THE Write Source, INC.

Your In School and After School Solution

ACADEMY OF ROBOTICS

Curriculum Sample

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Principles of Robotics
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RO301 - Feedback

RO401 - Integration Projects

Appendix

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Principles of Robotics
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RO101 - Introduction to Robots

RO201 - Mechanical Control of Your Robot

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SUGGESTIONS FOR TEACHING

Each Academy of Robotics unit has the same basic components which are designed to be used in the order presented. However, as you become more comfortable with the materials, you will find that the activities can be used in any order to meet your teaching style and the students' needs. Whether in RO102 or RO402, the components of the modules in each course are Preparation, Background, Project 1, Project 2, Challenges, and a Personal Project. The last unit in every course includes a long-term group project called a Cooperative Challenge. Assessment and student portfolio building is done using the Academy of Robotics Online Assessment Website (academy.edventures.com).

Preparation: This page gives you a brief overview of the unit, itemizes the materials needed for Project 1 and Project 2, and gives preparation tips for the unit.

Background: This section provides vocabulary terms and background information of the unit. We recommend you read it before teaching. Terms can be looked up using the Term Browser accessed at the *PCS Edventures!™* Website. "WOW" is an introductory activity provided for you to capture student interest in the topic and to demonstrate the basic principles covered in the unit.

Project 1: This project either introduces the principles and skills needed to master the topic, or it gives instructions for building a device which will be used in an experiment presented in Project 2. The three major sections to the project are the:

1. "Make sure you have:" section listing the materials;
2. "Build..." section giving the building procedures;
3. "Try this..." section providing the assessment questions and activities.

In the "Make sure you have:" section, lists of materials are presented with pictures for ease of use. The "Build..." section includes text and photographic instructions for the project. The "Try this..." section is meant to be used with the Online Assessment process within the Academy of Robotics Online Assessment Website (academy.edventures.com). Student answers should be recorded on their copy of the project page, then recorded online when convenient. The Answer Key is in the Appendix.

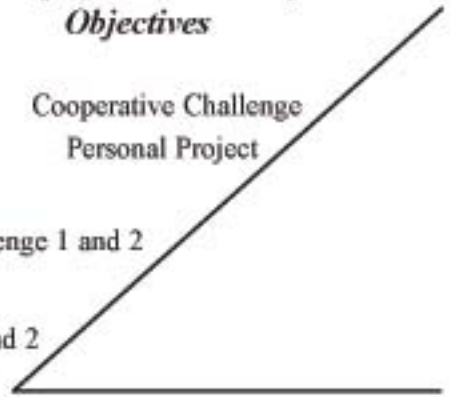
Project 2: This project functions just like Project 1, however, it will generally focus more on comprehension of the principles than on building.

Challenges: Each module includes two challenges. These are open-ended activities designed to assess the student's ability to apply the principles learned in Projects 1 and 2. Fewer instructions are given, and the student is allowed greater latitude in meeting the requirements of the challenge.

Personal Projects and Cooperative Challenges: These are synthesis activities. Students, alone or in groups, should be encouraged to reflect on the content and processes they have learned by doing the projects and challenges. Their project should demonstrate their mastery of the material.

The objectives of the components are intended to correspond with the levels of Bloom's Taxonomy shown to the right.

Academy of Robotics Project Objectives



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