

## Analysis of the Courses Students Take as part of the LA&S Curriculum

### Summary

The LA&S Council examined data on the LA&S courses with the highest total number of students who had completed them for their degree in the graduating classes from 2005-2014. Three questions motivated the LAS council's interest in this data:

1. How had the changes to the LA&S Curriculum influenced the degree to which students selected particular courses as part of their program of study?
2. What courses do students predominantly take to complete their LA&S requirements, given the broad range of LA&S courses available at the institution?
3. To the extent that students predominantly take certain courses to satisfy certain LA&S requirements, how can we use this information to explore the ways we support our LA&S Learning Objectives?

Overall, there are not many major changes to the courses students take for their LA&S curriculum. While there were the largest reductions in the percentage of students taking Introduction to Speech Communications for the Arts cluster, Global Issues and General Psychology for the Citizenship and the World (CTW) cluster, and Logic and Earth Systems Science (formerly Geography) for the Science, Math and Technology (SMT) cluster, each of these courses remained among the most commonly taken courses within their clusters. The Arts, CTW and SMT clusters also saw large increases in the number of students completing Art Appreciation, Human Growth and Development, and Applied Statistics respectively. In each of these cases the shift could potentially be explained by changes in student major requirements rather than changes in the LA&S. However, decreases in the number of credits required in each LA&S category have likely contributed to decreases in student completion of certain courses.

Certain courses continue to be highly represented in student programs of study in spite of changes to the LA&S. In the Arts cluster as many students take Commonwealth of the Arts (satisfying the Art or Music and Global Diversity Arts non-western requirement) as the required course Writing I, while the literature requirement is satisfied by a range of courses, none represented in more than 20% of student transcripts (Table 1). In the CTW cluster, as many students take Introduction to Sociology (satisfying Behavior and Global Diversity CTW requirement) as Writing I, while the History requirement is satisfied by a range of courses, but with U.S. History I and II each represented in almost 1/3 of transcripts (Table 2). The required course, Health and Fitness in SMT is taken by more students than any other course offered at Fitchburg State (Table 3). Students take a range of math and lab science courses, but these are often determined by their major rather than student choice. For instance, the second highest enrolled lab course, Anatomy and Physiology I was excluded from the table because it is only open to certain majors.

Given the degree to which the combination of major requirements, departmental offerings, and the LA&S requirements have restricted the options students have to fulfill their LA&S requirements, it is worth exploring the learning outcomes of courses such as Commonwealth of the Arts, Introduction to Sociology, and Health and Fitness to better understand how they relate to the LA&S learning objectives. Furthermore, when student requirements are met by one of a wider range of courses, we must consider how different courses can possibly support a common objective. This analysis can provide us with insight into potential ways to better achieve our learning objectives through the LA&S requirements.

## Data Analysis

In the Arts, we see students selecting from limited options in the area of art or music, but having a wider array of choices in the area of literature. Art Appreciation has grown steadily as a student selection to satisfy the art or music designation with over 1/3<sup>rd</sup> of our students now graduating having taken it. While art appreciation has grown, student participation in Commonwealth of the Arts has remained very steady, perhaps because unlike Art Appreciation, the course satisfies not only the art or music designation, but also the global diversity, non-western requirement. While students could theoretically complete their non-western arts requirement through another course such as World Literature, Commonwealth of the Arts is offered every semester with multiple sections, while World Literature and other potential non-western arts courses are offered much less frequently and usually only in one section. This makes Commonwealth of the Arts almost a default required course for our students, taken just as frequently as Writing I.

For their literature courses, students are focused on taking the Western literature courses that are consistently offered every semester such as American literature I and II. Some students also take literature courses based on their major area of interest such as Children's Literature, Literature for Young Adults and Literature and Disability. All these literature courses are offered consistently and have stayed fairly consistent in the percentage of students who have taken them. One exception seems to be the Short Story. This course has been taken by as many as 20% of our students in some graduating classes and as few as 8%. The course catalog currently lists this as the one literature course on our list that isn't offered every semester, so perhaps there have been fluctuations in the rate at which it has been offered over the years. Another course in the arts that has seen substantial changes in the percentage of students graduating having taken the course is Introduction to Speech Communication. While over 25% of our students still graduate having taken Intro to Speech, this is down from a high of almost half our students in 2005. Every student must take 3 Arts courses in addition to Writing I and II. Since Intro to Speech can only be taken as a 3<sup>rd</sup> Arts course, not counting towards the Literature or Art or Music designations, it appears that as students are becoming more likely to take Art Appreciation for the Art or Music designation and need a literature course and Commonwealth of the Arts for the Global Diversity non-western category they are less likely to be taking Speech as a 3<sup>rd</sup> Arts course.

Overall, students are most likely to take Commonwealth of the Arts. Increasingly they are taking Art Appreciation as a second Art or Music course and are less likely to take Intro to Speech as an additional Art cluster course. They select their literature course from one of the widest range of courses represented by a single designation, but most often they take one of the following 5 courses: American Literature I and II, The Short Story, Children's Literature, Literature for Young Adults, and Literature and Disability, with the latter 3 being influenced in part by their major. Common learning outcomes for the Literature courses related to Aesthetic Appreciation and Communication may be achievable, but we should discuss further the appropriate Aesthetic Appreciation outcomes of Commonwealth of the Arts and Art Appreciation and how they relate to or contrast with the Communication outcomes of Intro to Speech Communication.

Table 1. Percentages of graduates from 2005 - 2014 who took courses that count towards the Arts cluster. Additional designations for these courses including Global Diversity Arts nonwestern (GDAn), Art or Music (AoM) and Literature (L) are provided in the final column. Courses are limited to those with over 10% of the 2014 graduating class enrolled.

Course Title	%05	%06	%07	%08	%09	%10	%11	%12	%13	%14	
Writing I	49%	49%	49%	53%	57%	52%	50%	56%	54%	56%	
Writing II	59%	58%	62%	59%	67%	66%	68%	68%	69%	68%	
Comm. of the Arts	50%	51%	56%	67%	60%	59%	62%	56%	59%	56%	GDA n
Art Appreciation	17%	17%	22%	22%	23%	26%	31%	36%	38%	36%	AOM
Intro to Speech	46%	48%	43%	44%	42%	41%	41%	34%	34%	28%	
American Literature II	16%	19%	19%	18%	18%	17%	18%	22%	20%	21%	L
Children's Literature	25%	21%	19%	15%	15%	19%	19%	18%	18%	19%	L
The Short Story	11%	10%	8%	8%	16%	20%	20%	20%	15%	16%	L
American Literature I	21%	17%	20%	21%	20%	22%	19%	16%	14%	15%	L
Lit. for young adults	?	?	13%	10%	14%	13%	17%	17%	14%	13%	L
English Literature I	9%	9%	9%	8%	9%	12%	9%	10%	11%	12%	L
Literature and Disability	14%	26%	28%	31%	25%	21%	15%	14%	15%	11%	L

In the area of Citizenship and the World, we see students selecting from a limited number of options for their behavior requirement, but utilizing a wider range of courses to satisfy their history requirement. There have been some important changes in the Psychology courses being taken by our students over the past 10 years. Courses like the Psychology of Intimacy, Child Psychology and Adolescent Psychology have either disappeared altogether or seen substantial reductions in the percentage of students graduating having taken these courses. These changes can be attributed to changes in the course offerings from the Psychological Sciences program and changes in the requirements of allied programs such as those in Education rather than changes in the LA&S. However, General Psychology and Abnormal Psychology have also seen reductions on a smaller scale in the percentage of students graduating having taken those courses, while Human Growth and Development has seen increases. The latter can be attributed to the fact that it was relatively recently changed to a 1000 level course and students may be selecting it over General Psychology to meet their Behavior requirement. In addition, students selecting an upper level Psychology course as a second CTW course may be less likely to select Abnormal or Adolescent Psychology now as more of them seem to be selecting the new course Social Psychology. Students have remained consistent in selecting Introduction to Sociology as one of their courses to satisfy CTW, behavior and the Global Diversity requirements. This course has not suffered from the fact that it doesn't satisfy the non-western requirement, perhaps in part because so many students satisfy the non-western requirement through Commonwealth of the Arts. Like Commonwealth of the Arts, Introduction to Sociology is almost a default required course in the LA&S curriculum, being taken by students as frequently as Writing I. This is also contributed to by the fact that a number of programs require Introduction to Sociology as one of their students' LA&S course.

Students have to take 1 Behavior course, 1 History course and a third CTW course, while being sure to satisfy the Global Diversity requirement in CTW. While Global Issues does satisfy the Global Diversity non-western requirement, unlike Introduction to Sociology or World Civilizations it does not satisfy the Behavior or History distribution requirement so it is only taken as a 3<sup>rd</sup> CTW course. There has been a small decrease in the percentage of our students graduating having taken global issues, perhaps in part because an alternative 3<sup>rd</sup> CTW course, U.S. Government has increased over the same time frame. U.S. Government does not satisfy the Global Diversity requirement, but if students have already done so through Intro to Sociology or World Civilizations, it can be used as a 3<sup>rd</sup> CTW course. Similarly, students have become less likely to take Spanish for Beginners I which could be used as a 3<sup>rd</sup> CTW course with a

Global Diversity designation, but that change occurred about 8 years ago and since then the representation of Spanish for beginners in our student plans of study has remained about the same. History courses, both the World Civilization courses that satisfy the Global Diversity non-western requirement, and United States History courses have retained consistent levels of representation in graduating student transcripts over the past 10 years. While there appears to be a slight preference for U.S. History over World Civilizations, students have continued to choose fairly evenly from among the range of historical eras represented. The Philosophy of Human Nature has also maintained steady levels of representation in student transcripts across the past 10 years. Like Global Issues it can represent a 3<sup>rd</sup> CTW course that satisfies the Global Diversity requirement, and like Global Issues it is often taken as part of the IDIS major for early childhood, elementary and special education.

Overall in the CTW cluster students tend to only select from 3 behavior courses, General Psychology, Human Growth and Development, and Introduction to Sociology, often determined by their major, but select from 5 history courses, including 2 U.S. and 3 World History courses. Over 1/3 of our students are still taking Global Issues as a CTW course, but this is down from 45% of them taking it in 2005. Over ¼ of students continue to take Philosophy of Human Nature as a CTW and increasingly students are taking United States Government for CTW. The learning outcomes of General Psychology, Human Growth and Development and Introduction to Sociology should be discussed to determine if there is any commonality to the experience students have when selecting from these three courses. Common learning outcomes for the History courses seem more likely, but the Global Diversity outcomes need to be clarified to explore the relative roles of courses like Global Studies, Philosophy of Human Nature and United States Government (the former 2 designated for Global Diversity) as additional CTW options.

Table 2. Percentages of graduates from 2005 - 2014 who took courses that count towards the Citizenship and the World cluster. Additional designations for these courses including Behavior (B), Global Diversity CTW (GDC) Global Diversity CTW nonwestern (GDCn), Art or Music (AoM) and History are provided in the final column. Courses are limited to those with over 10% of the 2014 graduating class enrolled.

Course Title	%05	%06	%07	%08	%09	%10	%11	%12	%13	%14	
General Psychology	59%	59%	60%	62%	66%	58%	59%	56%	52%	47%	B
Human Growth and Dev.	20%	20%	22%	27%	30%	36%	36%	36%	30%	36%	B
Abnormal Psychology	25%	21%	27%	25%	24%	22%	22%	19%	18%	18%	B
Social Psychology	?	?	?	?	?	?	?	?	11%	13%	B
Adolescent Psychology	24%	19%	22%	21%	18%	20%	15%	15%	12%	11%	B
Intro. to Sociology	52%	51%	54%	54%	60%	57%	61%	57%	56%	55%	BGDC
Global Issues	45%	48%	49%	49%	50%	53%	44%	41%	35%	36%	GDCn
U.S. History I	31%	29%	33%	36%	35%	36%	34%	33%	31%	29%	H
U.S. History II	29%	30%	29%	28%	27%	31%	32%	26%	30%	32%	H
World Civilizations I	23%	19%	20%	22%	33%	28%	28%	21%	22%	19%	HGDCn
World Civilizations II	20%	22%	25%	23%	23%	27%	24%	23%	23%	20%	HGDCn
World Civilizations III	18%	17%	20%	19%	18%	21%	22%	24%	19%	22%	HGDCn
Phil. of Human Nature	25%	27%	29%	32%	35%	30%	29%	28%	32%	29%	GDC
U.S. Government	12%	13%	18%	15%	17%	19%	17%	18%	18%	20%	
Spanish for Beginners I	20%	15%	14%	13%	11%	11%	11%	12%	12%	11%	GDC

Students tend to make the fewest individual choices in the area of Science, Math and Technology. All students must take Health and Fitness, and as a result it is consistently represented on the highest percentage of graduating student transcripts of all courses. In general for students majoring in Science and Technology fields, their laboratory science is determined for them by the requirements of the major. Students not in one of these science majors predominantly take Life Science as their lab science course, and the relative number of students able to do this may have dropped slightly as the percentage taking Life Science has gone down. Student math requirements are determined in most cases by their major. The only majors that do not specify the math course students should take are Communications Media, English Studies, Game Design, History and Interdisciplinary Studies. There has been a trend, presumably driven by major requirements rather than the LA&S curriculum itself for increasing numbers of students to have taken Applied Statistics and Informal Geometry for their math requirement.

Students must select one additional SMT course in addition to their lab course and their mathematics course. Once again, these courses are dictated for students in Science and Technology majors, and are also dictated to students in Business, Computer Information Systems, Economics, Education, Game Design and Mathematics. Students outside of these majors tend to take Earth Systems Science (formerly Introduction to Geography) or Logic to satisfy the requirement for a 3<sup>rd</sup> SMT course. However, both of these courses have experienced large reductions in the percentage of students taking them. This may be due in part to increases in the number of students required to take other SMT courses for their major.

Overall, the SMT cluster does not represent an opportunity for students to explore individualized areas of interest in the sciences. All students must take Health and Fitness, and they either take the SMT courses required by their major, or they take Life Science, a math that is disconnected from their major, and either Earth Systems Science or Logic. Given how prevalent Health and Fitness has been as a course taken by  $\frac{3}{4}$  of our graduates for the past 10 years, we should identify the important learning outcomes that it is supporting. Furthermore, given that so many SMT courses are predetermined by major, it is worth discussing whether they can retain shared learning outcomes or whether their sole purpose is to support the specific skills needed for the major.

Table 2. Percentages of graduates from 2005 - 2014 who took courses that count towards the Science, Math and Technology cluster. Additional designations for these courses including Math (M) and lab science (lab) are provided in the final column. Courses are limited to those with over 10% of the 2014 graduating class having taken them and must be open to all majors rather than only some majors.

	%05	%06	%07	%08	%09	%10	%11	%12	%13	%14	
Health and Fitness	74%	74%	72%	74%	74%	71%	74%	75%	75%	73%	
Applied Statistics	20%	23%	28%	31%	29%	26%	30%	34%	36%	39%	M
Basic Math II	27%	32%	31%	29%	32%	34%	32%	34%	32%	27%	
Precalculus	11%	11%	12%	15%	18%	15%	14%	14%	15%	16%	M
Informal Geometry	?	?	?	11%	12%	12%	14%	14%	15%	16%	M
Intro to Functions	29%	28%	24%	27%	29%	28%	25%	21%	21%	15%	M
Logic	27%	40%	38%	40%	36%	38%	32%	23%	22%	18%	
Earth Systems Science	32%	34%	35%	31%	39%	37%	35%	26%	23%	20%	
Intro to Life Science I	29%	24%	27%	22%	24%	24%	24%	26%	20%	19%	lab
Intro to Life Science II	18%	21%	18%	15%	18%	21%	19%	16%	18%	14%	lab

## The Real LA&S

Using this data we can reflect on the real options we are offering students when they pick their courses.

### Arts

- Take **Writing I and Writing II**
- Pick one Literature course from the following list:  
**American Literature I, American Literature II, The Short Story, English Literature I, Children's Literature, Literature for Young Adults, Literature and Disability**
- Take **Commonwealth of the Arts** to satisfy your Global Diversity in the Arts requirement
- Take a second literature course from the list above, or one of the two following courses:  
**Art Appreciation or Intro to Speech Communication**

### Citizenship and the World

- Take one of the following courses to satisfy your Behavior cluster requirement:  
**General Psychology, Human Growth and Development or Introduction to Sociology**
- Take one of the following to satisfy your History requirement:  
**U.S. History I, U.S. History II, World Civilizations I, World Civilizations II, World Civilizations III**
- If you did not select Intro to Sociology for your behavior cluster or one of the World Civilizations courses for your History cluster, you must take one of those courses or one of the following to satisfy your Global diversity in Citizenship and the World requirement:  
**Global Issues or the Philosophy of Human Nature**
- If you satisfied your Global diversity and behavior cluster requirement with Introduction to Sociology, you must take as a third course any one of the courses listed above or one the following:  
**United States Government or Spanish for Beginners I**
- If you satisfied your Global diversity and literature requirements with World Civilizations and your Behavior requirement with General Psychology or Human Growth and Development, you must take as a third course any of the courses listed above or one of the following:  
**Abnormal Psychology or Social Psychology**

### Science, Math and Technology

- Take **Health and Fitness**
- If you are a Science or Technology major (Biology, Chemistry, Computer Science, Earth Systems Science, Exercise and Sports Science, Geographic Science and Technology, Industrial Technology or Nursing), don't worry about the rest of the requirements as they are all specified by your major.
- If you are not a Science or Technology major fulfill your lab requirement by taking:  
**Life Science**
- If you are a Communications Media, English Studies, History, Game Design or Interdisciplinary Studies major, once you have completed **Basic Math** choose from the math options below. All other majors specify which math to complete:  
**Applied Statistics, Precalculus, Informal Geometry, Intro to Functions, or Calculus**
- If you are a Science and Technology major as listed above or a major in Business, Computer Information Systems, Economics, Education, Game Design, or Mathematics, a third Science, Math and Technology course has been selected for you. All other majors should select one of the following two courses:  
**Earth Systems Science or Logic**