



Department of
Higher Education

John R. Kasich, Governor
John Carey, Chancellor

Analysis of Pathways by Cluster

Social and Behavioral Sciences and Human Services

Katie Dean

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Abstract

The purpose of this study into pathways is to investigate if there are any common courses in a cluster in the five main areas of General Education/Ohio Transfer Module (OTM), Core (Pre-major Requirements), Foreign Language (if applicable), Major Courses, and Electives (Technical and General Electives) among Ohio's public institutions of higher education, including 23 two-year institutions and 13 four-year institutions. Research findings from this study should be used as a resource toward creating clear pathways from an Associate to a Baccalaureate degree.

Definitions

- General Education/OTM: Courses used to satisfy the OTM in the areas of English and Oral Composition, Mathematics, Arts & Humanities, Social Sciences, and Natural Sciences. A category of "Other General Education" is used to show the institution-specific general education courses that a student is required to take to meet that institution's general education requirements.
- Core (Pre-major Requirements): Courses that a student is required to take before he or she may formally be accepted into or apply for a specific major. This varies by institutions.
- Foreign Language (if applicable):
- Major Courses: Courses that are listed by the institution as required for a major, which may be within the same discipline area as the major or outside of the discipline major.
- Technical Electives: Courses within the same discipline area as the major but are not required and a student has the choice to choose from several options.
- General Electives: Courses from any area that a student may take to fulfill remaining credit hours.¹

Research Questions

1. What are the most common courses for various majors² and clusters³?
2. Which majors within a cluster have different or similar courses?

Methodology

Initial Research

The first step into the research was to locate an institution's catalog or webpage that included its list of majors and course descriptions. In several cases, a catalog or webpage dedicated to majors was not

¹ General Electives are not shown in the comparison tables due to the large and varied range of credit hours required by each institution. The range of credit hours is shown on the final overall table.

² Major is defined as a concentration of study chosen by a student

³ Cluster is defined as an academic category or a field of study. It may also be known as the meta-major.

available. When that occurred, the process was to simply search for a major on an institution's website. Once a major's information was located, all courses were inputted into an excel sheet under the appropriate main area. In many cases, several courses were listed, and a student has the choice of which one to choose. The following items were taken into consideration in the initial research process:

- When a program refers to Ohio Transfer Module (OTM) approved general education course(s) in general, simply "OTM req" is listed, instead of listing every single course and is notated as "Any Course" in the comparison tables.
- Geographic Information Systems major is included under Geography major.
- Human Services major is included under Social Work major.
- When several general education courses are listed in the research results for one institution, it is assumed that a student would have the option to choose among the courses, unless otherwise noted.
- Minor and certificate information is included, although most do not require general education courses; therefore they are not used toward the counting of the base count or of any courses they require.⁴

The final process to assure the accuracy of information was conducted prior to the analysis of the results for the report. It should be noted that the accuracy of the data collected is a reflection of the accuracy of the information presented in an institution's website or catalog. When there was ambiguity of where a course should be placed in the main areas, best judgement was used in deciding where to place the course. This can be used as an exercise of how a new student would be able to access information about a major and how he/she would understand and view the results one was able to find.

Analysis

For the analysis, the following steps were taken:

- A. Count the number of a type of course for each major under each area
- B. Compare the numbers of the types of courses to determine which courses were the most common courses
- C. List the courses in order of commonality in the tables to compare between two- and four-year programs
- D. Take the most common course from each area for each major and compare across each major to see if there are any commonalities between majors

⁴ Minors and certificates are not included in the count in order to have the most similar types of credentials (i.e. associate and bachelor degrees) being compared. This is to ensure as much as possible that the counts are not skewed since minors and certificates do not typically require general education courses. It is still important to note that some institutions offer these credentials since they may decide to partake in the pathways.

The summarized data tables under Findings are organized and presented using the following aspects:

- In the tables, in the left column under the title of the program, counts are shown of how many two- and four-year institutions offer that program. This is the base count⁵.
- In the tables, the most common courses are listed for two- and four-year institutions for each major.
- When counting the number of a type of course for a major, if one institution offers multiple types of one kind of course, e.g., Calculus I, II etc., only one is counted.
- In the tables, the order of the courses, if there are multiple, is from the most common to the next most common. Courses that were least common are not included.
- In the tables, the courses in bold are those that the two- and four-year programs have in common.
- Percentages in the tables may add to more or less than 100%. This is due to two reasons.
 - Reason 1 is because some institutions allow a student to choose among several mathematics courses. That institution would be counted more than once towards the counts for the types of courses but only once for the base count.

Example:

- Institution B requires College Algebra, Statistics, or Calculus as the general education course for mathematics for a major. Institution B will be counted 3 times for the mathematics counts, once in the count for College Algebra, once in the count for Statistics, and once in the count for Calculus. It will only be counted once towards the base count.
- Reason 2 is because the least common courses are not included in the table so their percentages are not shown.

The purpose of the comparison between types of institutions against a major is to see the types of common courses two- and four-year institutions require and the degree of commonality among two- and four-year institutions, which will help determine which course should be selected as the course in its respective area in the cluster pathway when comparing courses across the majors.

⁵ Base count is defined as the number of institutions that offer the specific major.

Findings

Cluster: Social and Behavioral Sciences and Human Services

<i>Anthropology</i>		<i>Most Common Courses</i>	<i>Two-Year Institutions</i>	<i>Four-Year Institutions</i>
Two-year Institutions 1 (CSCC to OSU) Four-year Institutions 10	General Education	Math	n/a	Any Course: 80% QR: 30%
		Arts & Humanities	n/a	Any Course: 80%
		Social Sciences	n/a	Any Course: 40% Intro to Archaeology: 40% Cultural Anthropology: 30%
		Natural Sciences	n/a	Any Course: 50% Human Evolution: 20%
		Other Gen Ed	n/a	Personal & Social Responsibility Global Traditions Physical Education Cross-cultural Perspectives
	Core	Pre-Major Requirements	n/a	Intro to Physical Anthropology: 10% ⁶
	Foreign Language	If applicable	n/a	Required: 80%
	Major Courses		n/a	Cultural Anthropology: 50% Intro to Archaeology: 60% Archaeological Theory & Methods: 30% Biological Anthropology 50%
	Electives		n/a	In the areas of ancient, cultural, human and physical anthropology, and archaeology

Anthropology

Physical or Biological Anthropology course is one of the common courses for the major requirements, as well as a TAG (pre-major) course. However, as discussed in the past with Anthropology TAG Review Panel members whose expertise is in this course area, one of the challenges for the receiving institution related to the application of TAG approved Physical or Biological Anthropology course is the fact that some of the same courses are also approved for either Ohio Transfer Module (OTM) Social Science or Natural Sciences. For instance, Columbus State Community College, The Ohio State University, Wright State University, Cuyahoga Community College, and University of Cincinnati offer a separate or embedded lab as part of their course. At The Ohio State University, their course applies as a pre-

⁶ OSU has it listed only under this category as a requirement to enter into to the major.



requisite for the major and Natural Science lab requirement in their General Education Requirements. A small number of institutions offer their courses as a social science type course.

For clarification purpose, the TAG course treats Physical Anthropology and Biological Anthropology as one choice, rather than separate course options.

<i>Economics</i>		<i>Most Common Courses</i>	<i>Two-Year Institutions</i>	<i>Four-Year Institutions</i>
Two-year Institutions 4 Four-year Institutions 10 1 minor	General Education	Math	Statistics: 75%	Statistics: 40% Calculus 1: 40%
		Arts & Humanities	Any Course: 50%	Any Course: 100%
		Social Sciences	Any Course: 50% Macroeconomics: 25% Microeconomics: 25%	Macroeconomics: 60% Microeconomics: 50% Any Course: 40%
		Natural Sciences	Any Course: 100%	Any Course: 100%
		Other Gen Ed	Digital Literacy Historical Study	Social & Personal Awareness Historical Perspectives Fine Arts Physical Education Diversity
	Core	Pre-Major Requirements	n/a	n/a
	Foreign Language	If applicable	Required: 50%	Required: 80%
	Major Courses		Principles of Microeconomics: 75% Principles of Macroeconomics: 75%	Intermediate Microeconomics: 100% Intermediate Macroeconomics 100% Econometrics 40%
Electives		Any econ course	Any econ course	

Economics

At certain four-year institutions, Economics program is housed under two colleges/schools: arts and sciences and business. Calculus I is required by Miami University’s business program through the Farmer School of Business. Most other four-year programs require a business calculus or a lower-level mathematics course. However, the particular findings in this study showed that a similar type of rigorous mathematics course is required as a common course for liberal arts economics programs. So the question is what is the main difference in the type of students majoring these programs, as well as the purpose/expected end goal of each program.

Another interesting finding is the lower percentage of application of micro- and macroeconomics courses to the General Education Requirement at the four-year institution even though advanced economics courses are required as common major courses. If all four-year programs are not requiring the two courses in the General Education area, the courses should at least appear in the major area as additional common courses. It is also difficult to tell from the research whether the courses are double-dipped to meet both General Education and major requirements.

Geography		Most Common Courses	Two-Year Institutions Geography - 2	Two-Year Institutions GIS - 4	Four-Year Institutions
Two-year Institutions 6 majors (4 GIS and 2 Geography) 1 certificate Four-year Institutions 11	General Education	Math	Statistics or College Algebra: 50% Any Course: 50%	Statistics: 75%	Any Course: 55% Statistics: 27%
		Arts & Humanities	Any Course: 100%	Any Course: 100%	Any Course: 100%
		Social Sciences	Human Geography: 100%	Human Geography: 25% Government: 25%	Any Course: 64% Human Geography: 18%
		Natural Sciences	Any Course: 50% Geology: 50%	Any Course: 75%	Any Course: 82% Physical Geography: 9% General Chemistry (BS): 9%
		Other Gen Ed	Computer Skills	Computer Concepts Student Success Seminar	Cultural Diversity Health & Wellness Historical Perspectives Social & Personal Awareness
	Core	Pre-Major Requirements	n/a	n/a	Only required for OSU for BS degree
	Foreign Language	If applicable	Required: 50%	n/a	Required: 64%
	Major Courses		Any Geography course: 50% Cartography: 50% Physical Geography: 50% World Geography: 50%	GIS Programming: 75% Remote Sensing: 75% Georeferencing: 50% Mapping: 50% Data Mngmnt: 75%	Physical Geography: 27% Human Geography: 36% World Regional Geography: 55% Maps/Cartography: 55%
Electives		n/a	Technical electives	In the areas of Geography of Asia, Europe, Ohio, or Africa, Climate, Urban Geography, Remote Sensing	

Geography

Physical Geography course is not only a TAG course, but also an OTM Social Science or Natural Sciences approved course at some institutions. It is unclear whether this course is even required for Geography four-year majors because the percentage of institutions commonly requiring this course is not evident in the General Education or major course list in the research.

<i>Political Science</i>		<i>Most Common Courses</i>	Two-Year Institutions	Four-Year Institutions
Two-year Institutions 4 Four-year Institutions 13	General Education	Math	Any Course: 100%	Any Course: 62% Statistics: 23%
		Arts & Humanities	Any Course: 100%	Any Course: 100%
		Social Sciences	American Government: 50%	Any Course: 54% American Government: 23% Micro or Macro Econ: 15%
		Natural Sciences	Any Course: 100%	Any Course: 100%
		Other Gen Ed	Multicultural Historical Study	Social & Personal Awareness Historical Perspectives Diversity Physical Education/Wellness
	Core	Pre-Major Requirements	None: 100%	OSU requires choosing one from several offered intro political science courses
	Foreign Language	If applicable	None: 100%	Required: 85%
	Major Courses		State Government: 50% International Relations: 25% Choose any GOV course from A&S electives: 25%	American Government: 77% Comparative Government: 69% International Relations: 62%
Electives		General Electives to reach hours needed for AA degree	Areas of comparative politics, political thought, international relations, public policy	

Political Science

Even though State and Local Government is a required TAG course, it is not evident in many of the programs. This finding undermines the purpose of the TAG compliance on four-year programs.

Commonly, three of the TAG courses are also OTM Social Science approved courses. Therefore, based on the research conducted, one would expect that comparative government and international relations would be commonly required in either major or General Education area. However, they are only commonly required for majors, but not at 100%. Then, it raises the question of whether these two courses are required of political science majors.

Psychology		Most Common Courses	Two-Year Institutions	Four-Year Institutions
Two-year Institutions 7 Four-year Institutions 13	General Education	Math	Statistics: 57% Any Course: 43%	Any Course: 54% Statistics: 31% None shown: 8%
		Arts & Humanities	Any Course: 71%	Any Course: 100%
		Social Sciences	Intro to Psych: 86%	Any Course: 62% Intro to Psych: 38%
		Natural Sciences	Any Course: 43% Intro to Bio: 43%	Any Course: 100%
		Other Gen Ed	Computer Skills Diversity	Social & Personal Awareness Global Traditions Diversity Historical Perspectives Physical Education/Wellness
	Core	Pre-Major Requirements	n/a	n/a
	Foreign Language	If applicable	n/a	Required: 62%
	Major Courses		Social Psychology: 71% Abnormal Psychology: 71% A developmental psych course: 86% Personality: 29%	Research Methods: 85% Intro to Psych: 54% Abnormal Psych: 46% Abnormal Psych as one of many options: 31% Social Psych: 38% A developmental psych course: 46% Personality as one of many options: 46% Personality: 8%
Electives		In the areas of: Psychology, Criminology, Personal electives	In the areas of: Introductory Psychology & Foundations, Statistics & Research, Design/Analyses, Biopsychology, Cognitive, Developmental, Individual, Social/Personality, Perception, Neuroscience	

Psychology

Introduction to Psychology is a pre-requisite course for all other psychology TAG courses. Therefore, one would expect to see 100% commonality of this course required in the General Education requirement for both two- and four-year programs. This raises the question on whether institutions are implementing the TAG approved courses based on the panel’s expected rigor. The TAG compliance expectation for Psychology is that each four-year program in Psychology would require four foundation courses in introduction to psychology, abnormal psychology, personality, and social psychology, as well as at least one of the developmental psychology courses (psychology electives).



At the majority of the two-year institutions, Psychology TAG courses are also OTM Social Science approved courses. In a few cases, Educational Psychology course, even though this is an Education TAG course, is mixed in with other psychology courses at the two-year level.



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Social Work		Most Common Courses	Two-Year Institutions Social Work - 7	Two-Year Institutions Human/Social Services - 11	Four-Year Institutions
Two-year Institutions 18 majors (11 Human and Social Services, 7 Social Work), 2 certificates (not included in count) Four-year Institutions 11 majors 1 minor (not included in count)	General Education	Math	Statistics: 57% Any Course: 29%	Statistics: 55%	Any Course: 45% College Algebra: 18% Statistics: 18% QR: 18%
		Arts & Humanities	Any Course: 87%	Any Course: 36% None: 36%	Any Course: 82% Critical Thinking: 18%
		Social Sciences	Intro to Psych: 100% Intro to Sociology: 100%	Intro to Sociology: 91% Intro to Psych: 91%	Sociology: 73% Psychology: 55% Any Course: 27% American Government: 27%
		Natural Sciences	Intro to Bio: 71%	None: 45% Human Biology: 36%	Any course: 45% Human Biology: 18% Intro to Bio: 18%
	Other Gen Ed	Digital Literacy/Intro to Computers Cultural Diversity Interviewing Skills	Cultural Diversity Student Success Computer Applications Interviewing Techniques	Cultural Diversity Social Diversity International Perspective Computer Skills Physical Education Social & Personal Awareness	
	Core	Pre-Major Requirements	n/a	n/a	Intro to Social Work: 45% ⁷ Social Welfare: 36% ⁸ Intro to Psych: 36% ⁹ Intro to Sociology: 18% ¹⁰
	Foreign Language	If applicable	Required: 29%	n/a	Required: 55%
Major Courses		Intro to Social Work: 100% Social Welfare:	Intro to Social Work: 73% Addiction/Chem: Dependency: 73%	Human Behavior: 73% Social Welfare: 64%	

⁷ Cleveland State, OU, UA, OSU, YSU has it listed only under this category as a requirement to enter into to the major.

⁸ OSU has it additionally listed under the Social Sciences category but must be completed before entering into the major. OU, UA, YSU only has it listed under this category as a requirement to enter into the major.

⁹ OSU, OU, YSU has it additionally listed under the Social Sciences category but must be completed before entering into the major. UA has it listed only under this category as a requirement to enter into the major

¹⁰ UA, YSU has it additionally listed under the Social Sciences category but must be completed before entering into the major.



			86%	Social Welfare: 64% Abnormal Psych: 64% Developmental Psych: 55%	Social Policy: 55% Intro to Social Work: 45%
	Electives		None Advised	In the areas of: Human Services	In the areas of: Psychology, Mental Health, Research, Urban Affairs, Sociology

Social Work

Social Work TAG lists Introduction to Psychology and Introduction to Sociology as required OTM Social Science courses. However, it is uncertain from the research that it is 100% commonly required. It will be important to take into account the way these two courses are listed under Social Science General Education and Core/Pre-Major requirements to assess the degree/importance of the courses in this degree program.

Depending on where Social Work is housed at each institution, the requirements may be a bit different (human services vs. stand-alone social work vs. social and behavioral sciences).

Sociology		Most Common Courses	Two-Year Institutions	Four-Year Institutions
Two-year Institutions 5	General Education	Math	Any Course: 60% Statistics: 40%	Any Course: 69% Statistics: 15%
		Arts & Humanities	Any Course: 100%	Any Course: 85%
Social Sciences		Intro to Sociology: 60%	Any Course: 62% Intro to Sociology: 23%	
Natural Sciences		Any Course: 80%	Any Course: 92% Human Ecology: 8%	
Other Gen Ed		Historical Study Computer Literacy	International Perspective Cultural Diversity in the US Social Diversity Ethics Physical Education Historical Perspectives Fine Arts Social & Personal Awareness	
Four-year Institutions 13	Core	Pre-Major Requirements	n/a	Intro to Sociology: 8% ¹¹ None: 12
	Foreign Language	If applicable	n/a	Required: 77%
	Major Courses		Marriage and the Family: 80% Social Problems: 80% Intro to Aging: 40% Death and Dying: 40%	Sociological Theory: 92% Research Methods: 92% Intro to Sociology: 54% Social Stratification: 23% Social Statistics: 46% Race and Ethnicity (one of many options): 38% Family (one of many options): 31%
	Electives		In the areas of: Sociology, Gerontology	In the Areas of: Markets & Management, Health, Society, Identities & Inequalities, Social Problems & Services, Deviance

Sociology

Whether or not the Introduction to Sociology is a pre-req to any other sociology courses, based on the previous discussion with Sociology TAG Review Panel members, the introduction course is still a foundation course for Sociology majors. However, only a fraction of two- and four-year programs require it as a Social Science General Education course. On the four-year program side, about half of the programs use it as one of the major courses. Sociology TAG lists the introduction course to be used as

¹¹ OSU only has it listed under this category as a pre-requisite to declaring the major. However, it does not specifically state if it cannot be used as a Social Sciences requirement.

an OTM Social Science course. On the two-year program side, Death and Dying is listed as a common course. Two two-year institutions and one four-year institution have a course like this approved for the OTM Social Science (Cuyahoga, Lorain, and The University of Akron). However, this course is not a commonly required/offered course and does not appear under the four-year program side. It would be worth investigating further how this and Introduction to Aging courses are accepted and applied at the four-year institution.

Conclusions

Current State

The conclusion of this research found that there is little consensus across majors within the cluster outside of the general education area. For the institutions that allowed for greater flexibility for courses a student can choose from will likely have an easier time having students taking a prescribed pathway. Liberal arts based majors tend to have less prescribed course-by-course curriculum, so students have more choices to meet their general education course requirements.

Social Work, Sociology, and Psychology have the most general education courses in common and even have some overlap with electives and major courses. As found during the Gateway Mathematics Courses research, majors in the Social Sciences discipline area favor Statistics as the math general education course of choice. For the social science general education course, these three majors usually require Introduction to Psychology and Introduction to Sociology. In Social Work, for some institutions, they require Psychology courses like Abnormal or Social Psychology.

Issues Found during the Counting Process

There was difficulty in counting common courses for Sociology and Psychology due to the many choices students can choose from in several areas. An example of this in Psychology is that a student may choose among courses in different areas like Clinical, Social/Developmental, Physiological, and so on. With such a variety of choice, determining commonalities is difficult since no course is necessarily required. Another issue with this is TAG compliance. A student at an institution may not be required to take all of the TAG courses within a certain TAG because they are given the choice between several choices.

Example:

- Student may choose one course amongst the following group: Social Psychology, Psychology of Personality, and so forth with institution-specific course choices.
 - In the TAG document, the Social Psychology and Psychology of Personality are TAG courses, but a student may take different courses since they are given that choice.

This research also showed how some institutions do not require or offer TAG courses within the equivalent major program.

Future State

In order to create coherent, uniform pathways, two- and four-year institutions would need to further discuss what type of courses may be most appropriate for a certain major.

Limitations

The ambiguity of the information found could lead to skewed percentages in the research.

Further Considerations

The Use of This Research

This research is meant as a guide for institutional faculty and the Ohio Department of Higher Education to use in further discussing and creating clear pathways in a cluster.



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	Anthropology	Economics	Geography	Political Science	Psychology	Social Work	Sociology
Math	Any Course	Statistics	Statistics	Any Course	Statistics	Statistics	Statistics
AH	Any Course	Any Course	Any Course	Any Course	Any Course	Any Course	Any Course
SS	Intro to Archaeology Cultural Anthropology	Microeconomics Macroeconomics	Human Geography	American Government	Intro to Psychology	Intro to Sociology Intro to Psychology	Intro to Sociology
NS	Human Evolution	Any Course	Geography	Any Course	Any Course	Human Biology Intro to Biology	Any Course
Pre-Major	None	None	None	None	None	Only at four-year institutions	None
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Major Courses	Cultural Anthropology Intro to Archaeology Archaeological Theory & Methods Biological Anthropology Human Evolution	<u>(Only at four-year institutions)</u> Intermediate Microeconomics Intermediate Macroeconomics Econometrics	World Regional Geography Physical Geography Human Geography	International Relations <u>No consensus otherwise between two- and four-year institutions</u>	Social Psychology Abnormal Psychology A choice of developmental psych course	Intro to Social Work Social Welfare	<u>There are major differences between two- and four-year institutions. The courses that two-years require and generally elective courses for four-years. Four-years require more sociological research, statistics, and theory courses</u>
Technical Electives	In the areas of ancient, cultural, human and physical anthropology, and archaeology	Any econ course	In the areas of Geography of Asia, Europe, Ohio, Russia or Africa, Climate, Urban Geography, Remote Sensing	In the areas of Comparative Politics, Political Thought, International Relations, Public Policy	In the areas of Psych Foundations, Statistics & Research, Design/Analyses , Biopsychology, Developmental, Social, Individual, Personality, Neuroscience, Perception & Cognition	In the areas of Psychology, Mental Health, Research, Urban Affairs, Sociology	In the Areas of Markets & Management, Health, Society, Identities & Inequalities, Social Problems & Services, Deviance
General	General Electives typically range from 12-21 hours but as high as 44 hours.						