JOY HOFMEISTER
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
OKLAHOMA STATE DEPARTMENT OF EDUCATION

MEMORANDUM

TO: The Honorable Members of the State Board of Education

FROM: Joy Hofmeister

DATE: May 25, 2017

SUBJECT: Moore Norman Technology Center Academy Requesting Approval of Application for Focus Fields of Study

The State Department of Education is requesting approval of the Moore Norman Technology Center's Application for Focused Field of Career Study.

"*Technology center school districts may offer programs designed in cooperation with institutions of higher education which have an emphasis on a focused field of career study* ***upon approval of the State Board of Education and the independent district board of education***. *Students in the tenth grade may be allowed to attend these programs for up to one-half (1/2) of a school day and a credit for the units or sets of competencies required in paragraphs 2 and 3 of subsection B or D of this section shall be given if the courses are taught by a teacher certified in the secondary subject area.*" 70 O.S § 11-103.6

Based on Title 70 §11-103.6(G)(1), the State Board of Education shall "*ensure that rigor is maintained in the content, teaching methodology, level of expectations for student achievement, and application of learning in all the courses taught to meet the graduation requirements."* The submitted application for the Moore Norman Technology Center was reviewed based on three primary considerations to address this mandate:

1. the extent to which the course addresses the **necessary and appropriate content**
    a. Evidence Reviewed: Alignment Study of Course Materials and Competencies to Oklahoma Academic State Standards
2. the extent to which the instructor is certified to provide **rigorous instruction** and ensures a **high level of expectations** for students
    a. Evidence Reviewed: Course Description, Course Syllabus and Identification of Properly Certified Instructor

3. the extent to which there is **application of learning**
    a. Evidence Reviewed: Joint Program Agreements

For courses that provided all necessary documentation, each component was reviewed based on the submitted materials and has been rated as demonstrating either Insufficient Evidence or Sufficient Evidence. Where possible and appropriate, recommendations are provided to increase supporting evidence. Otherwise, an account of the provided evidence is summarized.

The attached reports indicate the application demonstrates **Sufficient Evidence** across all three considerations. It is, therefore, our recommendation that the **Focused Field of Study Application by Moore Norman Technology Center should be approved**.

The Oklahoma State Department of Education is thankful for the time and dedication of all applicants and especially to the guidance and support offered by Tina Fugate and Sara Wright of the Oklahoma State Department of Career Technology.

LP/tr

attachment

Review of Moore Norman Technology Center's Academy Application

Date: May 25, 2017

Reviewed By: Levi Patrick, Director of Secondary Mathematics, and Tiffany Neill, Director of Science Education

Summary of Findings

The reviewed courses listed below were identified in the Application for Focused Field of Career Study in Pre-Engineering as required or available to students at the Moore-Norman Technology Center. Only those that are not offered exclusively in Career Technology centers were reviewed.

The application has provided sufficient evidence to satisfy all considerations and is approved to provide the mathematics and science content required by the identified Focus Field of Study to sophomores, juniors, and seniors of the cooperating partner schools. In particular, the following courses are approved: Physics 1, AP Physics C - Mechanics, AP Computer Science Principles, and AP Calculus BC.

Consideration: According to this application there appears to be no expectation that students entering into the Pre-Engineering Academy at Moore Norman Technology Center will be offered courses such as Physical Science, Chemistry, Geometry, Algebra 2, Pre-Calculus/Trigonometry, etc.. Further evidence should be provided for those courses if there is an expectation that mathematics and/or science credits will be offered to students enrolled in this Academy that are not listed in the present application.

Course Identified in Field of Study	Academic Standards Alignment Assurance	Syllabus	College Board Approval Letter [1]	Result
Introduction to Engineering Design	-	-	-	Review Not Required
Principles of Engineering	-	-	-	Review Not Required
Physics 1	Sufficient	Sufficient	Not Required	Sufficient
AP Physics C - Mechanics	Sufficient	Sufficient	Sufficient	Sufficient
Digital Electronics	-	-	-	Not Reviewed *Previously approved for mathematics credit if taught by a certified mathematics instructor*
Aerospace Engineering	-	-	-	Not Reviewed *Previously approved for science credit if taught by a certified science instructor*

[1] Applicable for College Board Advanced Placement courses only.

Computer Integrated Manufacturing	-	-	-	Review Not Required
PLTW AP Computer Science Principles	Not Required	Sufficient	Sufficient[2]	Sufficient
Engineering Design and Development	-	-	-	Review Not Required
AP Calculus BC	Not Required	Sufficient	Sufficient	Sufficient

Process

Based on Title 70 §11-103.6.G.1, the State Board of Education shall "*ensure that rigor is maintained in the content, teaching methodology, level of expectations for student achievement, and application of learning in all the courses taught to meet the graduation requirements.*" The submitted application for Moore Norman Technology Center was reviewed based on three primary considerations to address this mandate:

1) the extent to which the course addresses the **necessary and appropriate content**
    a) Evidence Reviewed: Academic Standards Alignment Assurances
2) the extent to which the instructor is certified to provide **rigorous instruction** and ensures a **high level of expectations** for students
    a) Evidence Reviewed: Course Description, Syllabus and Identification of Certified Instructor
3) the extent to which there is **application of learning**
    a) Evidence Reviewed: Joint Program Agreements

For courses that provided all necessary documentation, each component was reviewed based on the submitted materials and has been rated as demonstrating either *Insufficient Evidence* or *Sufficient Evidence*. Where appropriate, recommendations are provided to increase supporting evidence. Further, possible revisions are provided to indicate that they are not required but may be useful in increasing supporting evidence.

Consideration 1: Necessary and Appropriate Content[3]

Physics 1

- **Findings for Physics 1:** The Physics 1 course outline provides Sufficient Evidence regarding the coverage of necessary and appropriate content found in the new Oklahoma Academic Standards for Science.
- **Possible Revisions for Physics 1:** Considering the shift to three-dimensional academic standards for science in Oklahoma, it is recommended that the Physics 1 syllabus go through a meaningful review at the local level to ensure the full depth of the Oklahoma Academic Standards are met.

[2] PLTW's CS Principles course was endorsed by College Board in April 2016.
https://www.pltw.org/news/pltws-computer-science-principles-course-officially-endorsed-by-the-college-board

[3] Some courses submitted were not included in Consideration 1 because corresponding state standards do not exist at this time. If Oklahoma Academic Standards for Science are developed for said courses, they will be included in future Field of Study Reviews.

AP Physics C - Mechanics

- **Findings for AP Physics C - Mechanics:** The AP Physics C - Mechanics course outline provides Sufficient Evidence regarding the coverage of necessary and appropriate content found in the new Oklahoma Academic Standards for Science.
- **Possible Revisions for AP Physics C - Mechanics:** Considering the shift to three-dimensional academic standards for science in Oklahoma, it is recommended that the AP Physics C - Mechanics syllabus go through a meaningful review at the local level to ensure the full depth of the Oklahoma Academic Standards are met.

Consideration 2: Rigorous Instruction and High Level of Expectations

Physics 1

- **Findings for Physics 1:** The Physics 1 course description, syllabus, and teacher certification provides Sufficient Evidence regarding the expectation of rigorous instruction and ensures a high level of expectations for students. The two proposed instructors for Physics 1 are certified appropriately in the state of Oklahoma.

AP Physics C - Mechanics

- **Findings for AP Physics C - Mechanics:** The AP Physics C - Mechanics course description, syllabus, and teacher certification provides Sufficient Evidence regarding the expectation of rigorous instruction and ensures a high level of expectations for students. The proposed instructor for AP Physics C - Mechanics is certified appropriately in the state of Oklahoma.

AP Computer Science Principles

- **Findings for PLTW AP Computer Science Principles:** The PLTW AP Computer Science Principles course description, syllabus, and teacher certification provides Sufficient Evidence regarding the expectation of rigorous instruction and ensures a high level of expectations for students. The proposed instructor for PLTW AP Computer Science Principles is certified appropriately in the state of Oklahoma.

AP Calculus BC

- **Findings for AP Calculus BC:** The AP Calculus BC course description, syllabus, and teacher certification provides Sufficient Evidence regarding the expectation of rigorous instruction and ensures a high level of expectations for students. The proposed instructor for AP Calculus BC is certified appropriately in the state of Oklahoma.

Consideration 3: Application of Learning

- **Findings for Moore Norman Technology Center:** The copies of the Joint Program Agreements provide Sufficient Evidence regarding the expectation of application of learning. Signed agreements were provided from Moore and Norman Public Schools
- **Possible Revisions for Joint Program Agreements:** Prior agreements provided for the Focus Field of Study application have explicitly indicated the expectation of the Technology Center to “provide hands-on, project and problem-based teaching that adds rigor to technical learning and relevance to traditional academics” and “link demanding mathematics and science courses with quality academic/technical courses.” This expectation is likely implied but its exception considering other applications have always indicated such applied learning experiences will be a priority is worth noting.