my Florida Department of EDUCATION

INSTRUCTIONAL MATERIALS ADMINISTRATOR

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Recommendation

Yes

Comments: I have been teaching robotics for 5 years and it is a struggle to find adequate resources to teach the background concepts of history, safety, and other concepts. If this textbook is used in conjunction with a well planned sequence of labs to scaffold student learning then this is an excellent resource.

Notation: This textbook cannot be the singular instructional tool for teaching Applied Robotics. It should be considered an ancillary tool to teach background information. A scaffolded series of labs and activities should support student learning of programming, robot construction details, and troubleshooting.

Material for Review

Course: Applied Robotics (9410100)
Title: Basic Robotics , Edition: 1
Copyright: 2016
Author: Dinwiddie
Grade Level: 9 - 12

Content

Answer each item below and select the "Save" button to save your responses. You must select the "Save" button before going to another section or leaving this page to save the answers you have provided. If you are unable to complete the section, you may save your answers and come back to complete at a later time. All items must be answered for a section to be considered complete.
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To answer each item, select the appropriate rating from the following scale:

5 - VERY GOOD ALIGNMENT
4 - GOOD ALIGNMENT
3 - FAIR ALIGNMENT
2 - POOR ALIGNMENT
1 - VERY POOR/NO ALIGNMENT

Upon completion of all Areas of Review, the Recommendation link will become available with a record of how you scored each section of the evaluation.

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- Additional information regarding the Content, Presentation, and Learning requirements are located in the Career and Technical Education Specifications for the 2015-16 Florida State Adoption of Instructional Materials.

Each set of materials submitted for adoption is evaluated based on each benchmark for that course and the Content, Presentation, and Learning items included in this rubric.

A. Alignment with curriculum 1. A. The content aligns with the state's standards and benchmarks for subject, grade level and learning

outcomes.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The majority of the Standards are addressed and those that are not are not addressed because the textbook recognized that a variety of platforms exist for robotics and those platforms would be supplemental to this textbook.

2. A. The content is written to the correct skill level of the standards and benchmarks in the course.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
I found all the written and content to be excellent.

3. A. The materials are adaptable and useful for classroom instruction.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The key word is adaptable. This textbook would just be resource but I would not envision it as the single resource for course instruction.

B. Level of Treatment 4. B. The materials provide sufficient details for students to understand the significance of topics and events.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The details are not overwhelming but contain enough information to maintain engagement.

5. B. The level (complexity or difficulty) of the treatment of content matches the standards.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
With the exceptions noted previously this textbook would be an excellent ancillary resource.

6. B. The level (complexity or difficulty) of the treatment of content matches the student abilities and grade level.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
In checking random text passages in the 1st, 3rd, and 6th chapters, I found lexile levels from 8 to 12th grade, with an average of 10th grade level.

7. B. The level (complexity or difficulty) of the treatment of content matches the time period allowed for teaching.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
This would like depend of the teacher, experience level of students, and the equipment available. There is sufficient material in this textbook to fill a semester course. However, with the addition of labs and hands on activities this text book would be a great supplement for a year long course.

C. Expertise for Content Development 8. C. The primary and secondary sources cited in the materials reflect expert information for the subject.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The author and other stated resources are up to date and relevant. The author has many years in the field and the materials confirm that experience.

9. C. The primary and secondary sources contribute to the quality of the content in the materials.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Confirmed

D. Accuracy of Content 10. D. The content is presented accurately. (Material should be devoid of typographical or visual errors).

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The author does present the content accurately.

11. D. The content of the material is presented objectively. (Material should be free of bias and contradictions and is noninflammatory in nature).

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The authors past connections with FANUC tend to be revealed but that was a resource used for this textbook. I would have expected an explanation of the variety of platforms available and a comparison of the characteristics and advantages of those platforms.

12. D. The content of the material is representative of the discipline? (Material should include prevailing theories, concepts, standards,

and models used with the subject area).

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Very much so

13. D. The content of the material is factual accurate. (Materials should be free of mistakes and inconsistencies).

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
I found no mistakes or errors and all content was accurate to my knowledge.

E. Currency of Content14. E. The content is up-to-date according to agriculture industry standards of practice.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
I would assume this textbook has been in the works for several years so that explains some datedness. The content, robotics, is a fluid discipline that changes almost daily so most any content will obsolesce in a short time.

15. E. The content is presented to the curriculum, standards, and benchmarks in an appropriate and relevant context.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   **FAIR ALIGNMENT**   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
One key ingredient I found lacking was engineering notebooks, technical writing. These are key elements of the design process and they received a cursory and or non-existent attention.

16. E. The content is presented in an appropriate and relevant context for the intended learners.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Yes, all was at a high school or tech school level.

F. Authenticity of Content17. F. The content includes connections to life in a context that is meaningful to students.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
I found many references to current topics and engaging connections to students. It's robotics so students are easily drawn in.

18. F. The material includes interdisciplinary connections which are intended to make the content meaningful to students.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
With medical and manufacturing references through out, I found the textbook very meaningful.

G. Multicultural Representation19. G. The portrayal of gender, ethnicity, age, work situations, cultural, religious, physical, and various social groups are fair and unbiased. (Please explain any unfair or biased portrayals in the comments section).

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
I found zero bias and a gender neutral approach.

H. Humanity and Compassion20. H. The materials portray people and animals with compassion, sympathy, and consideration of their needs and values and exclude hard-core pornography and inhumane treatment. (An exception may be necessary for units covering animal welfare).

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
The topic is ROBOTS, so neither people or animals were portrayed poorly.

21. In general, is the content of the benchmarks and standards for this course covered in the material.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
With a few notable exceptions, yes. Missing technical writing (notebooks), and actual building and programming of robots. I shall assume this was intentional as the wide variety of platforms and teacher preferences would be an issue.

Presentation

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A. Comprehensiveness of Student and Teacher Resources 1. A. The comprehensiveness of the student resources address the targeted learning outcomes without requiring the teacher to prepare additional teaching materials for the course.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
As noted previously, teachers would need to address the topics of technical writing and robot building and programming outside of the use of this textbook.

B. Alignment of Instructional Components 2. B. All components of the major tool align with the curriculum and each other.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Again, I must reference the deficiencies noted previously. In addition, the State of Florida offers an industry certification exam, RECF. This textbook does not directly correlate to that certification exam while the exam does correlate to the standards. My preference would have been the seamless integration of all three, textbook, standards, certification exam.

C. Organization of Instructional Materials 3. C. The materials are consistent and logical organization of the content for the subject area.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Yes, the order and organization are consistent with instructional order.

D. Readability of Instructional Materials 4. D. Narrative and visuals engage students in reading or listening as well as in understanding of the content at a level appropriate to the students' abilities.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
One of the best I have seen in my many years of teaching. All tools worked seamlessly and there were many options.

E. Pacing of Content 5. E. The amount of content presented at one time or the pace at which it is presented must be of a size or rate that allows students to perceive and understand it.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Chunked appropriately and adequately.

Accessibility 6. The material contains presentation, navigation, study tool and assistive supports that aid students, including those with disabilities, to access and interact with the material. (For assistance refer to the answers on the UDL questionnaire).

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Again, great assistive support tools.

7. In general, how well does the submission satisfy PRESENTATION requirements? (The comments should support your responses to the questions in the Presentation section).

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
This textbook would be an excellent resource to use in addition to teacher directed labs and assignments.

Learning

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A. Motivational Strategies1. A. Instructional materials include features to maintain learner motivation.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   **FAIR ALIGNMENT**   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:
I have found that "doing" is the best engagement tool. This textbook has little "doing" but presents the background information in an engaging manner.

B. Teaching a Few "Big Ideas"2. B. Instructional materials thoroughly teach a few important ideas, concepts, or themes.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:
The chapter breakdowns were properly divided to address the main ideas: History, safety, components, sub-systems, programming (lightly), troubleshooting, and repair.

C. Explicit Instruction3. C. The materials contain clear statements of information and outcomes.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:
This could have been improved but it was adequate.

D. Guidance and Support4. D. The materials provide guidance and support to help students safely and successfully become more independent learners and thinkers.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:
Yes. the key terms had hyperlinks, there were key ideas pages, and review pages, with practice quizzes.

5. D. Guidance and support must be adaptable to developmental differences and various learning styles.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:
Other than the hands-on learners (which a teacher must address in the labs) all learners were engaged.

E. Active Participation of Students6. E. The materials engage the physical and mental activity of students during the learning process.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:
Yes. A logical progression, with great photos and up to date references.

7. E. Rate how well the materials include organized activities that are logical extensions of content, goals, and objectives.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   **FAIR ALIGNMENT**   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT
Justification:

Again, the weakness of the text was the labs and that is directly upon the teacher and their resources so it was understandable.

F. Targeted Instructional Strategies8. F. Instructional materials include the strategies known to be successful for teaching the learning outcomes targeted in the curriculum requirements.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Chunking, reviewing, pictures, and with the inclusion of labs, it would be a great resource.

9. F. The instructional strategies incorporated in the materials are effective in teaching the targeted outcomes.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Yes, with labs.

G. Targeted Assessment Strategies10. G. The materials correlate assessment strategies to the desired learning outcomes.

VERY GOOD ALIGNMENT   GOOD ALIGNMENT   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Assessments were related to the textbook addressed standards and readily available.

11. G. the assessment strategies incorporated in the materials are effective in assessing the learners' performance with regard to the targeted outcomes.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
With the addition of labs, yes.

Universal Design for Learning12. This submission incorporates strategies, materials, activities, etc., that consider the needs of all students.

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
Ditto, with the addition of active labs were students must build robots to preform tasks.

13. In general, does the submission satisfy LEARNING requirements? (The comments should support your responses to the questions in the Learning section.)

VERY GOOD ALIGNMENT   **GOOD ALIGNMENT**   FAIR ALIGNMENT   POOR ALIGNMENT   VERY POOR/NO ALIGNMENT

Justification:
When this textbook is used in conjunction with a well designed sequence of labs that scaffold students learning from novice to proficient, this is a great resource to help teach the history, background, safety, and other ancillary topics of applied robotics.

If you have questions contact Office of Instructional Materials, imstaff@fldoe.org or 850-245-0425

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