

## Availability Measures of Course Offerings in New Hampshire's Public High Schools

January 2023, Carly Prescott

### Background

The State of New Hampshire provides the least percentage of funding for its public school system than any other state in the country<sup>1</sup>. This lack of funding creates inequities in the educational opportunities students have access to across the state. One measure of opportunity is the number and variety of courses available for students to take throughout their high school experience.

This analysis looked at each New Hampshire public high school's graduation requirements, graduation rates, and course offerings for the 2021-2022 academic year to explore the connections between course availability and school size, graduation requirements and rates, and varying per-pupil expenditures.

This analysis found that:

- The average number of credits required to graduate from public high schools ranges from 24.73 credits for small schools, 25.46 for medium schools, and 25.20 for large schools.
- 28 of the 36 largest public high schools require more credits than the state minimum.
- The largest high schools in the state have the most course availability.
- Larger high schools on average have lower per-pupil expenditures.
- It does not appear that graduation rates are a strong indicator of graduation requirements or course availability in New Hampshire's public high schools.

### Graduation Requirements

Through a careful collection of Programs of Study from each public high school<sup>2</sup>, we were able to compile a dataset of graduation requirements. The State of New Hampshire has a graduation requirement for all public high schools in the state. All schools must require their students to take and complete 0.5 credits of arts, 0.5 credits of computer and communication technologies, 4.0 credits of English, 3.0 credits of mathematics, 1.0 credits of physical science, 1.0 credits of biological science, 1.0 credits of U.S. or N.H. Government, 0.5 credit for economics, 0.5 credit for world history or geography, 0.5 credit for health, 1.0 credit for physical education, and 6.0 credits for elective courses. This equals 20.0 credits to meet the minimum requirement to graduate in New Hampshire with a high school diploma. 70 of the 78<sup>3</sup> New Hampshire public high schools require more than the 20-credit minimum to graduate. In Table 1, all New Hampshire public schools are listed in reference to their size and the number of credits required to graduate.<sup>4</sup> The highest requirement is 28.25 credits (Newfound, Littleton, Farmington, and Salem).

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<sup>1</sup> U.S. Census Bureau, Annual Survey of School System Finances, 2020

<sup>2</sup> Nute, Bud Carlson Academy, Rivendell, and Lin-Wood are not included. Their graduation requirements were unavailable.

<sup>3</sup> That we had comprehensive data for.

<sup>4</sup> There are schools such as Nute High School, Bud Carlson Academy, Rivendell, and Lin-Wood High School that we were unable to include. The program of studies from these schools was not able to be obtained.

Table 1 shows all the public high schools for which graduation requirements were available in NH categorized by their size and number of credits required to graduate. In this analysis, a small school is defined as an enrollment of fewer than 200 students, a medium school is between 200 and 600 students, and a large school has more than 600 students.

**TABLE 1**

# Of Credits	Small School Size: <200 Average Credits: 24.73 Range: 22-27	Medium School Size: >200 <600 Average Credits: 25.46 Range: 21-28.25	Large School Size: >600 Average: 25.20 Range: 20-27.5
High  26-28 Credits to Graduate	Colebrook (26) Gorham (27) Lisbon (27.25) Pittsfield (26) Rivendell (27)	Belmont (26) Berlin (26) Fall Mountain (28) Farmington (28) Inter-Lakes (26) Laconia (26) Littleton (28) Newfound (28.25) Pelham (26) Raymond (27) Winnisquam (26) Woodsville (27.5)	ConVal (26.5) Dover (26) Kingswood (26) Merrimack Valley (26) Milford (26) Salem (28) Sanborn (26) Timberlane (27.5) Windham (27.5)
Moderate  23-25 Credits to Graduate	Hinsdale (24.5) Moultonborough (23.5) Groveton (23) Profile (24) Wilton-Lyndeboro (24)	Campbell (24) Conant (23) Gilford (24) Hillsboro-Deering (24) Hopkinton (24) Kearsarge (23) Mascenic (25) Newmarket (23) Newport (23) Stevens (23) White Mountains (24)	Alvirne (24) Bedford (23.5) Bow (24) Hollis-Brookline (23) Keene (24) Kennett (25) Londonderry (24) Nashua North and South (23) Pembroke (24) Plymouth (24) Portsmouth (24) Spaulding (24) Winnicunnet (24)
Low  20-22 Credits to Graduate	Sunapee (22) Pittsburg (21.25)	Epping (22.5) Franklin (22) Mascoma Valley (21) Monadnock (21) Somersworth (22.5)	Coe-Brown Northwood (22) Concord (20) Exeter (20) Goffstown (22.5) Hanover (20) John Stark (22) Lebanon (20) Manchester High (West, Memorial, Central, and School of Technology) (20) Merrimack (21) Oyster River (22) Pinkerton (22) Souhegan (22)



**TABLE 2**

High School	Math Requirements	% of F&R Lunch
Alvirne	4.00	13.49%
Belmont	4.00	20.53%
Berlin	4.00	35.21%
Bow	4.00	2.56%
Campbell	3.50	5.20%
Conval	4.00	13.65%
Dover	4.00	19.41%
Fall	4.00	18.31%
Farmington	4.00	30.86%
Franklin	4.00	40.45%
Goffstown	4.00	7.30%
Gorham	4.00	11.97%
Groveton	4.00	43.31%
Hanover	4.00	4.94%
Hinsdale	4.00	31.43%
Inter-Lakes	4.00	17.75%
Kearsarge	4.00	8.07%
Laconia	4.00	40.99%
Lisbon	4.00	34.83%
Littleton	4.00	40.98%
Mascenic	4.00	24.34%
Mascoma	4.00	14.33%
Merrimack Valley	4.00	13.54%
Milford	4.00	16.80%
Nute	3.50	16.78%
Pelham	3.50	2.77%
Plymouth	4.00	19.10%
Salem	4.00	14.73%
Sanborn	4.00	3.04%
Somersworth	4.00	34.79%
Stevens	4.00	24.49%
White Mountains	4.00	39.14%
Windham	4.00	1.52%
Woodsville	4.00	25.34%

### Beyond NH State Requirement

Schools that require more than the State of New Hampshire’s mandated graduation requirements differ in their specific requirements. Some schools require more English, math, and science, while some require more physical education and art classes. Of all the schools in this analysis, the most common additional requirements for high school students are math and world geography (or related courses). 34 of the 78 public high schools examined in this report require more math than the state’s requirement. In Table 2, all high schools that require more than the state minimum of 3 credits of math are listed in alphabetical order. The schools that require more math than the state’s minimum do not appear to have a pattern.

The percentage of students eligible for Free or Reduced (F&R) Price Meals is often used as an indicator of need. The 34 schools with additional math credits required to graduate had no obvious pattern of the percentage of students on F&R Lunch, ranging from 1.52% eligibility in Windham to 40.99% in Laconia.

### Course Availability

While all the high schools in New Hampshire offer every course needed to meet the state’s minimum graduation requirements, we wanted to see the relationship between schools and the availability of extra courses. Programs of Study from each public high school were downloaded from high school websites or provided by guidance staff on request. The only exceptions were Pittsburg, Lin-Wood, and Rivendell<sup>5</sup>.

This report focused on Advanced Placement, math, fine arts, performing arts, English electives, science electives, career technologies, computer technologies, and world languages.

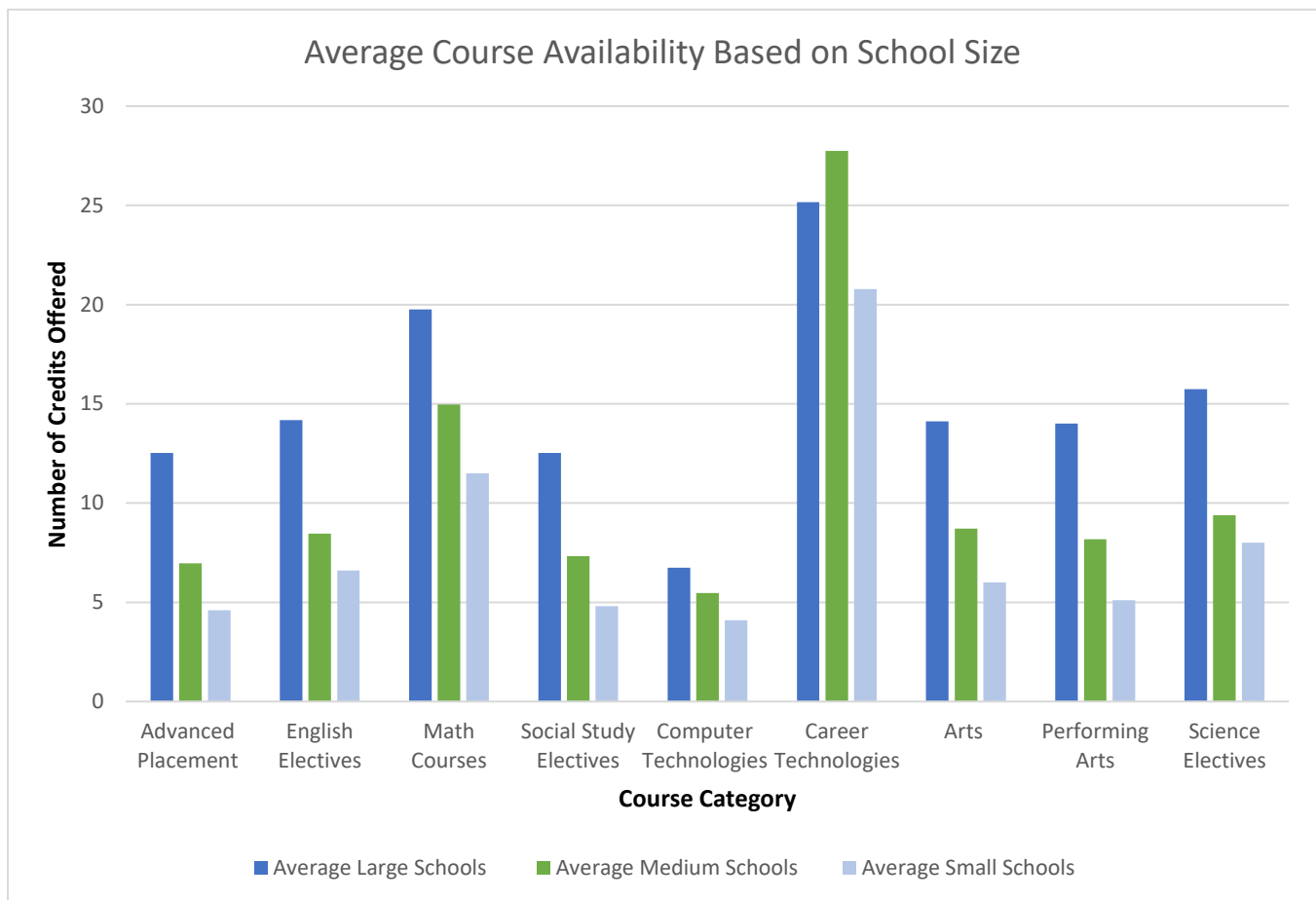
<sup>5</sup> We were unable to obtain the Program of Studies for these schools for the 21-22 school year.

Advisory, culinary arts (as this is usually included with career technologies), and home economics<sup>6</sup> were left out because these courses were not widely offered at New Hampshire public high schools

After going through the Programs of Study of 78 of 81 public high schools in the state, we compiled a list of every course available to students for the 2021-2022 academic year.

On average, schools with more than 600 students enrolled had more courses available than schools with fewer than 600 students. To be clear, not all courses that are offered in a Program of Study are run during that year, as some courses are unable to meet enrollment requirements. As seen in Figure 1, every course category's average number offered (except career technologies) depends on school size.

FIGURE 1



Career technologies, while not located at every public high school, are technically available to all students in New Hampshire. But, many students have to travel upwards of 20 miles to attend the class. The on-paper availability of these courses, like all other courses, does not negate the hurdles of accessibility for such opportunities. Many of the courses offered will not be available to some students in a semester because of this barrier. Every high school in the state offers classes at available career technologies centers in their course catalogs. The reality, however, is that there are

<sup>6</sup> Also known as Family and Consumer Sciences.

several factors – transportation for example – that create barriers for students in some schools to access these opportunities.

**FIGURE 2**

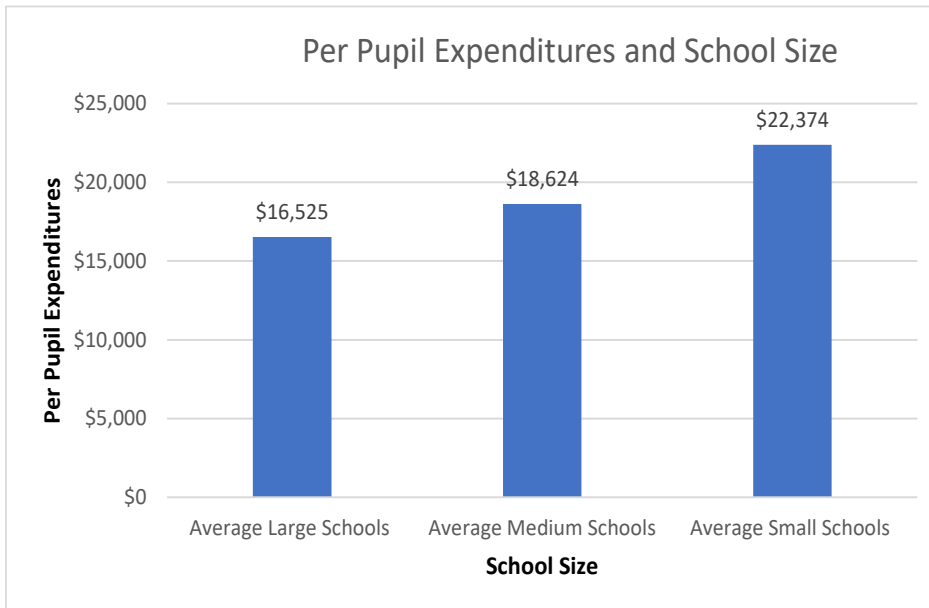


Figure 2 shows that larger schools in New Hampshire have on average, lower per-pupil expenditures. Smaller schools on average spend more per student and yet, on average, offer fewer courses than larger schools. One explanation is that because of larger enrollment, larger schools can allocate their resources in more efficient ways. This trend was identified in the report issued by the Commission to Study School Funding. One of their recommendations to the funding formula would have sent aid to districts that serve up to 2,000 students, with a multiplier for smaller districts<sup>7</sup>.

### Course Availability, Graduation Requirements, and Graduation Rates

Graduation rates are a metric often used by the NH Department of Education, school administrators, and policymakers to compare schools across the state. We looked at the graduation rates among public high schools, taken from the four-year rates for the academic year of 2020-2021.<sup>8</sup> While some New Hampshire students (2%) can graduate after their fifth year, we use the four-year rates for this analysis.

There are 20 High Schools in New Hampshire with graduation rates below 85% for the school year ending in 2021. Those schools are Manchester West, Pittsfield, Manchester School of Technology, Franklin, Manchester Central, Newport, Stevens (Claremont), Nute, Somersworth, Manchester Memorial, Farmington, Laconia, Monadnock, Raymond, Groveton, Concord, Belmont, Epping, Winnisquam, and Hillsboro-Deering.

These 20 schools differ greatly in size, ranging from 117 to 1500 students. As shown in Figure 1, the size of the school's enrollment is an indicator of the number of courses available. While all these schools share the common denominator of low graduation rates, they do not show a pattern of low course availability. These schools have an average number of credits required to graduate of 23.16; lower than the state average. The requirements range from 20 credits at the four Manchester high

<sup>7</sup> Equity and Adequacy of New Hampshire School Funding. (2020). *American Institutes of Research*.

<sup>8</sup> We used 2020-2021 graduation because it is the most up-to-date data released. .

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schools to 27 credits at Raymond High School. There is no pattern between the classes offered, the graduation requirements, and the number of students graduating in 4 years.

## Conclusions

Course availability, graduation requirements, and graduation rates highlight important information about NH's public high schools. According to the data analyzed in this report, a student's access to more courses is largely based on the population size of the school they attend. Furthermore, the number of credits required to graduate – while they vary all over the state – does not seem to impact graduation rates. Additionally, some of New Hampshire's largest schools with the most course availability require fewer credits to graduate.

Students with access to more courses in high school have broader opportunities for exploring interests, post-secondary options, and making career-based decisions. Course availability, while not creating a clear connection to a school's performance as measured by graduation rates, provides important insight into one element of the varying degrees of opportunities in our public high schools.