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3 **Title: STEM Undergraduate Education**
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5 **Introduced by: Alec Harris, Daniel Lee, Vadim Rosin, Maksim Shlykov, and**
6 **Andrew Zureick, for the Medical Student Section**
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8 **Original Author: Andrew Zureick**
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10 **Referred to: Reference Committee E**
11
12 **House Action: Approved as Amended**
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15 **Whereas, nearly 40% of incoming college students who plan to pursue a**
16 **major in the sciences do not follow through by graduation¹, and**
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18 **Whereas, ACT Inc. has found that “just over 1 in 10 [high school]**
19 **graduates indicated an interest in a STEM (science, technology, engineering,**
20 **and mathematics) major or occupation” between 2010-2012², and**
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22 **Whereas, the most recent administration of the PISA (Programme for**
23 **International Student Assessment) exam, which evaluated over 500,000 15-year-**
24 **old students in developed countries around the globe, showed that the United**
25 **States performed below international average in mathematics and science, and**
26 **average in reading³, and**
27

28 **Whereas, the Department of Labor’s Bureau of Labor Statistics has**
29 **indicated that “80 percent of the fastest growing occupations (such as those in**
30 **healthcare- and computer-related fields) are dependent on knowledge of**
31 **mathematics and science”⁴, and**
32

33 **Whereas, due especially to the pronounced decrease of interest in**
34 **engineering and computer science, there will be more than two million STEM**
35 **jobs available in the next five years⁵, and**
36

37 **Whereas, current AMA policy (H-170.985) supports “working with other**
38 **concerned organizations and agencies to identify ways to improve science**
39 **education and science literacy in the nation, and to increase interest in science**
40 **and education on the part of the nation's youth”⁶, and**
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42 **Whereas, the AMA is committed to “funding the development and**
43 **implementation of medical innovations”⁷, and**
44

45 **Whereas, many third-party initiatives, such as the Bill and Melinda Gates**
46 **Foundation⁸, the FIRST Robotics program⁹, and Code.org¹⁰ are already**
47 **committed to increasing the interest of students at all levels in STEM, and**
48

49 **Whereas, persistence in STEM coursework has posed a considerable**
50 **barrier for undergraduate students to follow career paths in STEM fields¹¹, and**

51 **Whereas, an increased STEM emphasis at the undergraduate level will**
52 **positively benefit the field of medicine by fostering increased interdisciplinary**
53 **collaborations with engineers, computer programmers, researchers,**
54 **entrepreneurs, and other innovators; therefore be it**

55
56 **RESOLVED: That MSMS ask the AMA to amend Policy H-170.985 to read**
57 **as follows: “The AMA (1) is committed to working with other concerned**
58 **organizations and agencies to improve science, technology, engineering and**
59 **mathematics (STEM) education and STEM literacy in the nation, and to increase**
60 **interest in STEM and education on the part of the nation's youth;” and be it**
61 **further**

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63 **RESOLVED: That MSMS encourage statistics coursework for Michigan’s**
64 **undergraduate students interested in the pre-health sciences, in addition to the**
65 **mathematics and science coursework requirements in place at most post-**
66 **secondary institutions.**

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69 **WAYS AND MEANS COMMITTEE FISCAL NOTE: NONE**

¹ National Science Foundation. “Chapter 2: Higher Education in Science and Engineering.” Science and Engineering Indicators 2012. Accessed December 1, 2012. <http://1.usa.gov/144haMa>

² ACT, Inc., The Condition of College and Career Readiness 2013, “A First Look at STEM,” p. 19. Available at <http://www.act.org/research/policymakers/cccr13/pdf/CCCR13-NationalReadinessRpt.pdf>.

³ a) OECD: Programme for International Student Assessment (PISA). Available online at <http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>. Accessed March 2, 2014. b) L. Layton, U.S. students lag around average on international science, math, and reading test, Washington Post (December 3, 2013). Available online at http://www.washingtonpost.com/local/education/us-students-lag-around-average-on-international-science-math-and-reading-test/2013/12/02/2e510f26-5b92-11e3-a49b-90a0e156254b_story.html. Accessed March 2, 2014.

⁴ Preparing Our Children for the Future: Science, Technology, Engineering, and Mathematics (STEM) Education in the 2011 Budget. Available online at http://www.whitehouse.gov/sites/default/files/stem_11_final.pdf. Accessed March 2, 2014.

⁵ Developing the STEM Education Pipeline. Available online at <http://files.eric.ed.gov/fulltext/ED493179.pdf>. Accessed March 2, 2014.

⁶ H-170.985 Science Education. Available online at <http://www.ama-assn.org/resources/doc/PolicyFinder/policyfiles/HnE/H-170.985.HTM>. Accessed March 2, 2014.

⁷ H-480.978 Medical Innovations: <http://www.ama-assn.org/resources/doc/PolicyFinder/policyfiles/HnE/H-480.978.HTM>. Accessed March 2, 2014.

⁸ Bill and Melinda Gates Foundation | STEM Connector. Available online at <http://www.stemconnector.org/gates>. Accessed March 2, 2014.

⁹ FIRST Robotics Competition. Available online at <http://www.usfirst.org/roboticsprograms/frc>. Accessed March 2, 2014

¹⁰ Code.org. Available online at <http://code.org>. Accessed March 2, 2014.

¹¹ M. Graham, J. Frederick, A. Byars-Winston, A. Hunter, J. Handelsman. Increasing Persistence of College Students in STEM, Science 2013; 341: 1455-1456. Available online at <http://www.sciencemag.org/content/341/6153/1455.summary>. Accessed February 28, 2014.