Introduction to Competitive Robotics for Cortex

Catalogue Number	8107-0000
Category	REC 2 (Robotics Engineering Curriculum) for Cortex
Duration	15 Hours
Software Supplied	easyC5

1.0: Building the BumperBot

1.1: Safety

Safety Rules

1.2: Metal Cutting

1.3: Assembly Techniques

1.4: Assembling the BumperBot

2.0: Writing Your First Program

2.1: Safety and the Programming Components

2.2: Connecting the Vex Programming Module

2.3: Configuring easyC

2.4: Competition Templates

2.5: Writing the Program

2.6: Competition Switch

3.0: Programming in Autonomous

3.1: On-Line Window

3.2: Pseudo-Code

3.3: Dead Reckoning

3.4: Drive Forward One Meter

4.0: User Functions

4.1: Create a User Function

4.2: Call a Function

4.3: Create a TurnLeft Function

4.4: Make a Square

5.0: Programming Operator Control

5.1: Wireless Control with Vex

5.2: Arcade Control

5.3: Tank Control

6.0: Adding a Bumper

6.1: Installing the Bumper

6.2: Observing the On-Line Window

6.3: Observing the Terminal Window

7.0: BumperBot with Operator Control

7.1: Install Second Bumper

7.2: Writing the Program

8.0: Multiple Autonomous Modes

8.1: Multiple Autonomous Modes

8.2: Download and Test

9.0: Robotic Arm

9.1: Adding the Arm

9.2: Driving with the Arm

9.3: Download and Test

10.0: Potentiometer

10.1: Adding the Potentiometer

10.2: Open-Loop Control

10.3: Download and Test

10.4: Closed-Loop Control

10.5: Download and Test

11.0: Line Followers

11.1: Adding the Line Followers

11.2: Following a Line

11.3: Download and Test

12.0: Ultrasonic Sensor

13.0: Wheel Encoders

14.0: Competitions