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# Tronix 1-BC

## STUDENT STUDY GUIDE

### for “Fundamental Concepts of Electronics for Robotics”

with Interactive Software Lessons, Simulations and Quizzes.  
Do the Write-Ups TL1-WU-15 for each of the first 15 lessons.

(Check the box  next to each step as it is completed.)

Student Name \_\_\_\_\_

Student ID Number \_\_\_\_\_ Period \_\_\_\_\_

Date the Lab was started \_\_\_\_\_

Date the Lab was completed \_\_\_\_\_

Average Score on Quizzes \_\_\_\_\_

Instructors Name/Signature \_\_\_\_\_

In addition to this study guide the student will need the following: Lab Manual #TM101 or Tronix BC manual #TM101BC, Tronix Parts # TP102 or TP102-BC, Solderless Circuit Board #CB111, a 9v Battery, and access to Tronix 1 interactive software.

# Student Study Guide For Tronix 1 & BC

# #SSG-TL1-BC

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## Start Here: Study Guide for Tronix 1 Fundamental Concepts Lab

### LESSON 1

- Step #1-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #01], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.
- Step #1-2:** Take Quiz 01. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #01], then [Quiz 01]. Take the quiz and print out result certificate.
- Step #1-3:** Take inventory of parts by laying each component on its picture on pages 3 and 4 of Manual TM101. Report any missing parts to your instructor.
- Step #1-4:** Review pages 5, 6, and 7 to see parts, Symbols, and functions of the basic components.
- Step #1-5:** Carefully read and study the Lesson 1, page 8, in Manual TM101. Take notes as necessary.
- Step #1-6:** Do Write-Up for Lesson #1 in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 2

- Step #2-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #02], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.
- Step #2-2:** Take Quiz 02. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #02], then [Quiz 02]. Take the quiz and print out result certificate.
- Step #2-3:** Carefully read and study the Lesson 2, page 9, in Manual TM101. Take notes as necessary.
- Step #2-4:** Do Write-Up for Lesson #2 in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.
- Step #2-5:** Take COLORCODE CHALLENGE. Open software click on [Lesson #02], then [COLOR CODE CHALLENGE]. Take the Color Challenge until you

score at least 100 points. Print out the certificate

### LESSON 3

- Step #3-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #03], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.
- Step #3-2:** Take Quiz 03. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #03], then [Quiz 03]. Take the quiz and print out result certificate.
- Step #3-3:** Carefully read and study the Lesson 3, pages 10 and 11, in Manual TM101. Take notes as necessary.
- Step #3-4:** Do Write-Up for Lesson #3 in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 4

- Step #4-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #04], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.
- Step #4-2:** Take Quiz 04. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #04], then [Quiz 04]. Take the quiz and print out result certificate.
- Step #4-3:** Carefully read and study the Lesson 4, page 12, in Manual TM101. Take notes as necessary.
- Step #4-4:** Do Write-Up for Lesson #4 in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 5

- Step #5-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #05], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #5-2:** Do simulation. Open GibTech software by

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clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #05], then [Experiment Simulation].

**Step #5-3:** Take Quiz 05. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #05], then [Quiz 05]. Take the quiz and print out result certificate.

**Step #5-4:** Carefully read and assemble the experiment for Lesson 05 Pages 13-14 in Manual TM101.

**Step #5-5:** Do Write-Up for Lesson #5 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 6

**Step #6-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #06], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #6-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #06], then [Experiment Simulation].

**Step #6-3:** Take Quiz 06. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #06], then [Quiz 06]. Take the quiz and print out result certificate.

**Step #6-4:** Carefully read and assemble the experiment for Lesson 06 Pages 15-16 in Manual TM101. Have your instructor see the experiment.

**Step #6-5:** Do Write-Up for Lesson #6 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 7

**Step #7-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #07], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #7-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #07], then [Experiment Simulation].

**Step #7-3:** Take Quiz 07. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #07], then [Quiz 07]. Take the quiz and print out result certificate.

**Step #7-4:** Carefully read and assemble the experiment for Lesson 07 Pages 17-18 in Manual TM101. Have your instructor see the experiment.

**Step #7-5:** Do Write-Up for Lesson #7 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 8

**Step #8-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #08], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #8-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #08], then [Experiment Simulation].

**Step #8-3:** Take Quiz 08. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #08], then [Quiz 08]. Take the quiz and print out result certificate.

**Step #8-4:** Carefully read and assemble the experiment for Lesson 08 Pages 19-20 in Manual TM101. Have your instructor see the experiment.

**Step #8-5:** Do Write-Up for Lesson #8 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

### LESSON 9

**Step #9-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #09], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #9-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #09], then [Experiment Simulation].

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**Step #9-3:** Take Quiz 09. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #09], then [Quiz 09]. Take the quiz and print out result certificate.

**Step #9-4:** Carefully read and assemble the experiment for Lesson 09 Pages 21-22 in Manual TM101. Have your instructor see the experiment.

**Step #9-5:** Do Write-Up for Lesson #9 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

## LESSON 10

**Step #10-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #10], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #10-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #10], then [Experiment Simulation].

**Step #10-3:** Take Quiz 10. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #10], then [Quiz 10]. Take the quiz and print out result certificate.

**Step #10-4:** Carefully read and assemble the experiment for Lesson 10 Pages 23-24 in Manual TM101. Have your instructor see the experiment.

**Step #10-5:** Do Write-Up for Lesson #10 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

## LESSON 11

**Step #11-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #11], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #11-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #11], then [Experiment Simulation].

**Step #11-3:** Take Quiz 11. Open GibTech software by

clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #11], then [Quiz 11]. Take the quiz and print out result certificate.

**Step #11-4:** Carefully read and assemble the experiment for Lesson 11 Pages 25-26 in Manual TM101. Have your instructor see the experiment.

**Step #11-5:** Do Write-Up for Lesson #11 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

## LESSON 12

**Step #12-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #12], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #12-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #12], then [Experiment Simulation].

**Step #12-3:** Take Quiz 12. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #12], then [Quiz 12]. Take the quiz and print out result certificate.

**Step #12-4:** Carefully read and assemble the experiment for Lesson 12 Pages 27-28 in Manual TM101. Have your instructor see the experiment.

**Step #12-5:** Do Write-Up for Lesson #12 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

## LESSON 13

**Step #13-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #13], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.

**Step #13-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #13], then [Experiment Simulation].

**Step #13-3:** Take Quiz 13. Open GibTech software by clicking on the GibTechTronix ICON. Then click on

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[Tronix 1], [Lesson #13], then [Quiz 13]. Take the quiz and print out result certificate.

- Step #13-4:** Carefully read and assemble the experiment for Lesson 13 Pages 29-30 in Manual TM101. Have your instructor see the experiment.
- Step #13-5:** Do Write-Up for Lesson #13 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

#### LESSON 14

- Step #14-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #14], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.
- Step #14-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #14], then [Experiment Simulation].
- Step #14-3:** Take Quiz 14. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #14], then [Quiz 14]. Take the quiz and print out result certificate.
- Step #14-4:** Carefully read and assemble the experiment for Lesson 14 Pages 31-32 in Manual TM101. Have your instructor see the experiment.
- Step #14-5:** Do Write-Up for Lesson #14 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

#### LESSON 15

- Step #15-1:** Do Interactive Lesson. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], then [Lesson #15], then [Interactive Lesson]. View the interactive lesson at least twice to be sure you understand everything before proceeding.
- Step #15-2:** Do simulation. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #15], then [Experiment Simulation].
- Step #15-3:** Take Quiz 15. Open GibTech software by clicking on the GibTechTronix ICON. Then click on [Tronix 1], [Lesson #15], then [Quiz 15]. Take the quiz

and print out result certificate.

- Step #15-4:** Carefully read and assemble the experiment for Lesson 15 Pages 33-34 in Manual TM101. Have your instructor see the experiment.
- Step #15-5:** Do Write-Up for Lesson #15 (2 Pages) in Student Write Up Manual. Fill in all the blanks and then have your instructor correct it.

**Congratulations!** You have completed the Tronix 1 Lab. Keep up the good work! We need people like yourself to continue on in the engineering, medicine and science fields.

**Congratulations on completing this Lab so far.**

**When you have completed all of these assignments, you can continue on through the Tronix 1 Lab manual and complete the rest of the lessons.**

**There is also another student workbook #TL1-WB-40 to further enhance your knowledge of electronics.**