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**19<sup>th</sup> House District**

Testimony to the House Primary and Secondary Education Committee  
House Bill 494 <> November 18, 2020

Chairman Jones, Vice-Chair Manchester, Ranking member Robinson, and members of the House Primary and Secondary Education Committee, thank you for the opportunity to present sponsor testimony for House Bill 494. The bill would establish a loan repayment program for eligible teachers. The bill would encourage more students entering college with intention to become a teacher to seek a license to teach a STEM content area and take a position teaching after graduation where there is great need for STEM teachers.

So what are the STEM fields and why do we need a bill like this to recruit, support, and retain a new cadre of STEM teachers and ask them to work in schools where the need is the greatest?

I think we can all agree that Ohio needs entrepreneurs and workers in science, technology, engineering and mathematics fields as they already play a key role in the sustained growth and stability of the Ohio economy and that of the United States as a whole. I would suggest that those who understand and work in STEM fields are already a critical component to helping us solve the problems that face us in this century. I think that an education in STEM fields creates critical thinkers, increases science literacy, and enables the next generation of innovators and empowers the next generation of workers. And we need them.

Our world is complex and continuously evolving, and people across the globe are suffering from the pandemic we are currently experiencing, from the challenges of finding ways to reduce and replace our reliance on carbon as the source of our energy needs and halting global climate change before life on Earth is further threatened. We need Ohio youth to bring a solid knowledge and skills to solve problems, make sense of information, and know how to collect and evaluate evidence to make rational decisions. Our challenge is to make sure that, no matter where Ohio children and youth live, they have access to quality learning environments and well prepared and knowledgeable teachers. A zip code should not determine their STEM fluency.

If we have a larger number of STEM teachers who are available to teach Chemistry and Physics and Calculus in our rural and inner-city schools, then we will develop a generation of future leaders, neighbors, and workers who will develop the skills that science, technology, engineering, and mathematics foster. This bill will allow us to provide more school districts across Ohio with the STEM teachers who are now in short supply. The problem is that those who are attracted to STEM fields have career opportunities that are far more rewarding financially than a teaching career typically provides. Note, I did not say the alternative career opportunities are necessarily more rewarding than teaching, because, as many of you know, the lives that teachers touch, the pathways to futures that teachers build are as rewarding as any career I know.

Ohio is a rural state with large expanses of soybean and cornfields, and three large urban cities and many municipalities with their own challenges. The schools in these areas face unique barriers to providing STEM education, because there is a shortage of science and math teachers, we experience high teacher turnover, and families in rural and inner city areas alike lack access to online and computer-based technology. This bill will address some of these problems.

HB 494 will establish the following:

Ohio students who attend an Ohio public or private college to get a professional teaching license in a STEM field are eligible for the program.

Newly minted STEM teachers who accept STEM teaching positions in grades 7-12 in an Ohio school district that is listed at the Ohio Department of Education as high need or hard to staff are eligible to apply to be part of this program.

STEM Teachers in the program who stay in the position for five years, and make timely payments against their student loans according to their repayment schedule will have the outstanding student debt repaid through a program administered by the Department of Education and the Chancellor of Higher Education.

Teachers will be able to apply for participation in the program for five years from such time as the bill becomes law, with a ten year sunset for loan repayment, to ensure that those who are accepted into the program in good faith are able to work the five years and receive the college debt payment for the lesser of \$40,000 or the amount remaining on the loan.

Budget for the program shall be \$25 million.

Information on the number of teachers with a science licensure in Ohio provided by the Ohio Department of Education, October 30, 2019

2018-2019 School Year

**15076** individuals holding credentials with science teaching fields

**7434** of those individuals actually teaching science courses

<b>Credential Type</b>	<b>Teaching Field</b>	<b>Count</b>
Adolescent to Young Adult (7-12)	Biology or Life Sciences	2004
Adolescent to Young Adult (7-12)	Chemistry	694
Adolescent to Young Adult (7-12)	Earth Science	259
Adolescent to Young Adult (7-12)	Integrated Science	1673
Adolescent to Young Adult (7-12)	Physics	251
Designated Subject (4-12)	Biology or Life Sciences	14
Designated Subject (4-12)	Chemistry	3
Designated Subject (4-12)	Integrated Science	9
Designated Subject (4-12)	Physics	3
Designated Subject (Grades K-12)	Biology or Life Sciences	91
Designated Subject (Grades K-12)	Chemistry	39
Designated Subject (Grades K-12)	Earth Science	5
Designated Subject (Grades K-12)	Integrated Science	73
Designated Subject (Grades K-12)	Physics	21
High School (7-12)	All Sciences 7-8	816
High School (7-12)	Biology or Life Sciences	2898
High School (7-12)	Chemistry	1318
High School (7-12)	Comprehensive Science	625
High School (7-12)	Earth Science	699
High School (7-12)	General Science (9-12)	661
High School (7-12)	Integrated Science	1885
High School (7-12)	Physical Science* *	62
High School (7-12)	Physics	739
Middle Childhood (4-9)	Science (4-9)	6185
Middle Childhood (4-9)	Science Generalist (4-6)	1

State of Ohio Licensure areas (<http://education.ohio.gov/Topics/Teaching/Licensure>)

**Adolescence to Young Adult (AYA) Licensure**

This license requires a baccalaureate degree (or higher) and allows you to teach students in grades 7 through 12 in one specific content area. Specific content areas include the following:

- Integrated Language Arts
- Integrated Mathematics
- Integrated Social Studies

There are 11 science fields in the AYA license. Some licenses would allow you to teach just one specific area in science, while others would allow you to teach multiple areas of science:

- Earth Sciences
- Earth Sciences/Chemistry
- Earth Sciences/ Physics
- Integrated Science
- Life Sciences (*aka Biology*)
- Life Sciences/Chemistry
- Life Sciences/Earth Sciences
- Life Sciences/Physics
- Physical Sciences: Chemistry
- Physical Sciences: Physics
- Physical Sciences (Chemistry and Physics)

Total cost is the total cost of attendance for that particular college. It includes:

- Tuition and fees (in-state tuition for public schools)
- Room and board (on campus)
- Books and supplies
- Other expenses (travel and personal)

**Ohio Public Colleges**

College	Bowling Green	Central State	Cleveland State	Cincinnati Main	Kent State	Miami Oxford	Ohio University	Ohio State	Shawnee State	U of Akron	U of Toledo	Wright State	Youngstown State	Average Ohio Public
City	Bowling Green	Wilberforce	Cleveland	Cincinnati	Kent	Oxford	Athens	Columbus	Portsmouth	Akron	Toledo	Dayton	Youngstown	
<b>Total Cost</b>	\$24,569	\$18,880	\$26,568	\$28,156	\$25,514	\$31,811	\$28,256	\$27,037	\$20,910	\$26,086	\$26,262	\$24,138	\$22,447	\$25,433
<b>Family Income</b>														
\$0 – \$30k	\$14,592	\$10,712	\$11,050	\$17,081	\$13,088	\$11,689	\$16,487	\$8,932	\$13,675	\$14,734	\$13,357	\$12,619	\$8,556	\$12,813
\$30,001 – \$48k	\$15,173	\$14,254	\$13,019	\$18,044	\$15,053	\$13,871	\$18,540	\$9,861	\$12,793	\$15,282	\$14,374	\$13,241	\$9,816	\$14,102
\$48,001 – \$75k	\$18,684	\$17,137	\$16,469	\$21,729	\$18,517	\$19,050	\$22,466	\$15,906	\$15,663	\$18,480	\$16,846	\$16,069	\$12,528	\$17,657
\$75,001 – \$110k	\$20,504	\$18,676	\$19,127	\$25,164	\$20,361	\$24,048	\$24,593	\$21,130	\$17,201	\$19,474	\$18,844	\$17,881	\$14,849	\$20,142
\$110,001+	\$20,811	\$18,608	\$19,382	\$25,534	\$20,570	\$26,131	\$25,434	\$23,918	\$17,331	\$19,704	\$19,157	\$18,179	\$14,992	\$20,750

<https://tamingthehighcostofcollege.com/net-price-of-ohio-colleges-by-income/>