

Assessing the Political Science Curriculum in Post-soviet Era: A Case of Ukraine

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ABSTRACT

The study compares undergraduate political science curricula and their underlying structure in the top-ranked political science departments of United States of America, Europe and Ukraine. We identify the fundamental courses usually included in an undergraduate Political Science major by means of cluster analysis. We further distinguish between those courses which are required and those which are usually offered as electives. We find striking difference between the USA, Europe, and Ukraine, especially regarding the nature and number of the main electives offered. According to the comparative results of our work we offer a number of essential courses to be included in the undergraduate political science curricula. The insights from this comparative study could be especially useful for the ongoing restructuring of undergraduate Political Science majors in Ukrainian universities that are required to make some program modifications consistent with the Bologna Process.

Key words: Undergraduate Political Science Major, Bologna Process, Cluster Analysis, Ukraine, United States of America, Europe.

INTRODUCTION

The study compares political science department undergraduate curricula in the United States of America, Europe and Ukraine. It also identifies the main courses that are usually included in an undergraduate Political Science major.

The insights from this comparative study could be especially useful for the ongoing restructuring of undergraduate Political Science majors in Ukrainian universities. Ukrainian universities are required to make some program modifications consistent with the Bologna Process. The results of the research will be sent to the political science departments of Ukraine and submitted for publication to Political Management, one of the respected political science journals in Ukraine.

The Bologna Process results from the intention of creating a single European Higher Education Area, mentioned in the Sorbonne Declaration signed in 1998 and reinforced in the Bologna Declaration, signed in 1999 by twenty-nine European ministers of Education. Since then, the number of signatory countries has increased to forty-five so it is clearly not restricted to European Union borders. The Bologna Process (1999) has been through several changes since it began. Modifications were made at meetings in Prague (2001), Berlin (2003) and Bergen (2005) as analyzed in some studies (Wächter 2004). This Process has several important implications potentially affecting student exchange programs, comparability of degrees between countries, and financing of higher education systems. It even has national implications because ministers responsible for higher education must give up part of their autonomy by accommodating an international treaty as documented by C.Tauch (2004), J.Huisman and M.Wende (2004).

Concerns for financing and institutional reform are well reflected in studies, most recently by Jacobs and Ploeg (2005). Several studies have been published reporting the measures taken to adapt national higher education systems to the Bologna Process in, for example, France (Malan 2004), Austria (Pechar and Pellert 2004), Flanders and the Netherlands (Dittrich et al. 2004), and Ukraine (Tovazhnianski et al. 2004).

In our study we aim primarily to provide information that is important for the reform of Political Science education, especially in Ukraine. We choose to focus on the specific topic of undergraduate Political Science majors' study plan, comparing the leading Political Science institutions in Ukraine, Europe and in the United States. No study that we know of compares the majors between these regions.

This article is divided into five sections. The second section describes the methodology we used. The third section presents a comparison between the political science major in Ukraine, USA, and Europe in terms of length and structure. The fourth section presents the results of cluster analysis to infer some similarities and differences between three regions. The fifth section concludes.

METHODOLOGY

Our study's goal is twofold. First, we aim to identify the main courses that should be included in an undergraduate Political Science major. Second, we compare Ukraine with Europe and the United States of America in this respect. To meet these goals we choose a benchmarking approach, instead of drawing random samples from the existing universities in these three regions. More than a description of a random sample of Political Science majors we wanted to investigate course structure in the leading and most prestigious institutions, so that our results could provide guidelines for the undergoing restructuring process in Ukraine. Therefore, we established quality criterion for selecting the institutions that will provide the basis for our analysis. As far as our knowledge goes, there is no accepted worldwide comparative assessment of teaching quality that would allow us to rank universities, forcing us to consider alternative criteria. University rankings are commonly based on the publication volume and on the impact of their faculty's research in peer-reviewed scientific journals. These are usually accepted as good proxies for assessing and ranking the teaching quality of these institutions. We use a ranking of political science departments instead of a general ranking of universities due to the specific nature of our study. We follow the Political Science departments' ranking by Hix (2004), which is one of the most recent rankings in the world, to choose the top ten universities in Europe and in the US. The ranking is constructed based on the quantity and impact of articles published in the 63 political science journals. To choose the top ten Ukrainian universities we follow Holovaty et al. (2005), since none of the universities is listed in the world ranking. It is the only officially recognized Ukrainian national ranking which is based on the index of indicators: popularity of a university, teaching quality, resources, prestige of the diploma among employers, etc.

After selecting the ten highest ranking universities in each region, we analyzed the study plans of their undergraduate Political Science majors for the school year of 2006-07. The data for the US and Europe was collected through the degree description in university websites and for Ukraine - through making personal requests. A typology of 139 courses was created to accommodate all possible choices given to the students. Special attention was given to sub-fields of Political Science, which were disaggregated into 83 possible types. We wanted to be as exhaustive as possible regarding courses in Political Science. Related scientific fields were given a lower level of disaggregation: social sciences with 10 types, humanities with 11 types, law with 9 types, quantitative methods with 7 types, management and economics both with four types, marketing, education and languages all with two types, and skills with one type. All other possibilities were accounted for in a more aggregate manner with single classes for computer science, natural sciences, environmental studies and physical education.

For each of the regions we collected information on three key dimensions: the existence of the course, its required or optional nature and the number of semesters required. From the data collected, we constructed three variables for each region: average percentage of universities which offer the course, average percentage of universities which require the course, average number of required semesters for required courses considering all universities. These variables were used for a cluster analysis, where courses were grouped into homogeneous classes according to the data to ascertain which essential courses constitute a contemporary Political Science major. We apply

hierarchical aggregation procedures based on the Euclidean distance between groups. Using SPSS, we perform not only a global cluster analysis, but also partial cluster analysis for each region and each dimension to fully explore the differences between them.

UNDERGRADUATE POLITICAL SCIENCE MAJORS IN THE USA, EUROPE, AND UKRAINE

The research finds differences in the structure of the undergraduate Political Science majors in Ukraine, Europe and the USA. It is important, however, to stress a significant difference between regions in the structure of higher education degrees. In the USA, a bachelor degree has three components: the university or college requirements, the major and the minor. University/college requirements usually consist of courses that have the objective of broadening the students' knowledge on other fields of study besides the one they will be majoring in. Such requirements commonly include writing courses, foreign language courses, courses intended to increase their knowledge of American society, culture or institutions, and courses which endow them with a liberal education on such different fields as arts, literature and humanities, natural and physical sciences and quantitative methods. University requirements typically take at least one year to fulfill. The major is the field of study they choose to specialize in. The largest part of a students' time is spent fulfilling the major requirements. Finally, the minor is a set of at least six courses on a different field. European degrees are generally more focused on the subject field of specialization the students choose at the beginning and, although they may include courses from other fields, their structure is not divided as in the USA. The structure of Ukrainian undergraduate degree consists of four cycles. The first cycle combines courses in humanities, social science, and economics and represents a required state standard for all undergraduate degrees. The second cycle corresponds to fundamental courses. The third cycle includes professionally oriented disciplines, and the fourth cycle consists of electives. The largest part of student's work is spent fulfilling the first three cycles which are required courses. Usually the number of electives is not more than three courses during the whole four-year program.

The length of North American degrees is usually four years. Fulfilling the major requirements take up to three years. In Europe, if we consider the current forty-five signatory countries of the Bologna Process, only 44% of them have three-year degrees. However, if we consider only the original signatory countries of the Bologna Declaration in 1999, the number rises to 62%. If we further restrict our analysis to the twenty top-ranked European institutions the proportion increases to 67%. Following the Bologna recommendations of comparability some European countries, like Belgium and Portugal, have already decided to shorten their Political Science degrees to three years. The length of Ukrainian degrees is four years. Usually students are not able independently to shorten their program of studies because of its obligatory nature. Therefore, we believe it is more sensible to compare the Ukrainian degree with European degrees and with the North-American major.

CLUSTER ANALYSIS

In the following section we ran a global cluster analysis for the complete data set as well as partial cluster analyses for each region and each dimension considered (requirement and offering levels and requirement length). The variables used for each region are: average percentage of universities which offer the course, average percentage of universities which require the course and average number of required semesters in the universities which require the course.

GLOBAL CLUSTER ANALYSIS

The distance coefficients between the clusters created point to an optimal number of four clusters, because we find the biggest increase in the distance coefficients, both in difference and in proportion, between two and four clusters.

The cluster procedure returns four different groups of observations (courses) both in number and in their characteristics. The seven following courses given by clusters 2,3 and 4 can be grouped together since they have the closest means: Political Thought, Intro to Political Science, Intro to Research Methods, Thesis, Comparative Politics, Theory of International Relations, Political Theory, and Term Paper. We call these the *core courses*, because these are the essential courses in any undergraduate Political Science major, representing the basic sub-fields of political science (Political Thought, Intro to Political Science, Comparative Politics, Theory of International Relations, Political Theory), instrumental quantitative methods courses (Intro to Research Methods, and academic writing component (Thesis and Term Paper).

All the other remaining one hundred and thirty one courses are left in cluster 1. Table 1 presents the basic descriptive statistics for these four clusters.

Table 1

Descriptive statistics for the global cluster analysis

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Ukraine	1	131	.3832	.34711	.03033	.3232	.4432	.00	1.00
	2	4	.7750	.33040	.16520	.2493	1.3007	.30	1.00
	3	3	.8667	.11547	.06667	.5798	1.1535	.80	1.00
	4	1	1.0000	.	.	.	.	1.00	1.00
	Total	139	.4094	.35730	.03031	.3494	.4693	.00	1.00
USA	1	131	.3405	.27646	.02415	.2927	.3882	.00	1.00
	2	4	.3500	.44347	.22174	-.3557	1.0557	.00	1.00
	3	3	.7667	.11547	.06667	.4798	1.0535	.70	.90
	4	1	.5000	.	.	.	.	.50	.50
	Total	139	.3511	.28370	.02406	.3035	.3987	.00	1.00
Europe	1	131	.1092	.11861	.01036	.0887	.1297	.00	.50
	2	4	.6000	.11547	.05774	.4163	.7837	.50	.70
	3	3	.6000	.17321	.10000	.1697	1.0303	.40	.70
	4	1	.4000	.	.	.	.	.40	.40
	Total	139	.1360	.16152	.01370	.1089	.1631	.00	.70
UKR_req	1	131	.3359	.34015	.02972	.2771	.3947	.00	1.00
	2	4	.7750	.33040	.16520	.2493	1.3007	.30	1.00
	3	3	.8667	.11547	.06667	.5798	1.1535	.80	1.00
	4	1	10.0000	.	.	.	.	10.00	10.00

	Tota 1	139	.4295	.88951	.07545	.2803	.5787	.00	10.00
USA_req	1	131	.0565	.15347	.01341	.0300	.0830	.00	.80
	2	4	.0250	.05000	.02500	-.0546	.1046	.00	.10
	3	3	.9000	.10000	.05774	.6516	1.1484	.80	1.00
	4	1	.2000	.	.	.	.	.20	.20
	Tota 1	139	.0748	.19415	.01647	.0423	.1074	.00	1.00
EUR_req	1	131	.0282	.06358	.00555	.0173	.0392	.00	.30
	2	4	.5250	.09574	.04787	.3727	.6773	.40	.60
	3	3	.5333	.11547	.06667	.2465	.8202	.40	.60
	4	1	.2000	.	.	.	.	.20	.20
	Tota 1	139	.0547	.12810	.01087	.0332	.0762	.00	.60
UKR_sem	1	131	.0733	.17533	.01532	.0430	.1036	.00	1.00
	2	4	.3250	.40311	.20156	-.3164	.9664	.00	.90
	3	3	.4333	.28868	.16667	-.2838	1.1504	.10	.60
	4	1	.0000	.	.	.	.	.00	.00
	Tota 1	139	.0878	.19540	.01657	.0550	.1205	.00	1.00
USA_sem	1	131	.0328	.13384	.01169	.0097	.0560	.00	.80
	2	4	.0250	.05000	.02500	-.0546	.1046	.00	.10
	3	3	.9000	.10000	.05774	.6516	1.1484	.80	1.00
	4	1	.0000	.	.	.	.	.00	.00
	Tota 1	139	.0511	.18192	.01543	.0206	.0816	.00	1.00
EUR_sem	1	131	.0084	.03048	.00266	.0031	.0137	.00	.20
	2	4	.3750	.09574	.04787	.2227	.5273	.30	.50
	3	3	.5333	.11547	.06667	.2465	.8202	.40	.60
	4	1	.1000	.	.	.	.	.10	.10
	Tota 1	139	.0309	.10345	.00877	.0136	.0483	.00	.60

COMPARISON OF UKRAINE, EUROPE AND THE USA

In the next three sections we perform separate cluster analyzes for Ukraine, Europe and the USA.

This will enable us to identify the specificities of each region. The analysis of the distance coefficients for Ukraine points to an optimal number of three clusters, instead of the four groups indicated by the global clustering. For Europe and the USA the optimal number of clusters is two.

CLUSTER ANALYSIS FOR UKRAINE

An optimal number of three clusters was considered regarding a big increase in the distance coefficients between two and three clusters.

The cluster procedure returned four different groups of observations (courses) both in number and in their characteristics. A Term paper course stands out alone in cluster 1 because all Ukrainian universities require it. Cluster 2 includes thirteen courses where are only three *core courses*: Political Thought, Political Theory, and Comparative Politics. Other ten courses are three political science sub-fields: National Political Thought, Ethnopolitics, Theory of State and Law, and state requirement: Intro to Economic Theory, National History, Philosophy, Foreign Language, National Language, Physical Training, and Sociology.

Cluster 2 clearly has higher average percentages of universities offering the courses or requiring them and a higher average number of required semesters for the required courses (Table 2).

Table 2
Descriptive statistics for the partial cluster analysis for Europe

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Ukraine	1	125	.3504	.32593	.02915	.2927	.4081	.00	1.00
	2	13	.9308	.10316	.02861	.8684	.9931	.70	1.00
	3	1	1.0000	.	.	.	.	1.00	1.00
	Total	139	.4094	.35730	.03031	.3494	.4693	.00	1.00
UKR_req	1	125	.3008	.31276	.02797	.2454	.3562	.00	1.00
	2	13	.9308	.10316	.02861	.8684	.9931	.70	1.00
	3	1	10.0000	.	.	.	.	10.00	10.00
	Total	139	.4295	.88951	.07545	.2803	.5787	.00	10.00
UKR_sem	1	125	.0328	.06572	.00588	.0212	.0444	.00	.40
	2	13	.6231	.22787	.06320	.4854	.7608	.30	1.00
	3	1	.0000	.	.	.	.	.00	.00
	Total	139	.0878	.19540	.01657	.0550	.1205	.00	1.00

CLUSTER ANALYSIS FOR EUROPE

If we cluster the courses up to two groups in the data for Europe we get a group with seven observations (cluster 2) and another with the remaining one hundred and thirty two (cluster 1).

The seven courses in cluster 2 are the seven *core courses*: Political Thought, Intro to Political Science, Intro to Research Methods, Thesis, Comparative Politics, Theory of International Relations, Political Theory, excluding Term Paper course.

Cluster 2 clearly has higher average percentages of universities offering the courses or requiring them and a higher average number of required semesters for the required courses (Table 3).

Table 3
Descriptive statistics for the partial cluster analysis for Europe

Group Statistics

		Average Linkage (Between Groups)	N	Mean	Std. Deviation	Std. Error Mean
Europe	1		132	.1114	.12084	.01052
	2		7	.6000	.12910	.04880
EUR_req	1		132	.0295	.06508	.00566
	2		7	.5286	.09512	.03595
EUR_sem	1		132	.0091	.03139	.00273
	2		7	.4429	.12724	.04809

CLUSTER ANALYSIS FOR USA

When we cluster the courses up to two groups in the USA data we get different groups obtained for the global analysis. Here the cluster 2 is represented with the four *core courses*: Comparative Politics, Theories of International Relations, Research Methods, Political Theory and

additional five courses: new political science sub-field - American Politics, Foreign Language requirement, Academic Writing requirement, Humanities and Social Science requirement. The remaining courses are in cluster 1. The descriptive statistics for these two groups is presented in Table 4.

Table 4
Descriptive statistics for the partial cluster analysis for the USA

	Average Linkage (Between Groups)	N	Mean	Std. Deviation	Std. Error Mean
USA	1	130	.3215	.26413	.02317
	2	9	.7778	.21082	.07027
USA_req	1	130	.0300	.08226	.00722
	2	9	.7222	.19221	.06407
USA_sem	1	130	.0054	.02585	.00227
	2	9	.7111	.19003	.06334

Cluster 2 clearly has higher average percentages of universities offering the courses or requiring them and a higher average number of required semesters for the required courses.

CLUSTER ANALYSIS FOR THE OFFERED COURSES

After having delved into the regional differences, we now look into each dimension selected in our study. We start by performing and analyzing a partial cluster analysis for the offering level of the courses in three regions.

The results here are slightly different from the global cluster analysis. The optimal number of clusters to be formed is still four. We again can point out to the five core courses concentrated in cluster 3 (Political Thought, Comparative Politics, Political Theory, and Theory of International Relations) and separate two core courses (Intro to Political Science Intro to Research Methods) form cluster 4. Cluster 3 in addition includes courses in Humanities and Social Sciences. And cluster 1 (Computer Science and National Language/Academic Writing) stands out with the highest offering level in Ukraine and the USA.

Table 5
Descriptive statistics for the partial cluster analysis for offered courses

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Ukraine	1	2	1.0000	.00000	.00000	1.0000	1.0000	1.00	1.00
	2	128	.3633	.33317	.02945	.3050	.4216	.00	1.00
	3	7	.9429	.09759	.03689	.8526	1.0331	.80	1.00
	4	2	.9000	.14142	.10000	-.3706	2.1706	.80	1.00
	Total	139	.4094	.35730	.03031	.3494	.4693	.00	1.00
USA	1	2	1.0000	.00000	.00000	1.0000	1.0000	1.00	1.00
	2	128	.3188	.25340	.02240	.2744	.3631	.00	.90
	3	7	.8286	.19760	.07469	.6458	1.0113	.50	1.00
	4	2	.1000	.14142	.10000	-1.1706	1.3706	.00	.20

Europe	Total	139	.3511	.28370	.02406	.3035	.3987	.00	1.00
	1	2	.0500	.07071	.05000	-.5853	.6853	.00	.10
	2	128	.1102	.12221	.01080	.0888	.1315	.00	.50
	3	7	.4714	.17043	.06442	.3138	.6291	.30	.70
	4	2	.7000	.00000	.00000	.7000	.7000	.70	.70
	Total	139	.1360	.16152	.01370	.1089	.1631	.00	.70

As it can be seen from Table 5 clusters 1, 3 and 4 have higher offering levels in all regions - more than 90 percent. At the same time cluster 2 has also fairly high requirement level of 36 percent. Therefore, we considered splitting that group and obtained optimal seven clusters.

Table 8 identifies groups of those courses with a requirement level above 10% enabling us to look more closely into the data to explain the clustering obtained.

**Table 6
Offered courses**

Group 1 100% offered in Ukraine, 100% offered in USA, less 10% offered in Europe	
Computer Science	National Language/Academic Writing
Group 2 more than 95% offered in Ukraine, more 80% offered in USA, more 35 % offered in Europe	
1. Humanities 2. Political Thought 3. Term paper 4. Theory of International Relations 5. Social Sciences	
Group 3 90% offered in Ukraine, 80% offered in USA, 70% offered in Europe	
Comperative Politics	Political Theory
Group 4 90% offered in Ukraine, 70% offered in Europe, 10% offered in USA	
Intro to Political Science	Intro to Research Methods
Group 5 45% offered in USA, 35% offered in Europe, 25% offered in Ukraine	
1. International Economics 3. British Politics 5. European Integration Relations 7. Political Analysis 9. Regional/National Politics	2. World History 4. Democracy Theory 6. Intro to International 8. Political Economy 10. Public Policy

11. Thesis	12. Statistics
Group 6 60% offered in Ukraine, 10 % offered in USA, less than 10 % offered in Europe	
61 courses	
Group 7 50% offered in USA, no more than 10% offered in Europe and in Ukraine	
55 courses	

The main courses offered as electives in an undergraduate Political Science major deal with specific sub-fields of Political Science. This feature is more striking in the USA and in Ukraine than in Europe.

Obviously all the *core courses* appear in Table 5, especially in Group 2, 3 and 4. The other remaining courses highlight the differences between the two regions. In the USA and Ukraine, other important electives are mainly concerned either with a sub-field of Political Science, with the application of theory to specific regional politics, or with developing the students' competence to practice research, as the cluster analysis for both regions had previously shown. As for Europe, we find once again that Political Science majors tend to give greater importance to the core political science fields.

CLUSTER ANALYSIS FOR THE REQUIRED COURSES

In this section we perform and analyze a partial cluster analysis on the requirement nature of the courses in three regions. The result is relatively similar to the global cluster analysis. Four is the optimal number of clusters. The three *core courses* (Comparative Politics, Political Theory, Theory of International Relations) stand out in cluster 3, one course - in cluster 2 (Political Thought), and Term Paper presents alone cluster 4, while all other 128 courses are left in cluster 1.

As it can be seen from Table 7 clusters 2, 3 and 4 have higher requirement levels in all regions. However cluster 1 has also fairly high requirement level of 34 percent. Therefore, we considered splitting that group and obtained optimal six clusters.

Table 7
Descriptive statistics for the partial cluster analysis for required courses

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
UKR_req	1	128	.3289	.33886	.02995	.2696	.3882	.00	1.00
	2	7	.7143	.30237	.11429	.4346	.9939	.30	1.00

	3	3	.8667	.11547	.06667	.5798	1.1535	.80	1.00
	4	1	10.0000	.	.	.	.	10.00	10.00
	Tota l	139	.4295	.88951	.07545	.2803	.5787	.00	10.00
USA_req	1	128	.0531	.15366	.01358	.0262	.0800	.00	.80
	2	7	.1000	.10000	.03780	.0075	.1925	.00	.20
	3	3	.9000	.10000	.05774	.6516	1.1484	.80	1.00
	4	1	.2000	.	.	.	.	.20	.20
	Tota l	139	.0748	.19415	.01647	.0423	.1074	.00	1.00
EUR_req	1	128	.0227	.05207	.00460	.0135	.0318	.00	.20
	2	7	.4143	.15736	.05948	.2688	.5598	.20	.60
	3	3	.5333	.11547	.06667	.2465	.8202	.40	.60
	4	1	.2000	.	.	.	.	.20	.20
	Tota l	139	.0547	.12810	.01087	.0332	.0762	.00	.60

Table 8 identifies groups of those courses with a requirement level above 10% enabling us to look more closely into the data to explain the clustering obtained.

Table 8
Required courses

Group 1 100% required in Ukraine, 20% required in USA, 20% required in Europe
Term paper
Group 2 85% required in Ukraine, 90% required in USA, 53% required in Europe
Comparative Politics Political Theory Theory of International Relations
Group 3 90% required in Ukraine, 0% required in USA, 50% required in Europe
Political Thought Introduction to Political Science Introduction to Research methods
Group 4 55% required in Ukraine, 15% required in USA, 30% required in Europe
1. Comprehensive Exam 2. Public Administration 3. Public Policy 4. Thesis
Group 5 35% required in Ukraine, 55% required in USA, less than 10 % required in Europe

1. Cultural Studies	2. World History
3. Humanities	4. American Politics
5. Foreign Language	6. Natural Sciences
7. Social Sciences	8. Research Methods in PolScience
9. National Language/Academic Writing	10. Public Law
Group 6 none % required in Ukraine, in USA, and in Europe	
118 courses	

The *core courses* are required in the majority of the universities analyzed in either region. The majors in Ukraine are more rigid, with a greater number of required courses. In the USA and Europe we found that a requirement level is always lower, rendering the USA and Europe majors' structure quite flexible and with easily identifiable fundamental courses.

Clearly, there are differences in the course structure design in Ukraine, Europe and in the USA (Group 5). They are partially explained by the existence of university requirements in the Ukrainian and USA institutions, which are composed of wider scientific areas, like humanities, natural sciences or foreign/national languages. Group 4 presents a greater similarity between Ukraine and Europe emphasizing the importance these countries put on final students' work and on sub-fields of Public Policy and Public Administration. Also the highest requirement level of courses is in Ukraine, and the lowest in the USA.

CLUSTER ANALYSIS FOR THE NUMBER OF SEMESTERS OF THE REQUIRED COURSES

This section presents a partial cluster analysis on the number of semesters of the required courses in three regions. Four is still the optimal number of clusters. Two courses (Foreign Language and National Language/Academic Writing) out of general institutional requirements in the USA and Ukraine require more than one semester study by 75 percent of the universities in Ukraine and 55 percent - in the USA.

One *core course* (Political Thought) requires more than one semester study by 90 percent of the universities in Ukraine and 40 percent - in the Europe. In the USA this course is elective, therefore it was not considered in this cluster analysis.

Additionally, other three *core courses* (Comparative Politics, Political Theory, Theory of International Relations), with the highest requirement level according to the previous section, stand out in cluster 4.

Table 9
Descriptive statistics for the partial cluster analysis for number of semesters of the required courses

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
UKR_sem	1	133	.0639	.15093	.01309	.0380	.0898	.00	1.00
	2	2	.7500	.35355	.25000	-2.4266	3.9266	.50	1.00
	3	1	.9000	.	.	.	.	.90	.90
	4	3	.4333	.28868	.16667	-.2838	1.1504	.10	.60
	Tota l	139	.0878	.19540	.01657	.0550	.1205	.00	1.00
USA_sem	1	133	.0248	.11639	.01009	.0048	.0448	.00	.80
	2	2	.5500	.07071	.05000	-.0853	1.1853	.50	.60
	3	1	.0000	.	.	.	.	.00	.00
	4	3	.9000	.10000	.05774	.6516	1.1484	.80	1.00
	Tota l	139	.0511	.18192	.01543	.0206	.0816	.00	1.00
EUR_sem	1	133	.0173	.06338	.00550	.0064	.0282	.00	.50
	2	2	.0000	.00000	.00000	.0000	.0000	.00	.00
	3	1	.4000	.	.	.	.	.40	.40
	4	3	.5333	.11547	.06667	.2465	.8202	.40	.60
	Tota l	139	.0309	.10345	.00877	.0136	.0483	.00	.60

CONCLUSIONS AND RECOMMENDATIONS

The results of our benchmarking approach combined with cluster analysis clearly show the main courses included in the undergraduate Political Science majors of the top ranking institutions in Ukraine, Europe and in the USA. They further allow us to distinguish between those which are required and those which are usually offered as electives. The conventional major requirements consist of a set of courses which introduces students to the basic principles of political science and to political thought, and leads them to the intermediate levels of analysis in political science.

The global cluster analysis returned four different groups of observations (courses) both in number and in their characteristics. The eight following courses were presented in 3 clusters: Introduction to Political Science, Political Theory, Political Thought, Comparative Politics, Theories of International Relations, Introduction to Research Methods, Thesis, and Term Paper. We call these core courses because they are essential courses in any undergraduate political science major. However, the three clusters have differences on the offering level, requirement level, and on the number of semesters for the required courses than call for more than two semesters of study.

The cluster 2 comprises four courses: Political Thought, Introduction to Political Science, and Introduction to Research Methods. It is characterized by much higher average percentage of universities which offer or require their courses and much higher average number of required semesters. However, the USA has the lowest level of requiring these courses.

The cluster 3 includes three courses: Comparative Politics, Political Theory, and Theory of International Relations. by much higher average percentage of universities which offer or require their courses and much higher average number of required semesters. It is also characterized by much higher average percentage of universities which offer or require their courses and much higher average number of required semesters.

The cluster 4 has only one Term Paper course which is characterized by high average percentage of universities which offer it, but lower level of universities that require it and very low level of universities that require more than one semester to finish the course.

All other 131 remaining courses were grouped in cluster 1. They represent a great variety of political science sub-fields and interdisciplinary courses.

The outstanding difference in the number of required courses was found between Ukraine on one hand and the United States and Europe on the other hand. Less than 35 percent of courses in Ukraine are not required to be taken by students in order to fulfill the requirements of the political science major, whereas students in two other regions are given greater flexibility in course selection. The only exception is National University "Kyiv Mohyla Academy" where the required courses compose only 68 percent of the baccalaureate program.

We also find striking difference between the three regions in the nature of the main electives offered. While in the USA we typically find political sub-fields oriented toward regional and international political issues, in Europe the institutions give greater importance to political theory concepts, national political issues and academic papers. In Ukraine we observed that a greater attention is given to interdisciplinary courses like political psychology, political management, political marketing, and political sociology.

To make the undergraduate Political Science programs in Ukraine more competitive and effective, the following recommendation can be made based on the results of the study:

1. To reduce the number of courses required to fulfill in a 4 year cycle. At present, Political Science students must complete on average from 54 to 60 courses in four years.
2. To reduce the number of required courses and offer them as electives. This means increase in the number of elective courses.
3. To include in the Political Science programs more courses in the sub-fields of International Relations, Security, Public Administration, Regional Politics, and Research Methods for Political Science.

To summarize, we want to point out that the study identified similarities and differences in political science undergraduate curricula in the United States of America, Europe and Ukraine. And the results obtained from this study could be very useful for the ongoing restructuring of undergraduate Political Science majors in Ukrainian universities.

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APPENDIX I

Table A 1

Selected Universities in the USA, Europe, and in Ukraine

	Ukraine Ranking Position	Europe Ranking Position¹	USA Ranking Position	World Ranking Position
Columbia University	-	-	1	1
Harvard University	-	-	2	2
Stanford University	-	-	3	3
Ohio State University	-	-	4	4
University of California, San Diego	-	-	5	6
University of California, Irvine	-	-	6	7
Indiana University	-	-	7	8
Princeton University	-	-	8	9
Yale University	-	-	9	10
University of California, Berkeley	-	-	10	11
London School of Economics (UK)	-	2	-	15
University of Essex (UK)	-	3	-	16
University of Oxford (UK)	-	4	-	19
University of Birmingham (UK)	-	5	-	22
University of Cambridge (UK)	-	6	-	23
Geneva (Switzerland)	-	12	-	43
Oslo University (Norway)	-	14	-	52
Leiden (Netherlands)	-	15	-	55
Mannheim (Germany)	-	19	-	74
Aarhus (Denmark)	-	21	-	78
Kyiv National University named after T. Shevchenko	1	-	-	-
National University "Kyiv Mohyla Academy"	2	-	-	-
Lviv National University named after I. Franko	3(4) ²	-	-	-
Interregional Academy of Human Resource Management	4(6)	-	-	-
National Pedagogical University named after M. Dragomanov	6(11)	-	-	-
Kharkiv National University named after V. Karazin	8(15)	-	-	-
Tavria National University named after V. Vernadsky	9(17)	-	-	-
Zaporizhia National University	10(-)	-	-	-
Chernivtsi National University	11(-)	-	-	-
Open International University of Human Development "Ukraine"	12(-)	-	-	-

Table A 2

List of scientific fields and courses

Scientific Area	Course
Computre Science	Computer Science
Economics	Econometrics
Economics	International Economics/World Economy
Economics	Introduction to Economic Theory
Economics	Macroeconomics
Education	Pedagogy
Education	Teaching Political Science
Environmental Studies	Environmental Studies
Humanities	Cultural Studies
Humanities	Ethics & Aesthetics
Humanities	Humanities
Humanities	Logics
Humanities	National History
Humanities	Philosophy
Humanities	Religious Studies
Humanities	Rethoric
Humanities	World History
Humanities	World Political History
Humanities	History of Philosophy
Languages	Foreign Languages
Languages	National Language/Writing
Law	Comparative Constitutional law
Law	Legal Systems
Law	European Law
Law	International Human Rights Law
Law	International Private Law
Law	International Public Law
Law	Law
Law	National Constitutional Law
Law	Public Law
Management	Human Resourse Management
Management	Intro to Social Management
Management	Management
Management	Political Management
Marketing	Marketing
Marketing	Political Marketing
Natural Sciences	Natural Sciences
Physical Education	Physical Training
Political Science	National Political Thought
Political Science	Political Thought
Political Science	African Politics
Political Science	American Politics
Political Science	Analysis, Forecast and Decision-making
Political Science	Applied Political Science
Political Science	British Politics
Political Science	Chinese Politics
Political Science	Civil Society
Political Science	Civil Wars
Political Science	Comparative Foreign Policy

Political Science	Comparative Politics
Political Science	Comprehensive Exam
Political Science	Conflict Studies
Political Science	Crime & Punishment
Political Science	Democracy Theory
Political Science	Development Studies
Political Science	East-Asia Studies
Political Science	Electoral Systems and Elections
Political Science	Ethnopolitics
Political Science	European Studies
Political Science	Gender and Politics
Political Science	Geopolitics
Political Science	Globalization
Political Science	Government
Political Science	European Integration
Political Science	International Organizations
Political Science	International Security
Political Science	Intro to International Relations
Political Science	Intro to Political Science
Political Science	Intro to Public Policy Analysis
Political Science	Islam and Politics
Political Science	Japanese Politics
Political Science	Korean Politics
Political Science	Leadership
Political Science	Mass Media in Political Process
Political Science	Modern Political Theories
Political Science	National Foreign Policy
Political Science	National security
Political Science	Nationalism
Political Science	Parliaments
Political Science	Political Advertisement
Political Science	Political Analysis and Consulting
Political Science	Political Anthropology
Political Science	Political Behavior
Political Science	Political Campaigns
Political Science	Political Communications
Political Science	Political Culture
Political Science	Political Economy
Political Science	Political Ethics
Political Science	Political Geography
Political Science	Political Ideologies
Political Science	Political Institutions
Political Science	Political Parties
Political Science	Political philosophy
Political Science	Political PR
Political Science	Political Problems of Social Management
Political Science	Political Process
Political Science	Political Psychology
Political Science	Political Regimes
Political Science	Regional/National Politics
Political Science	Political Sociology
Political Science	Political Systems
Political Science	Political Theory
Political Science	Politics and Human Rights
Political Science	Politics in Eastern Europe
Political Science	Presidency

Political Science	Public Administration
Political Science	Public Policy
Political Science	Race and Political issues
Political Science	Religion and Politics
Political Science	Russian Politics
Political Science	Term paper
Political Science	Terrorism
Political Science	Theories of Justice
Political Science	Theory of International Relations
Political Science	Theory of Political Conflict
Political Science	Theory of State and Law
Political Science	Thesis
Political Science	Urban Policy
Political Science	US-Latin American Relations
Political Science	War and Politics
Political Science	Welfare State
Quantitative Methods	Intro to Probability Theory
Quantitative Methods	Intro to Research Methods
Quantitative Methods	Mathematics
Quantitative Methods	Quantitative Research Methods
Quantitative Methods	Research Methods in PolSci
Quantitative Methods	Statistics
Quantitative Methods	Survey Methods Polling
Skills	Internship
Social Sciences	Intro to Demography
Social Sciences	Life Safety
Social Sciences	Antropology
Social Sciences	Psychology
Social Sciences	Social Identities
Social Sciences	Social Movements
Social Sciences	Social Philosophy
Social Sciences	Social Psychology
Social Sciences	Social Sciences
Social Sciences	Sociology

¹ Among the top 50 political science departments, United Kingdom has ten schools, and only three schools represent other European countries. Therefore, in our analysis we chose to focus only on first five UK schools and included next top schools that present other European countries.

² The number in brackets shows the actual place of the university in the general university ranking since there is no available ranking for Ukrainian political science departments. The schools which were omitted in the list do not offer a Political Science degree.