Computer and Electrical Engineering Performance Indicators

3a. An ability to apply knowledge of mathematics, science, and engineering
- a1) Apply and perform the correct mathematical analysis.
- a2) Prepare and solve the appropriate physical model of the problem.
- a3) Utilize appropriate engineering principles for computer and electrical engineering.

3b. An ability to design and conduct experiments, as well as to analyze and interpret data
- b1) Design and set up experiments.
- b2) Conduct experiments and perform measurements.
- b3) Analyze data and interpret results.

3c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- c1) Follow systematic and logical design procedures and define specifications to meet project requirements.
- c2) Adhere to realistic constraints such as environmental, social, political, ethical, health and safety, and sustainability.
- c3) Consider alternative designs and choose the optimal solution.

3d. An ability to function on multidisciplinary teams
- d1) Fulfill team duties and share in the work of the team.
- d2) Listen and communicate with other team members.
- d3) Research and gather information.
- d4) Meet deadlines and achieve project goals.
- d5) Cooperate on reports with a reasonable share of duties.

3e. An ability to identify, formulate, and solve engineering problems
- e1) Develop a clear and quantifiable statement of performance requirements.
- e2) Develop technical specifications for the performance requirements.
- e3) Select and implement the desirable solution and evaluate the results.

3f. An understanding of professional and ethical responsibility
- f1) Recognize ethical issues involved in a professional setting.
- f2) Recognize and cope with professional and ethical issues related to safety and sustainability in engineering problems.

3g. An ability to communicate effectively
- g1) Write technical reports.
- g2) Prepare and deliver oral presentations.

3h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- h1) Understand the impact of engineering solutions on society and the environment in a global economic context.
- h2) Understand and explain non-technical issues related to global, economic, environmental, and societal contexts.
- h3) Consider a variety of available options in engineering design and make a proper choice based on their impact.

3i. A recognition of the need for, and an ability to engage in life-long learning
- i1) Carry out research on engineering topics by reading and reporting on papers in the technical literature.
- i2) Involve oneself in professional activities (e.g. meeting, presentations, workshops).

3j. A knowledge of contemporary issues
- j1) Identify and discuss emerging technologies related to computer and electrical engineering.
- j2) Identify recent trends in computer and electrical engineering.
- j3) Understand the relation of classical topics in engineering with their implementation in modern technologies.

3k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

k1) Use appropriate tools, simulation software, or hardware design tools to solve engineering problems.

k2) Utilize appropriate software and hardware measurement and test equipment.

k3) Determine the appropriate choice of tools when several are available.

Computer Engineering Proposed (Semester Conversion affected 3040 and 4910+4928)

E = Even Years (2016/17, 2018/19, etc) O = Odd Years (2017/18, 2019/20, etc) A = All Years

		3040	3070	3200	3220	3240	3250	3600	4910	4928	Summary
3a. Math/Sci/Eng											**3a**
a1	Math	O	E								A
a2	Science		O								O
a3	Engineering		E			O					A
3b. Experiments											**3b**
b1	Design			O							O
b2	Conduct			O							O
b3	Analyze						O				O
3c. Design sys/proc											**3c**
c1	Design								A		A
c2	Constraints								A		A
c3	Alternatives								A		A
3d. Multidisc. Teams											**3d**
d1	Team Duties									A	A
d2	Communicate									A	A
d3	Research									A	A
d4	Deadlines									A	A
d5	Share Writing									A	A
3e. Problems											**3e**
e1	Identify				O	E			A		A
e2	Specify				E				A		A
e3	Implement	E			O					A	A
3f. Prof/Eth. Respon.											**3f**
f1	Ethical Issues								A		A
f2	Professional								A		A
3g. Communicate											**3g**
g1	Written Comm.									A	A
g2	Oral Comm.									A	A
3h. Soc/Envir/Econ											**3h**
h1	Solution Impact								A		A
h2	Non-technical								A		A
h3	Choose Solution								A		A
3i. Lifelong Learning											**3i**
i1	Research								A		A
i2	Prof. Activities								A		A
3j. Contemporary											**3j**
j1	Emerging Tech.								A		A
j2	Trends								A		A
j3	Modern Tech.								A		A
3k. Eng. Tools											**3k**
k1	Use Tools							E			E
k2	Equip./Software						E				E
k3	Choose Tools			E							E

Electrical Engineering Proposed (Semester conversion affected 3040, 3340, and 4910+4928)

E = Even Years (2016/17, 2018/19, etc) O = Odd Years (2017/18, 2019/20, etc) A = All Years

		3040	3070	3200	3230	3320	3340	3370	4910	4928	Summary
3a. Math/Sci/Eng											**3a**
a1	Math	O	E								A
a2	Science		O					E			A
a3	Engineering		E								E
3b. Experiments											**3b**
b1	Design			O							O
b2	Conduct			O							O
b3	Analyze						O				O
3c. Design sys/proc											**3c**
c1	Design								A		A
c2	Constraints								A		A
c3	Alternatives								A		A
3d. Multidisc. Teams											**3d**
d1	Team Duties									A	A
d2	Communicate									A	A
d3	Research									A	A
d4	Deadlines									A	A
d5	Share Writing									A	A
3e. Problems											**3e**
e1	Identify					O			A		A
e2	Specify					O			A		A
e3	Implement	E			O					A	A
3f. Prof/Eth. Respon.											**3f**
f1	Ethical Issues								A		A
f2	Professional								A		A
3g. Communicate											**3g**
g1	Written Comm.									A	A
g2	Oral Comm.									A	A
3h. Soc/Envir/Econ											**3h**
h1	Solution Impact								A		A
h2	Non-technical								A		A
h3	Choose Solution								A		A
3i. Lifelong Learning											**3i**
i1	Research								A		A
i2	Prof. Activities								A		A
3j. Contemporary											**3j**
j1	Emerging Tech.								A		A
j2	Trends								A		A
j3	Modern Tech.								A		A
3k. Eng. Tools											**3k**
k1	Use Tools				E						E
k2	Equip./Software				E						E
k3	Choose Tools			E							E