## College of Engineering and Technology
### Student Learning Outcomes

**SCHOOL OF ENGINEERING AND TECHNOLOGY**

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**SCHOOL OF CONSTRUCTION MANAGEMENT**

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WCU’s Office of Assessment – May 2020
School of Engineering and Technology

Electrical Engineering, B.S.E.E.
1. Students will demonstrate an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Students will demonstrate an ability to apply engineering design to product solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Students will demonstrate an ability to communicate effectively with a range of audiences.
4. Students will demonstrate an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Students demonstrate have an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
6. Students will demonstrate an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Engineering, B.S.E.
1. Students will demonstrate an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Students demonstrate have an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Students demonstrate have an ability to communicate effectively with a range of audiences.
4. Students demonstrate have an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Students will demonstrate an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Students will demonstrate an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Students will demonstrate an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Electrical and Computer Engineering Technology, E.C.E.T.
1. Students demonstrate have an ability to select and apply the knowledge, techniques, skills, and modern tools of the disciplines to broadly defined engineering technology activities.
2. Students demonstrate have an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require that application of principles and applied procedures or methodologies.

3. Students will demonstrate an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

4. Students will demonstrate an ability to design systems, components, or processes for broadly defined engineering technology problems appropriate to program educational objectives.

5. Students will demonstrate an ability to function effectively as a member or leader on a technical team.

6. Students will demonstrate an ability to communicate effectively.

7. Students will demonstrate an understanding of the need for and an ability to engage in self-directed continuing professional development.

8. Students will demonstrate an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.

9. Students will demonstrate knowledge of the impact of engineering technology solutions in a societal and global context.

10. Students will demonstrate a commitment to quality, timeliness, and continuous improvement.

1. Students will demonstrate an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly defined engineering technology activities.

2. Students will demonstrate 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.

3. Students will demonstrate an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

4. Students will demonstrate an ability to design systems, components, or processes for broadly defined engineering technology problems appropriate to program educational objectives.

5. Students will demonstrate an ability to function effectively as a member or leader on a technical team.

6. Students will have an ability to identify, analyze, and solve broadly defined engineering technology problems.

7. Students will demonstrate 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.

8. Students will demonstrate an understanding of the need for and an ability to engage in self-directed continuing professional development.

9. Students will demonstrate an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.
10. Students will demonstrate knowledge of the impact of engineering technology solutions in a societal and global context.
11. Students will demonstrate a commitment to quality, timeliness, and continuous improvement.

School of Construction Management

Construction Management, B.S.
1. Students will demonstrate an ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. Students will demonstrate an ability to formulate or design a system, process, procedure or program to meet desired needs.
3. Students will demonstrate an ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. Students will demonstrate an ability to communicate effectively with a range of audiences.
5. Students will demonstrate an ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. Students will demonstrate an ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Construction Management, M.C.M.
1. Students will be able to apply current and emerging theories of management and leadership to the management of construction projects.
2. Students will be able to apply relevant technical tools and concepts to the management of construction projects.
3. Students will be able to communicate effectively in both oral and written forms.