clinical Mgmt	-	-	-	-	-	-	-	-	1	-
Health Sciences	1	3	2	2	2	6	1	1	-	-
Industrial Management	-	-	-	1	-	-	-	-	-	-
Information Technology	4	4	1	2	-	1	-	-	-	-
IT Accounting Option	-	1	2	1	1	2	1	2	-	-
IT Applications Dev Opt	8	5	13	5	6	8	21	12	8	11
IT Bus/Systems Analysis Opt	1	1	4	10	12	6	12	14	13	8
IT Health Informatics Opt	-	-	-	-	2	4	9	6	14	7
Management Information System	12	2	8	3	-	2	-	-	-	-
Manufacturing Engineering Tech	30	15	16	18	18	9	13	5	11	12
Mechanical Engineering	3	3	17	12	11	19	14	27	23	45
Mechanical Engineering Tech	31	19	31	23	24	19	24	18	17	21
Mgmt Info Sys/Mgmt Acc Option	-	3	-	-	-	-	-	-	-	-
Mgmt/Accounting Option	8	4	3	8	4	9	9	12	5	8
Mgmt/Marketing Option	9	7	5	5	7	8	7	4	7	7
Mgmt/Small Bus Mgmt Option	9	11	11	18	8	6	8	12	4	7
Nuclear Medicine Technology	18	18	16	15	16	16	15	14	14	15
Operations Management	8	6	3	15	7	14	16	13	19	18
Optical Engineering	-	-	-	-	-	-	-	-	1	1
Population Health Management	-	-	-	-	-	-	-	-	-	5
Radiologic Science	47	51	50	53	51	50	48	55	45	56
Renewable Energy Engineering	-	-	6	9	29	35	60	35	29	29
Renewable Energy Systems	-	-	1	-	-	-	-	-	-	-
Respiratory Care	5	8	6	7	10	21	21	21	27	22
Software Engineering Tech	44	36	27	27	31	29	41	31	35	47
System Engr & Technical Mgmt	-	-	-	-	-	-	-	-	-	3
Technology and Management	-	-	-	-	-	-	1	1	11	8
Ultrasound/Diag Med Sono Opt	1	-	-	-	-	-	-	-	-	-
Ultrasound/Vascular Option	1	-	-	-	-	-	-	-	-	-
Vascular Technology	30	30	26	23	23	25	21	28	19	24
Total	**492**	**434**	**490**	**497**	**534**	**565**	**612**	**632**	**599**	**689**

Masters

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Civil Engineering	-	-	-	-	-	-	-	-	2	6
Manufacturing Engineering Tech	3	4	7	2	6	8	12	4	8	9
Renewable Energy Engineering	-	-	-	-	-	-	-	1	11	9
Total	**3**	**4**	**7**	**2**	**6**	**8**	**12**	**5**	**21**	**24**

Grand Total

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Grand Total	**593**	**521**	**574**	**594**	**610**	**635**	**699**	**721**	**694**	**774**

Attachment 3_Grad_Data_First_Destination_3_Year_History_by_Major

a=2013/2014/2015 combined b=2014/2015/2016 combined	% Employed		% Continuing Ed		% Looking for Work		% Not Looking		Success Rate		Median Salary	
	a	b	a	b	a	b	a	b	a	b	a	b
% among those reporting outcomes	83.3	87.6	6.1	6.7	9.4	4.9	1.2	0.8	90.6	95.1	$ 54,000	$ 56,000
Biology-Health Sciences	36	38	60	62	4	0	0	0	96	100	$ 20,750	$ 33,000
Civil Engineering	83	92	11	8	6	0	0	0	94	100	$ 50,000	$ 51,540
Communication Studies	60	67	13	11	27	22	0	0	73	78	$ 27,000	$ 28,500
Computer Engineering Technology	89	93	0	0	0	0	11	7	100	100	$ 63,000	$ 64,000
Dental Hygiene	86	96	4	1	9	2	1	1	91	98	$ 53,000	$ 57,500
Diagnostic Medical Sonography	97	98	3	2	0	0	0	0	100	100	$ 60,000	$ 60,868
Echocardiography	95	93	0	3	5	3	0	0	95	97	$ 60,500	$ 64,000
Electrical Engineering	87	83	0	10	13	7	0	0	87	93	$ 60,000	$ 60,000
Electronics Engineering Technology	73	82	7	5	20	14	0	0	80	86	$ 54,250	$ 66,750
Embedded Systems Engineering Tech	80	83	0	17	20	0	0	0	80	100	$ 58,250	$ 60,000
EMT/Paramedic	100	100	0	0	0	0	0	0	100	100	$ 48,000	$ 52,000
Environmental Sciences	67	76	11	18	22	6	0	0	78	94	$ 39,800	$ 40,000
Geomatics: GIS	100	100	0	0	0	0	0	0	100	100	$ 42,000	$ 42,000
Geomatics: Surveying	69	64	0	9	31	27	0	0	69	77	$ 40,500	$ 43,000
Health Care Management	75	80	25	20	0	0	0	0	100	100	$ 52,000	na
Health Informatics	75	79	10	11	15	11	0	0	85	89	$ 53,000	$ 52,000
Information Technology	84	88	0	2	16	10	0	0	84	90	$ 55,000	$ 55,000
Management: Accounting	78	83	6	6	17	11	0	0	83	89	$ 32,000	$ 32,250
Management: SmBus/Entrepreneursh	77	87	15	13	8	0	0	0	92	100	$ 33,000	$ 40,900
Management: Marketing	82	93	0	0	18	7	0	0	82	93	$ 39,250	$ 48,500
Manufacturing Engineering Technolog	77	85	5	4	13	11	0	0	87	89	$ 62,500	$ 60,000
Mathematics, Applied	60	71	20	29	0	0	20	0	100	100	na	na
Mechanical Engineering	71	82	12	9	10	5	7	4	90	95	$ 60,000	$ 60,000
Mechanical Engineering Technology	86	100	7	0	7	0	0	0	93	100	$ 60,000	$ 62,500
Medical Laboratory Science	100	100	0	0	0	0	0	0	100	100	$ 53,750	$ 55,000
Nuclear Medicine Technology	87	86	0	3	13	11	0	0	87	89	$ 57,000	$ 57,846
Nursing												
Operations Management	83	83	11	14	6	3	0	0	94	97	$ 63,000	$ 63,000
Polysomnographic Technology	83	100	0	0	17	0	0	0	83	100	$ 50,000	$ 40,500
Population Health Management	na	75	na	25	na	0	na	0	na	100	na	$ 42,000
Psychology, Applied	54	66	24	26	15	5	6	3	85	95	$ 30,000	$ 30,000
Radiologic Science	92	97	1	0	6	3	1	1	94	97	$ 47,000	$ 50,000
Renewable Energy Engineering	76	83	6	8	18	9	0	0	82	91	$ 57,000	$ 56,500
Respiratory Care	97	98	0	0	3	2	0	0	97	98	$ 56,000	$ 56,000
Software Engineering Technology	93	91	0	0	3	7	3	3	97	93	$ 62,250	$ 66,750
Technology and Management	100	88	0	0	0	12	0	0	100	88	na	na
Vascular Technology	92	91	0	0	8	9	0	0	92	91	$ 64,602	$ 62,000

Additional Notes:

Numbers may not add to 100 due to rounding

na=not reported, or not available due to small sample size

METHODOLOGY

Sample Frame 2016: 781 degrees awarded per FAST

Survey Response Rate: 49% Total Knowledge Rate 2016: 75%

Sources: Data collected from a variety of sources. Below, for 2016, in chronological order:

   Grad Fair paper survey

   Faculty senior exit survey

   Career Services survey

   Career Services followup with non-respondents

   Faculty information from their contact with students

   LinkedIn Profiles

Salaries of $2,500 and below and $250,000 and above were deleted.

Students with dual majors are included under each major

Known Outcomes 2016: 587

Known Outcomes 2013/2014/2015 combined N=1008

Known Outcomes 2014/2015/2016 combined N=1244

Attachment_4_Lab Assignment 6 Report 231 2016

Term Name Winter 2016

Course Code CST 231

Assignment Name: Lab Assignment 6: RGB LED Control

Type: Direct Assessment

Created By Kevin Pintong

Assessment Method: Student was asked to write a lab report for RGB LED PWM.

Student was evaluated on the following writing characteristics

1. Abstract and conclusion included
2. Sentence structure, flow, and grammar
3. Proper formatting, labeling figures, tables, and equations. Report is neatly organized.
4. Explanation of hardware and software concepts provide sufficient clarity and information for reader to be able to recreate.

Performance Criteria	Assessment Methods	Measurement Scale	Minimum Acceptable Performance	Results
Abstract and conclusion included	Assignment evaluated by course instructor.	0-9	75% of students scoring 7 or higher	80% scored greater than 7 (16/20)
Sentence structure flow and grammar correct	Assignment evaluated by course instructor.	0-9	75% of students scoring 7 or higher	100% scored greater than 7 (20/20)
Report is organized and formatted according to template.	Assignment evaluated by course instructor.	0-9	75% of students scoring 7 or higher	100% scored greater than 7 (20/20)
Hardware and software explanation sufficient for reader to recreate.	Assignment evaluated by course instructor.	0-9	75% of students scoring 7 or higher	60% scored greater than 7 (12/20)

Term Name Spring 2017

Course Code CST 473

Assignment Name: Final Presentation

Type: Direct Assessment

Created By Kevin Pintong

Assessment Method: Students were asked to present a final presentation of their senior project in a format which included the following areas.

Performance Criteria	Assessment Methods	Measurement Scale	Minimum Acceptable Performance	Results
Presentation Quality and organisation	Assignment evaluated by course instructor. Rubric available in archive..	0-44	75% of students scoring 33 or higher	100% students scored 33 or higher (4/4)
Content Quality	Assignment evaluated by course instructor. Rubric available in archive..	0-105	75% of students scoring 78 or higher	75% students scored 78 or higher (3/4)
Customer interaction – Student is able to confidently answer customer questions and concerns in a professional manner	Assignment evaluated by course instructor. Rubric available in archive..	0-10	75% of students scoring 8 or higher	100% students scored 8 or higher (4/4)

Term Name Spring 2017

Course Code CST 473

Assignment Name: Week 6 Memo – Professional Development

Type: Direct Assessment

Created By Kevin Pintong

Assessment Method: Students were asked to outline a plan for professional development and lifelong learning when they graduate. They were asked to respond to the following questions,

- What is professional development?
- What does lifelong learning mean?
- Why should you keep up to date in your field?
- What is your plan for professional development?

Performance Criteria	Assessment Methods	Measurement Scale	Minimum Acceptable Performance	Results
Identifies the meaning of and need for professional development	0 = No response 1 = Identifies meaning OR need 2 = Identifies meaning AND need for professional development.	0-2	75% of students scoring 1 or higher	Score / Student 0 = 1 1 = 0 2 = 3 75% (3 of 4 students)
Identifies the meaning of lifelong learning.	0 = No response 1 = Identifies meaning of lifelong learning.	0-1	75% of students scoring 1 or higher	Score / Student 0 = 1 1 =0 2 = 3 75% (3 of 4 students)
Identifies their unique plan for professional development.	0 = No response 1 = Identifies a weak plan for professional development. 2 = Identifies a plan for professional development beyond workplace. – Workshops, seminars, conferences, etc.	0-2	75% of students scoring 1 or higher	Score / Student 0 = 1 1 = 0 2 = 3 75% (3 of 4 students)

Term Name Winter 2017

Course Code CST 472

Assignment Name: Ethics Quiz

Type: Direct Assessment

Created By Kevin Pintong

Assessment Method: Students were asked to write a 3 page paper involving a modern engineering issue involving ethics. Students were to use the IEEE and/or ACM Code of Ethics to describe their problem. Students needed to:

1) Identify the unethical behaviour with respect to IEEE or ACM Code of Ethics.
2) Identify who, if anyone, engaged in unethical behavior.
3) Relate the ethical problem back to IEEE or ACM code of ethics.
4) Explain what they would have done to prevent unethical behaviour.

Performance Criteria	Assessment Methods	Measurement Scale	Minimum Acceptable Performance	Results
Describes ethical issues using IEEE and/or ACM code of ethics	Ethics assignment evaluated by course instructor.	0-1 (0= No addressing of performance criteria; 1= Student addressed performance criteria)	75% of students scoring 1 or higher	100% (4/4)
Identifies the unethical behaviour or dliemna	Ethics assignment evaluated by course instructor	0-1	75% of students scoring 1 or higher	100% (4/4)
Identifies who engaged in unethical behaviour and why it occurred.	Ethics assignment evaluated by course instructor.	0-1	75% of students scoring 1 or higher	100% (4/4)
Describes how to prevent or mitigate unethical behaviour.	Ethics assignment evaluated by course instructor	0-1	75% of students scoring 1 or higher	100% (4/4)

Term Name Winter 2017

Course Code CST 472

Assignment Name: Social Impact

Type: Direct Assessment

Created By Kevin Pintong

Assessment Method: Students were asked to write a 2-3 paragraph explanation on the impact their project will have on the end user and environment, with topics that need to be addressed below:

1) Recycling and end of life management of product
2) Product Lifetime
3) User Privacy if applicable
4) Supply chain awareness

Performance Criteria	Assessment Methods	Measurement Scale	Minimum Acceptable Performance	Results
Identifies supply chain issues such as slave labour and other exploitation. OR Identifies issues with user privacy	0 = No supply chain issues identified. 1 = Identifies issues but does not address how to mitigate 2 = Identifies issues and mitigation strategies.	0-2	75% of students scoring 1 or higher	Score / Student 0 = 1 1 = 1 2 = 2 S 75% (3 of 4 students)
Identifies the lifetime of the product.	0 = No identification 1 = Identifies without justification 2 = Identifies with justification such as component lifetime	0-2	75% of students scoring 1 or higher	Score / Student 0 = 1 1 = 3 2 = 0 75% (3 of 4 students)
Identifies how the product can be repurposed or recycled.	0 = No identification 1 = Identifies recycling as an option. 2= Identifies a method for recycling or repurposing the device in detail.	0-1	75% of students scoring 1 or higher	Score / Student 0 = 1 1 = 2 2 = 1 75% (3 of 4 students)