

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

E = Even Years (2014/15, 2016/17, etc)

O = Odd Years (2015/16, 2017/18, etc)

A = All Years

		304	307	320	321	322	360	420	490	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				E	O			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

E = Even Years (2014/15, 2016/17, etc)

O = Odd Years (2015/16, 2017/18, etc)

A = All Years

		304	307	320	330	332	337	423	490	Summary
3a.	Math/Sci/Eng									3a
a1	Math	O	E		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