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## **STEM learning outcomes demonstrate students' STEM literacy necessary for the next level of STEM learning and for post-secondary and workforce readiness.**

The teachers and staff at Munster High School are committed to preparing students for career and college through both the study of STEM coursework and involvement in STEM-related activities. Munster High School (MHS) not only offers a full spectrum of courses in math, science, business, and technology, but also through its partnership with the Hammond Career Center offers both coursework and certifications in STEM-related fields. Students at MHS can choose from fifteen math courses including AP Statistics and AP Calculus; twenty-two science courses including AP Biology, AP Chemistry and two AP Physics courses; seven business technology courses including AP Computer Science Principles and AP Computer Science A; seven fine arts courses including Digital Design I & II and Advanced Media 1 & 2. Students also have the opportunity to take courses in Project Lead the Way for all four years they are in high school. Additionally, students have the opportunity to participate in STEM-related extra-curricular activities such as Robotics Club, Science Olympiad, T.E.A.M.S and H.O.S.A.

One of Munster High School's strengths is its ability to prepare students for their post high school experience. Munster High School's College and Career Readiness score of 77% exceeds the state average by 15.2%. This score is based on the number of students participating in AP exams and concurrent enrollment credit course, and graduation rate. 96.5% of MHS students graduate compared to the state average of 88.9%. In 2016, 91% of MHS students graduated with a CORE 40 diploma or an academic honors diploma. Indiana's Academic Honors Diploma requires students to successfully complete four years of STEM-related classes (<http://www.doe.in.gov/ccr/indianas-diploma-requirements>) Our scores on all standardized tests also exceed the state and national averages with few exceptions. For example, the pass rate for our students on AP exams for STEM-related coursework exceeds 60% for all courses except AP Computer Science A where the pass rate was 42%. After examining the AP data and in order to achieve our goal of continuous improvement, course curricula for all AP courses have been aligned to reflect the College Board standards.

Scores for sophomores and juniors on the PSAT exams have shown continuous improvement over the past eight years and have exceeded both state and national averages for that same period. In the fall of 2016 with 95% of both sophomores and juniors participating, both cohorts exceeded national college readiness scores. Sophomores scored 512 compared with 480 nationally; juniors scored 543 compared with 510 nationally. In order to help students strengthen their weak areas, all students now have college board accounts that link their scores to KHAN Academy. Additionally, students who traditionally struggle with math are enrolled in double-blocked or supported classes where individualized help is available.

MHS also offers students the opportunity to prepare for their post high school experience by enrolling in any of the 30 concurrent enrollment classes and/or by gaining experience/earning certifications at the area career center in 16 different areas including the health sciences, construction and engineering technology, and graphic arts. Students are encouraged by both their counselors and classroom teachers who explain the advantages of earning these credits and certifications.

Although every student is required to take a course in preparation for college and careers, more needs to be done to make them aware of the opportunities that are available to them. For example, it has been a goal of this district and school to increase the literacy of both students and staff in all areas of technology. To

achieve this end, six years ago, the district instituted 1:1 for all students in both the middle school and the high school. Each student is issued a laptop containing the full Microsoft Office Suite along with other technological programs such as Audacity for students to use to meet course requirements or prepare presentations. Each year the system is upgraded and, this past year, through the addition of Office Online, students are now able to collaborate on projects and assignments; however, many students are not aware these programs are available, so programs such as Office live, Moviemaker, and Audacity often go unused.