

Uptake of GCE A level subjects 2014

Statistics Report Series No.82

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April 2015

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Introduction

This report looks at the uptake of A level subjects in England in 2014. The data for these analyses were taken from the National Pupil Database (NPD). This is a database held by the Department for Education, consisting of results for all students in all subjects in schools and colleges in England, as well as pupil and school background characteristics such as age, gender, ethnicity and level of deprivation.

For the analysis of uptake at A level the Key Stage 5 (KS5) extract of the NPD was used. This data was restricted to exams taken by students who were in year 13 in 2013/14. It includes exams taken by these students in previous years, to allow for A levels taken in year 12 or earlier. Uptake in this report is defined as the percentage of year 13 A level students taking an A level in the subject.

Tables 1 and 2 are a breakdown of the number of A levels taken by students.

Table 1: Number of A levels taken (% of A level students)

Number of A levels	Percentage
1	10.9
2	15.2
3	58.6
4	13.9
5+	1.4
No of students	252,600

Table 2: Number of A levels taken, excluding General Studies (% of A level students)

Number of A levels	Percentage
1	11.2
2	16.2
3	64.8
4	7.4
5+	0.6
No of students	252,319

Uptake of A levels in this report is presented by different student classifications: school type, prior attainment, school gender and deprivation level. In the following tables the numbers of students in each of the classifications are presented.

School type

There are several different types of school where students study for A levels. For this report these were classified into seven groups. Table 3 presents the number and percentage of A level students attending each school type (schools denoted as 'other' or 'unidentified' are not included).

Table 3: A level students by school type

School type	Number of students	Percentage
Academy	72,939	28.9
Comprehensive	60,352	23.9
FE/Tertiary College	19,122	7.6
Grammar	8,856	3.5
Independent	33,914	13.4
Secondary Modern	2,227	0.9
Sixth Form College	55,186	21.8

Prior attainment

Students were classified by their attainment at GCSE. GCSE grades were converted into scores (A* = 8, A= 7, B= 6 etc) and a mean GCSE was calculated for each student, which was then used to divide them up into three approximately equally sized attainment groups: low, medium and high. Table 4 presents the number in each group as well as the mean, minimum and maximum value of mean GCSE for each group. There was a small amount of missing data for this measure, with about 2.5% of students having no GCSEs recorded in the NPD.

Table 4: A level students by prior attainment

Prior attainment group	Number of students	Minimum	Maximum	Mean
Low	81,676	0.0	5.8	5.2
Medium	82,632	5.8	6.6	6.2
High	81,983	6.6	8.0	7.2

Deprivation level

The level of deprivation that a student experiences was measured by the Income Deprivation Affecting Children Index (IDACI). This is a measure of the percentage of children in a very small geographical area (Lower Layer Super Output Area or LSOA) who live in families that are income deprived. It varies between 0 and 1, with 0 representing minimum deprivation and 1 maximum deprivation.

It should be noted that there was a significant amount of missing data for this measure (**% of students had no record). Students who did have a measure of deprivation were divided up into three equally sized groups. Table 5 presents the number of students and the mean, minimum and maximum IDACI values in each group.

Table 5: A level students by deprivation level

Deprivation Group	Number of students	Minimum	Maximum	Mean
Low	48,766	0.00	0.07	0.04
Medium	48,768	0.07	0.18	0.12
High	48,765	0.18	0.99	0.34

School gender

The school gender variable was determined by the female ratio (number of females over the total number of students) in the school. If this ratio was greater than 0.95, the school was considered to be a “Girls” school. If the female ratio was less than 0.05, then the school was designated a “Boys” school. The rest of the schools were considered “Mixed” schools. Table 6 shows the numbers and percentages of students attending the different types of schools.

Table 6: A level students by school gender

School gender	Number of students	Percentage
Boys school	8,977	3.6
Girls school	17,107	6.8
Mixed school	226,516	89.7

Number of A levels taken

The number of A levels taken by students in each of the classifications are presented in Tables 7-10. For example, Table 7 shows that 11.3% of A level students in Academies took only one A level. Table 8 shows that 42.3% of A level students with low prior attainment took 3 A levels.

Table 7: Number of A levels taken, by school type (% of students)

Number of A levels	Acad	Comp	FE/Ter College	Grammar	Ind	Sec Mod	6th Form College
1	11.3	13.4	12.8	1.1	4.7	26.7	11.9
2	16.0	18.2	18.4	4.8	7.5	24.7	15.6
3	57.3	57.4	63.3	62.3	68.6	41.2	54.2
4	13.9	10.3	5.2	27.6	17.1	7.0	16.9
5+	1.5	0.7	0.3	4.2	2.0	0.5	1.4
No of students	72,939	60,352	19,122	8,856	33,914	2,227	55,186

Table 8: Number of A levels taken, by prior attainment (% of students)

Number of A levels	Low	Medium	High
1	25.3	6.0	1.3
2	27.8	14.6	3.6
3	42.3	66.8	67.8
4	4.5	12.1	24.1
5+	0.1	0.5	3.1
No of students	81,676	82,632	81,983

Table 9: Number of A levels taken, by deprivation level (%of students)

Number of A levels	Low	Medium	High
1	8.2	11.1	15.9
2	14.1	16.7	18.4
3	59.7	57.4	54.9
4	16.4	13.3	9.8
5+	1.6	1.4	0.9
No of students	48,766	48,768	48,765

Table 10: Number of A levels taken, by school gender (%)

Number of A levels	Boys school	Girls school	Mixed school
1	4.0	4.8	11.7
2	7.0	7.8	16.0
3	58.5	67.4	58.0
4	26.8	18.0	13.1
5+	3.6	1.9	1.2
No of students	8,977	17,107	226,516

Uptake of individual A level subjects

In the following tables the uptake of individual subjects is presented, broken down into the classifications outlined above. Subjects with an overall uptake level of less than 1% are not included. In each table the subjects are ordered by overall uptake (highest first). Thus, Mathematics had the highest level of uptake, being taken by 28.1% of all A level students, 37.9% of males and 20.1% of females.

Table 11: Uptake of individual subjects by gender (% of A level students)

Subject	All	Male	Female
Mathematics	28.1	37.9	20.1
Biology	20.5	18.6	22.1
Psychology	19.2	10.4	26.4
History	17.4	18.2	16.8
Chemistry	17.3	19.9	15.2
English Literature	16.3	9.5	21.9
Physics	12.1	21.2	4.6
Geography	11.0	12.2	10.2
Sociology	10.3	5.5	14.3
General Studies	9.7	9.5	9.9
Business Studies: Single	8.9	11.5	6.7
Economics	8.5	12.9	4.9
English Language	8.4	5.9	10.5
Media/Film/TV Studies	7.5	7.1	7.9
Religious Studies	7.5	5.1	9.5
English Language & Literature	5.1	3.1	6.7
Art & Design (Fine Art)	5.0	2.5	7.1
Mathematics (Further)	4.9	7.8	2.5
Art & Design (Photography)	4.7	2.6	6.5
Government & Politics	4.6	5.8	3.6
Drama & Theatre Studies	4.5	3.1	5.7
Physical Education/Sports Studies	4.3	6.1	2.8
Law	3.9	3.1	4.5
French	3.5	2.5	4.3
D&T Product Design	3.4	5.4	1.8
Information & Communications Technology	2.6	3.8	1.7
Art & Design	2.6	1.3	3.6
Spanish	2.5	1.9	3.0
Film Studies	2.2	2.6	2.0
Music	1.8	2.0	1.7
Art & Design (Graphics)	1.6	1.6	1.6
German	1.4	1.3	1.6
Computer Studies/Computing	1.4	2.9	0.2
Classical Civilisation	1.4	1.1	1.6
Art & Design (Textiles)	1.3	0.1	2.3
Accounting/Finance	1.0	1.5	0.6

Table 12: Uptake of individual subjects by school type (% of A level students)

Subject	FE/Ter						6th Form College
	Acad	Comp	College	Grammar	Ind	Sec Mod	
Mathematics	28.9	25.1	20.0	44.1	40.5	19.2	23.4
Biology	21.9	19.5	15.7	32.7	23.7	15.4	17.8
Psychology	20.0	21.0	23.6	19.4	10.1	17.1	20.6
History	18.5	18.0	13.5	19.6	19.8	18.8	14.9
Chemistry	17.7	15.6	11.9	29.8	23.1	12.4	15.2
English Literature	17.2	18.2	13.2	20.3	17.6	20.0	12.6
Physics	12.8	10.9	8.6	19.5	17.6	7.9	9.0
Geography	12.0	11.2	6.7	14.8	16.2	8.3	7.5
Sociology	10.0	11.7	17.7	5.5	1.0	12.1	13.1
General Studies	10.5	8.5	0.3	20.3	3.2	3.0	15.8
Business Studies: Single	8.1	7.6	12.6	7.6	9.6	6.2	9.9
Economics	7.4	6.1	4.7	13.2	18.3	1.9	7.3
English Language	8.1	8.5	11.9	5.3	2.6	8.6	11.7
Media/Film/TV Studies	7.5	9.0	11.2	4.0	1.7	14.0	8.7
Religious Studies	8.4	8.8	2.7	8.2	10.1	6.6	5.0
English Language & Literature	4.9	4.8	10.0	2.4	1.0	3.1	6.9
Art & Design (Fine Art)	4.7	5.2	5.1	4.4	6.2	4.0	4.7
Mathematics (Further)	4.8	3.8	2.7	8.8	9.8	2.6	3.4
Art & Design (Photography)	4.3	5.0	7.4	0.7	2.5	6.5	6.0
Government & Politics	4.2	3.6	3.6	6.4	7.4	3.0	4.6
Drama & Theatre Studies	4.9	4.9	3.5	3.1	5.1	4.7	3.9
Physical Education/Sports Studies	4.6	4.2	2.7	4.6	4.5	3.7	4.2
Law	2.2	2.6	9.6	1.8	0.2	3.3	8.1
French	3.3	2.6	1.9	5.1	7.2	2.0	2.6
D&T Product Design	4.4	4.4	0.5	4.3	4.1	3.4	1.5
Information & Communications Technology	2.8	2.9	3.8	2.1	1.2	1.9	2.8
Art & Design	2.9	3.2	1.0	1.9	3.0	5.8	1.8
Spanish	2.2	1.9	1.4	3.0	5.4	1.1	2.2
Film Studies	1.6	1.7	5.2	0.8	0.5	2.2	3.9
Music	1.9	1.7	0.9	1.8	3.2	0.5	1.4
Art & Design (Graphics)	1.0	1.0	3.6	0.1	0.5	1.6	3.3
German	1.6	1.1	0.7	2.4	2.7	0.7	0.9
Computer Studies/Computing	1.3	0.8	2.0	1.9	0.6	0.3	2.4
Classical Civilisation	0.9	0.5	1.4	2.2	2.8	0.9	2.0
Art & Design (Textiles)	1.0	1.1	1.9	0.4	0.9	0.5	2.2
Accounting/Finance	0.5	0.4	2.8	0.2	0.4	0.5	2.2

Table 13: Uptake of individual subjects by prior attainment (% of A level students)

Subject	Low	Medium	High
Mathematics	7.7	23.8	50.8
Biology	5.2	20.3	36.4
Psychology	18.0	25.7	14.6
History	12.8	18.8	21.2
Chemistry	3.2	13.5	35.0
English Literature	13.1	17.6	18.8
Physics	2.9	10.7	21.8
Geography	6.6	13.2	13.8
Sociology	17.1	11.3	3.0
General Studies	5.7	10.8	13.0
Business Studies :Single	12.2	10.9	3.4
Economics	4.1	8.6	11.9
English Language	11.3	10.0	4.5
Media/Film/TV Studies	15.3	6.3	1.3
Religious Studies	7.7	8.4	6.8
English Language & Literature	7.0	5.9	2.5
Art & Design (Fine Art)	5.6	5.3	4.2
Mathematics (Further)	0.6	2.4	10.6
Art & Design (Photography)	9.3	4.1	1.0
Government & Politics	3.7	4.9	5.2
Drama & Theatre Studies	5.8	5.0	3.0
Physical Education/Sports Studies	4.6	5.9	2.6
Law	5.1	4.8	1.8
French	0.9	2.3	7.0
D&T Product Design	4.5	3.8	2.1
Information & Communications Technology	4.4	2.9	0.8
Art & Design	3.1	2.7	1.9
Spanish	0.9	1.9	4.5
Film Studies	4.6	1.8	0.4
Music	1.0	1.8	2.6
Art & Design (Graphics)	2.7	1.6	0.6
German	0.5	1.0	2.6
Computer Studies/Computing	1.2	1.8	1.3
Classical Civilisation	1.0	1.6	1.7
Art & Design (Textiles)	1.9	1.4	0.6
Accounting/Finance	1.4	1.2	0.4

Table 14: Uptake of individual subjects by deprivation group (% of A level students)

Subject	Low	Medium	High
Mathematics	30.4	27.2	26.8
Biology	22.6	21.2	20.7
Psychology	19.6	20.5	21.1
History	19.5	19.3	16.4
Chemistry	18.3	16.6	17.9
English Literature	17.4	17.9	18.0
Physics	14.2	12.7	10.3
Geography	14.5	12.7	8.1
Sociology	8.4	9.6	13.6
General Studies	13.5	10.8	6.1
Business Studies: Single	8.9	7.6	7.1
Economics	7.9	6.5	7.0
English Language	9.5	8.4	6.4
Media/Film/TV Studies	7.0	8.1	8.8
Religious Studies	7.8	8.2	9.3
English Language & Literature	4.3	5.2	4.6
Art & Design (Fine Art)	4.8	5.1	4.3
Mathematics (Further)	5.4	4.6	3.7
Art & Design (Photography)	4.0	4.6	4.6
Government & Politics	4.1	3.9	4.1
Drama & Theatre Studies	4.9	5.1	4.3
Physical Education/Sports Studies	5.5	4.9	2.9
Law	2.1	2.3	2.9
French	3.6	3.3	2.5
D&T Product Design	4.7	4.7	3.7
Information & Communications Technology	2.4	2.7	3.3
Art & Design	2.6	3.0	3.3
Spanish	2.3	2.1	2.0
Film Studies	1.4	1.7	1.8
Music	2.2	2.0	1.2
Art & Design (Graphics)	1.0	0.9	0.9
German	1.7	1.5	1.1
Computer Studies/Computing	1.3	1.2	1.0
Classical Civilisation	0.9	0.9	0.7
Art & Design (Textiles)	0.9	0.9	1.0
Accounting/Finance	0.3	0.3	0.7

Table 15: Uptake of individual subjects by school gender (% of A level students)

Subject	Boys School	Girls School	Mixed School
Mathematics	52.8	32.4	26.8
Biology	24.3	30.9	19.6
Psychology	6.1	21.4	19.6
History	22.1	18.8	17.1
Chemistry	28.9	25.3	16.3
English Literature	13.8	22.6	15.9
Physics	26.1	9.4	11.7
Geography	14.9	14.5	10.6
Sociology	1.2	7.4	10.9
General Studies	10.1	9.2	9.7
Business Studies: Single	6.2	5.7	9.2
Economics	23.1	9.8	7.8
English Language	2.9	4.3	9.0
Media/Film/TV Studies	1.7	3.1	8.1
Religious Studies	8.2	13.6	7.0
English Language & Literature	1.7	2.5	5.4
Art & Design (Fine Art)	3.5	5.7	5.0
Mathematics (Further)	14.1	5.4	4.5
Art & Design (Photography)	0.9	2.9	5.0
Government & Politics	9.4	6.2	4.3
Drama & Theatre Studies	2.2	4.9	4.6
Physical Education/Sports Studies	3.8	2.1	4.5
Law	0.6	0.8	4.2
French	6.1	6.4	3.1
D&T Product Design	4.2	1.8	3.5
Information & Communications Technology	1.4	2.1	2.7
Art & Design	1.6	3.6	2.6
Spanish	4.3	4.8	2.3
Film Studies	0.5	0.5	2.4
Music	2.2	2.3	1.8
Art & Design (Graphics)	0.3	0.3	1.8
German	2.5	2.3	1.3
Computer Studies/Computing	2.4	0.1	1.5
Classical Civilisation	1.1	3.3	1.3
Art & Design (Textiles)	0.0	1.1	1.4
Accounting/Finance	0.1	0.2	1.1

Combinations of subjects

The ten most common combinations of at least three A levels are presented in Table 16. Tables 17 and 18 present the most common combinations for males and females, respectively.

Table 16: Most common combinations of A level subjects, excluding general studies (% of students with at least 3 A levels)

Combination	Percent	Cumulative percent
Biology - Chemistry - Mathematics	5.8	5.8
Chemistry - Mathematics - Physics	2.7	8.5
Mathematics - Mathematics (Further) - Physics	1.6	10.1
Biology - Chemistry - Psychology	1.4	11.5
Chemistry - Mathematics - Mathematics (Further) - Physics	1.2	12.7
Biology - Chemistry - Geography	0.9	13.6
Biology - Chemistry - Physics	0.8	14.4
Biology - Mathematics - Physics	0.8	15.2
English Literature - History - Psychology	0.7	15.9
Biology - Chemistry - Mathematics - Physics	0.7	16.6

Table 17: Most common combinations of A level subjects, excluding general studies (% of males with at least 3 A levels)

Combination	Percent	Cumulative percent
Biology - Chemistry - Mathematics	5.5	5.5
Chemistry - Mathematics - Physics	5.0	10.6
Mathematics - Mathematics (Further) - Physics	3.0	13.5
Chemistry - Mathematics - Mathematics (Further) - Physics	2.1	15.7
Biology - Mathematics - Physics	1.3	17.0
Biology - Chemistry - Physics	1.2	18.2
Economics - Mathematics - Physics	1.1	19.3
Biology - Chemistry - Mathematics - Physics	1.0	20.3
D&T Product Design - Mathematics - Physics	0.9	21.2
Computer Studies/Computing - Mathematics - Physics	0.8	22.0

Table 18: Most common combinations of A level subjects, excluding general studies (% of females with at least 3 A levels)

Combination	Percent	Cumulative percent
Biology - Chemistry - Mathematics	5.9	5.9
Biology - Chemistry - Psychology	1.9	7.8
English Literature - History - Psychology	1.1	8.9
Biology - Chemistry - Geography	1.0	9.9
Chemistry - Mathematics - Physics	0.9	10.8
English Literature - History - Religious Studies	0.8	11.6
Biology - Mathematics - Psychology	0.8	12.3
English Literature - Psychology - Sociology	0.7	13.0
Biology - Chemistry - History	0.6	13.6
English Literature - Government & Politics - History	0.6	14.2

Subject areas and domains

Table 19 presents the uptake of five subject areas at A level. The subjects were grouped into five areas: Science/Mathematics, English, Languages, Social Science/Humanities and Arts. Grouping subjects is not a straightforward task and the allocation of subject areas is always debatable. Details of the subject areas can be found in the Appendix. This analysis is restricted to those students with at least three A level results.

Table 19: Uptake of subject areas by gender and prior attainment (% of students with at least three A levels)

Subject area	F	M	Low	Medium	High	All
Arts	29.7	20.8	43.4	29.0	15.1	25.7
English	43.7	21.2	45.4	36.9	26.3	33.6
Languages	12.5	8.5	4.6	6.8	15.1	10.7
Science	46.2	66.8	26.7	49.0	73.2	55.4
Social Science	73.9	64.9	79.2	76.5	60.7	69.9
Number of Students	101,576	82,127	36,908	64,381	77,652	183,703

Thus, 29.7% of female students taking at least three A levels took at least one arts subject.

Subjects were also grouped in three different domains: Science and Mathematics, Arts and Languages, Social Science and Humanities (see Bell *et al.* 2005). Students who entered subjects at A level in only one domain have been classified as specialists, and students that entered for two of the domains have been classified as partly-mixed. The uptake of these domains is presented in Table 20.

Table 20: Uptake of combinations of subject domains by gender and prior attainment (% of students with at least three A levels)

	Science / Maths	Arts	Social Sci / Hum	F	M	Low	Medium	High	All
Specialist	Yes	-	-	10.2	23.7	4.6	11.6	25.4	16.2
	-	Yes	-	7.6	3.1	12.3	5.5	2.6	5.6
	-	-	Yes	7.2	8.8	13.0	9.9	4.1	7.9
Total				25.0	35.6	29.9	27.0	32.1	29.8
Partly mixed	Yes	Yes	-	8.3	8.3	3.9	6.4	11.3	8.3
	Yes	-	Yes	17.4	25.8	12.0	21.3	25.6	21.2
	-	Yes	Yes	39.0	21.3	48.0	35.6	20.0	31.1
Total				64.7	55.5	63.9	63.4	57.0	60.5
Completely mixed	Yes	Yes	Yes	10.3	8.9	6.3	9.6	10.9	9.7

Thus, 10.2% of female students took science subjects only at A level (Specialist - Science / Maths), and 25.0% took subjects in only one domain (Specialist - Total). Meanwhile 21.3% of male students took a mix of Arts and Social Science subjects (Partly Mixed - Arts - Social Science / Humanities), and 55.5% took some mix of two domains (Partly mixed - Total).

Facilitating subjects

In a recent guide to making decisions about post-16 education the Russell Group of leading universities defined a group of 'facilitating' subjects: Maths, Further Maths, English Literature, Physics, Biology, Chemistry, Geography, History and Classical and Modern Languages (Russell Group, 2013). These are subjects that are required more often than others for university entry and therefore give students a wider range of possible degree courses. Table 21 shows the

number of the facilitating subjects taken by students at A level, broken down by gender and prior attainment.

Table 22 presents the uptake of these subjects by school type and Table 23 the uptake by deprivation level.

Table 21: Number of 'facilitating' subjects taken, by gender and attainment (% of students with at least three A levels)

No of subjects	F	M	Low	Medium	High	All
0	20.7	13.0	42.4	19.6	3.9	17.3
1	29.4	24.2	37.0	34.4	16.6	27.1
2	27.5	28.8	15.5	29.6	32.8	28.0
3 or more	22.4	34.0	5.2	16.4	46.7	27.6

Table 22: Number of 'facilitating' subjects taken, by school type (% of candidates with at least three A levels)

No of subjects	Acad	Comp	FE/Ter College	Grammar	Ind	Sec Mod	6th Form College
0	14.6	16.4	31.8	7.8	8.1	16.2	25.8
1	26.4	28.1	31.9	22.0	23.3	26.8	29.3
2	29.1	28.8	20.0	31.2	31.9	28.3	24.8
3 or more	29.8	26.7	16.2	38.9	36.6	28.7	20.1

Table 23: Number of 'facilitating' subjects taken, by deprivation level (% of candidates with at least three A levels)

No of subjects	Low	Medium	High
0	13.8	14.6	16.0
1	26.1	27.2	27.1
2	29.4	29.2	28.8
3 or more	30.7	29.0	28.1

References

Bell J.F., Malacova E. and Shannon M. (2005) The changing pattern of A-level/AS uptake in England. *The Curriculum Journal*, 16(3): 391-400.

The Russell Group (2013). *Informed Choices: A Russell Group guide to making decisions about post-16 education: 2013/14*. London: The Russell Group. Downloaded from: <http://www.russellgroup.org/InformedChoices-latest.pdf>. Accessed 06/01/2015

Appendix: Subject Classifications

Science/Maths

Additional Mathematics
Biology
Chemistry
Computer Studies/Computing
Electronics
Environmental Science
Geology
Information & Communications Technology
Mathematics
Mathematics (Further)
Mathematics (Pure)
Mathematics (Statistics)
Physics
Science in Society
Use of Mathematics

Social Science and Humanities

Accounting/Finance
Ancient History
Archaeology
Business Studies: Single
Business Studies & Economics
Classical Civilisation
Classics (General)
Critical Thinking
D&T Food Technology
D&T Product Design
D&T Systems & Control
Economics
Geography
Government & Politics
History
Home Economics: Food
Law
Logic/ Philosophy
Psychology
Religious Studies
Social Science: Citizenship
Sociology
World Development

English

Communication Studies
Drama & Theatre Studies
English Language
English Language & Literature
English Literature
Expressive Arts & Performance Studies

Languages

Arabic
Bengali
Chinese
Classical Greek
Dutch
French
German
Gujarati
Italian
Japanese
Latin
Modern Greek
Modern Hebrew
Other Classical Languages
Persian
Polish
Portuguese
Punjabi
Russian
Spanish
Turkish
Urdu
Welsh Language

Arts

Art & Design
Art & Design (3d Studies)
Art & Design (Critical Studies)
Art & Design (Fine Art)
Art & Design (Graphics)
Art & Design (Photography)
Art & Design (Textiles)
D&T Textiles Technology
Dance
Film Studies
History of Art
Media/Film/TV Studies
Music
Music Technology
Physical Education/Sports Studies