

SQL-Based Employability Analysis of UK Universities (2018–2023)

1. Agenda

This project aims to analyse the employability outcome of UK university graduates using MySQL. The dataset covers key metrics, such as employment rate, average salaries, and satisfaction scores, from 2018 to 2023.

My goal is to investigate how various universities and courses fare in terms of graduate outcomes. I've written queries of different complexity (easy, medium, and hard) to answer specific questions around employment trends, course performance, and student demographics.

This report is structured as follows:

- Agenda
- Data Cleaning (not needed in this case)
- Analysis (query-based)
- Insights
- Recommendations
- Conclusions

Everything has been done using MySQL; no other tools or programming languages were used.

2. Analysis

This section contains the core of the project, structured SQL queries written to explore and extract insights from the dataset. The queries are grouped into three levels based on complexity: Easy, Medium, and Hard.

Each set of queries is designed to answer specific questions related to university performance, employability rates, course-level outcomes, salary trends, and other relevant metrics.

The analysis focuses on:

- Identifying top-performing universities and high-paying courses
- Understanding trends in employment, satisfaction, and demographics
- Comparing universities and subjects across multiple dimensions

All queries were executed using MySQL, and wherever needed, Common Table Expressions (CTEs), window functions, and joins were used to perform advanced logic.

1. Easy Queries

1.1 List of all unique universities

```
/* 1.1 List of all unique universities */  
select distinct University_Name from uk_employability.ukuniversityemployability;
```

Result Grid		Filter Rows:
	University_Name	
▶	University of Oxford	
	University of Cambridge	
	Imperial College London	
	University College London	
	University of Edinburgh	
	University of Manchester	
	University of Bristol	
	University of Warwick	
	Brunel University London	
	University of Glasgow	
	University of Birmingham	
	University of Leeds	
	University of Sheffield	
	University of Nottingham	
	University of Hull	
	University of York	
	University of Exeter	
	University of Devon	
	University of Cornwall	
	University of Plymouth	
	University of Exeter	
	University of Devon	
	University of Cornwall	
	University of Plymouth	

This query retrieved the list of all distinct universities represented in the dataset. It confirms that the dataset includes data from a wide range of prominent UK institutions such as the University of Oxford, the University of Cambridge, Imperial College London, etc. In total, there are 16 unique universities present.

1.2 Count of total entries per academic year

```
/* 1.2 Count of total entries per academic year */
select Academic_Year, count(*) as Total_Entries
from uk_employability.ukuniversityemployability
group by Academic_Year;
```

	Academic_Year	Total_Entries
▶	2018-2019	180
	2019-2020	180
	2020-2021	180
	2021-2022	180
	2022-2023	180

As per the above image, a consistent number of entries across academic years shows steady data coverage.

1.3 Average salaries by subject area

```
/* 1.3 Average salaries by subject area */
select Subject_Area, avg(Avg_Salary_GBP) as Avg_salary
from uk_employability.ukuniversityemployability
group by Subject_Area
order by Avg_salary desc;
```

Result Grid			Filter Rows:	Export
	Subject_Area	Avg_salary		
▶	Computer Science	37206.0400		
	Biological Sciences	37065.9467		
	Psychology	36751.6400		
	Economics	36078.0800		
	History	36071.9867		
	Mechanical Engineering	36004.1200		
	Law	35731.1467		
	Medicine	35725.4400		
	Mathematics	35231.3600		
	Physics	34464.4933		
	Education	34401.8133		
	Business and Management	34376.0000		

Result 5 x

The average annual salaries vary across different subject areas, with Computer Science graduates earning around £37,206 and Biological Sciences graduates close to £37,065. These differences reflect the varying demand and career opportunities in each field, indicating which subjects tend to offer higher earning potential for graduates.

1.4 List top 5 courses with highest student satisfaction

```
/* 1.4 List top 5 courses with highest student satisfaction */
select Course_Name, Student_Satisfaction_Score
from uk_employability.ukuniversityemployability
order by Student_Satisfaction_Score desc
limit 5;
```

Result Grid			Filter Rows:	Export	Wrap Cell Contents:	Fetch r
	Course_Name	Student_Satisfaction_Score				
▶	History (Postgraduate)	94.98				
	Mathematics (Undergraduate)	94.96				
	Business and Management (Postgraduate)	94.92				
	Economics (Postgraduate)	94.92				
	Mechanical Engineering (Postgraduate)	94.84				

The top five courses with the highest student satisfaction scores include History (Postgraduate), Mathematics (Undergraduate), Business and Management (Postgraduate), Economics (Postgraduate), and Mechanical Engineering (Postgraduate). These courses consistently receive positive feedback from students, reflecting strong academic experiences and course quality.

1.5 Total students admitted per region

```
/* 1.5 Total students admitted per region */
select Region, sum(Students_Admitted) as Total_Admitted_Students
from uk_employability.ukuniversityemployability
group by Region;
```

Result Grid | | Filter Rows: | Export: | Wrap Cell

Region	Total_Admitted_Students
Greater London	262687
South East	270576
Yorkshire and the Humber	170000
North West	266628
East of England	180192
West Midlands	77542
East Midlands	79190

The number of students admitted varies across regions, with the South East and Greater London leading, admitting approximately 270,576 and 262,687 students respectively. Other regions like the North West and East of England also have significant admissions, while the West Midlands and East Midlands show comparatively lower numbers.

1.6 Courses with employment rate above 90%

```
/* 1.6 Courses with employment rate above 90% */
select University_Name, Course_Name, Employment_After_6_Months_prntge
from uk_employability.ukuniversityemployability
where Employment_After_6_Months_prntge > 90;
```

University_Name	Course_Name	Employment_After_6_Months_prntge
University of Oxford	Computer Science (Undergraduate)	94.15
University of Oxford	Business and Management (Undergraduate)	93.89
University of Oxford	Mechanical Engineering (Undergraduate)	91.74
University of Oxford	Mechanical Engineering (Undergraduate)	90.67
University of Oxford	Medicine (Postgraduate)	90.31
University of Oxford	Law (Undergraduate)	92.62
University of Oxford	Economics (Postgraduate)	93.81
University of Oxford	Economics (Undergraduate)	94.93
University of Oxford	Biological Sciences (Postgraduate)	90.44
University of Oxford	Education (Undergraduate)	94.56
University of Oxford	History (Postgraduate)	93.65
University of Oxford	Physics (Undergraduate)	91.18

The dataset highlights a strong employment trend across several UK universities, with many courses showing over 90% employment within six months of graduation. Universities like Oxford, UCL, Imperial College London, Edinburgh, Warwick, and Brunel feature repeatedly with high-performing courses in fields such as Computer Science, Economics, Law, Medicine, and Engineering. While numerous other institutions also appear in this category, the most consistent results are concentrated among these leading universities.

2. Medium Queries

2.1 Top 5 universities by average employment rate

```
/* Medium queries */
/* 2.1 Top 5 universities by average employment rate */
select University_Name, avg(Employment_After_6_Months_prcntge) as Avg_Employment
from uk_employability.ukuniversityemployability
group by University_Name
order by Avg_Employment desc
limit 5;
```

Result Grid			Filter Rows:	Exp
	Top_Job_Sector	Sector_count		
▶	Healthcare	122		
	Education	121		
	Engineering	118		
	Legal	115		
	Arts	113		

Based on the data, the University of Nottingham leads with the highest average employment rate, closely followed by the University of Sheffield and Brunel University London. The University of Glasgow and the University of Bristol complete the top five, all maintaining average employment rates near or above 78%. These institutions show strong outcomes in preparing students for the job market across various disciplines.

2.2 Most common job sectors across the dataset

```
/* 2.2 Most common job sectors across the dataset */  
select Top_Job_Sector, count(*) as Sector_count  
from uk_employability.ukuniversityemployability  
group by Top_Job_Sector  
order by Sector_count desc#  
limit 5;
```

Result Grid	Filter Rows:	Exp
Top_Job_Sector	Sector_count	
Healthcare	122	
Education	121	
Engineering	118	
Legal	115	
Arts	113	

The dataset reveals that Healthcare is the most frequent job sector among graduates, followed closely by Education and Engineering. Legal and Arts sectors also appear prominently, indicating a diverse range of career paths pursued by students. This spread reflects the broad academic and professional interests supported across UK universities.

2.3 Average acceptance and enrolment rate per year (Computer Science)

```
/* 2.3 Average acceptance and enrolment rate per year (Computer Science) */  
select Academic_Year,  
avg(Acceptance_Rate) as Avg_Acceptance_Rate,  
avg(Enrolment_Rate) as Avg_Enrolment_Rate  
from uk_employability.ukuniversityemployability  
where Subject_Area = "Computer Science"  
group by Academic_Year;
```

Result Grid			
Filter Rows:		Export:	Wrap Cell Content: IA
	Academic_Year	Avg_Acceptance_Rate	Avg_Enrolment_Rate
▶	2018-2019	0.706666666666667	0.746666666666667
	2019-2020	0.706666666666667	0.786666666666667
	2020-2021	0.699333333333333	0.730000000000001
	2021-2022	0.738000000000001	0.779333333333333
	2022-2023	0.717333333333333	0.739333333333333

Between 2018 and 2023, Computer Science courses in UK universities maintained relatively stable acceptance and enrolment rates. Notably, 2021–2022 saw the highest acceptance (73.8%) and enrolment (77.9%) rates, reflecting a growing demand and intake capacity during that period. Minor fluctuations across years suggest consistency in applicant interest and university selectiveness for Computer Science programs.

2.4 Courses with >30% international students and salaries > £35,000

```
/* 2.4 Courses with >30% international students and salaries > £35,000 */
select University_Name, Course_Name, Avg_Salary_GBP, International_Students_prcntge
from uk_employability.ukuniversityemployability
where Avg_Salary_GBP > 35000
and International_Students_prcntge > 30;
```

Result Grid				
Filter Rows:		Export:	Wrap Cell Content: IA	
	University_Name	Course_Name	Avg_Salary_GBP	International_Students_prcntge
▶	University of Oxford	Mechanical Engineering (Postgraduate)	49527	32.17
	University of Oxford	Mechanical Engineering (Postgraduate)	48682	37.8
	University of Oxford	Mechanical Engineering (Undergraduate)	35274	30.05
	University of Oxford	Law (Undergraduate)	40566	37.79
	University of Oxford	Economics (Undergraduate)	48115	30.64
	University of Oxford	Biological Sciences (Undergraduate)	47132	32.73
	University of Oxford	History (Postgraduate)	36946	39.99
	University of Oxford	History (Undergraduate)	37369	31.87
	University of Oxford	Mathematics (Postgraduate)	35531	38.18
	University of Oxford	Mathematics (Undergraduate)	39653	36.9
	University of Cambr...	Business and Management (Postgraduate)	45437	30.63
	University of Cambr...	Mechanical Engineering (Postgraduate)	42061	34.03

The analysis reveals a strong correlation between high international student enrollment and elevated average salaries. Prestigious institutions like the University of Oxford, University of Cambridge, Imperial College London, and University of Bristol offer numerous programs, such as Mechanical Engineering, Economics, Mathematics, and Law, where international student percentages exceed 30%, and average salaries surpass £35,000. This trend suggests that globally appealing courses in high-demand fields also offer strong financial outcomes, making them attractive to both domestic and international students.

2.5 Universities with employment rate greater than national average

```
/* 2.5 Universities with employment rate greater than national average */
with Nationalaverage as (
  select avg(Employment_After_6_Months_prctge) as National_Avg
  from uk_employability.ukuniversityemployability
)
select ed.University_Name, avg(ed.Employment_After_6_Months_prctge) as Uni_avg
from uk_employability.ukuniversityemployability ed
group by ed.University_Name
having Uni_avg > (
  select National_Avg from Nationalaverage);
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	University_Name	Uni_avg			
▶	University of Oxford	78.18016666666666			
	University of Edinburgh	78.45283333333336			
	University of Bristol	78.77950000000001			
	Brunel University London	78.83199999999998			
	University of Glasgow	78.80016666666663			
	University of Nottingham	79.46583333333335			
	University of Sheffield	79.01666666666665			

After calculating the national average employment rate, several universities were identified as outperformers. These include the University of Oxford, University of Edinburgh, University of Bristol, Brunel University London, University of Glasgow, University of Nottingham, and the University of Sheffield. Each of these institutions has an average employment rate that exceeds the national benchmark, indicating their effectiveness in preparing graduates for the job market and aligning academic programs with career readiness.

2.6 Courses with above-average student satisfaction per subject


```
/* 2.6 Courses with above-average student satisfaction per subject */
```

```
with SubjectAvg as (select Subject_Area, Avg(Student_Satisfaction_Score) as Subject_avg
from uk_employability.ukuniversityemployability
group by Subject_Area)
```

```
select
```

```
ed.Course_Name,
```

```
ed.Subject_Area,
```

```
ed.Student_Satisfaction_Score,
```

```
ed.Subject_Area
```

```
from uk_employability.ukuniversityemployability ed
```

```
join SubjectAvg sa on ed.Subject_Area = sa.Subject_Area
```

```
where ed.Student_Satisfaction_Score > sa.Subject_avg;
```

Result Grid Filter Rows: Export: Wrap Cell Content:				
	Course_Name	Subject_Area	Student_Satisfaction_Score	Subject_Area
▶	Computer Science (Undergraduate)	Computer Science	86.28	Computer Science
	Computer Science (Undergraduate)	Computer Science	82.84	Computer Science
	Computer Science (Undergraduate)	Computer Science	88.2	Computer Science
	Computer Science (Postgraduate)	Computer Science	78.22	Computer Science
	Computer Science (Undergraduate)	Computer Science	84.39	Computer Science
	Computer Science (Postgraduate)	Computer Science	76.99	Computer Science
	Computer Science (Postgraduate)	Computer Science	85.75	Computer Science
	Computer Science (Postgraduate)	Computer Science	88	Computer Science
	Computer Science (Postgraduate)	Computer Science	87.83	Computer Science
	Computer Science (Postgraduate)	Computer Science	91.15	Computer Science
	Computer Science (Undergraduate)	Computer Science	90.14	Computer Science
	Computer Science (Postgraduate)	Computer Science	77.62	Computer Science

Result 14 x

Output

In this analysis, courses that recorded student satisfaction scores above the average within their respective subject areas were identified. Notably, several Computer Science courses, both undergraduate and postgraduate, consistently scored above the average satisfaction benchmark. Similar patterns were observed in the Business and Management domain, where multiple courses stood out for their high satisfaction levels. These findings highlight particular programs where student experience and engagement are especially strong, indicating effective teaching methods and well-aligned academic content.

3. Hard Queries

3.1 Top 3 highest-paid courses per university

```
/* 3. Hard queries*/
/*3.1 Top 3 highest-paid courses per university */
with Ranked as (
    select *, rank() over (partition by University_Name order by Avg_Salary_GBP desc) as Rank_Pos
    FROM uk_employability.ukuniversityemployability
)
select University_Name, Course_Name, Avg_Salary_GBP
from Ranked
where Rank_Pos <= 3;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
University_Name	Course_Name	Avg_Salary_GBP	
Brunel University London	Physics (Undergraduate)	49066	
Brunel University London	Medicine (Undergraduate)	49044	
Brunel University London	Mathematics (Undergraduate)	48069	
Imperial College London	Biological Sciences (Postgraduate)	49654	
Imperial College London	Business and Management (Undergraduate)	49064	
Imperial College London	History (Undergraduate)	48726	
University College London	Law (Postgraduate)	49702	
University College London	Medicine (Postgraduate)	49547	
University College London	Medicine (Postgraduate)	49232	
University of Birmingham	Psychology (Postgraduate)	49627	
University of Birmingham	Psychology (Undergraduate)	49547	
University of Birmingham	Medical Sciences (Undergraduate)	49250	

This analysis focuses on identifying the top three courses with the highest average graduate salaries from each university. The results reveal that certain disciplines consistently command higher earnings across institutions, such as Business and Management, Psychology, Mathematics, and Medicine. For instance, the highest-paying course at the University of Cambridge is Business and Management (Undergraduate) at £49,991, while Education (Undergraduate) leads at the University of Edinburgh with £49,978. Other institutions like Brunel, UCL, Imperial, and the University of Nottingham also show strong salary outcomes in their respective top-performing programs. This indicates both market demand and the potential return on investment for students choosing these courses.

3.2 Courses with decreasing employment rate over 3 years

```

/* 3.2 Courses with decreasing employment rate over 3 years */
select distinct a.Course_Name
from uk_employability.ukuniversityemployability a
join uk_employability.ukuniversityemployability b
on a.Course_Name = b.Course_Name
and b.Academic_Year = a.Academic_Year + 1
join uk_employability.ukuniversityemployability c
on a.Course_Name = c.Course_Name
and c.Academic_Year = a.Academic_Year + 2
where a.Employment_After_6_Months_prcntge > b.Employment_After_6_Months_prcntge
and b.Employment_After_6_Months_prcntge > c.Employment_After_6_Months_prcntge;
;

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	Course_Name			
▶	Computer Science (Undergraduate)			
	Business and Management (Undergraduate)			
	Business and Management (Postgraduate)			
	Mechanical Engineering (Postgraduate)			
	Psychology (Postgraduate)			
	Psychology (Undergraduate)			
	Medicine (Undergraduate)			
	Law (Undergraduate)			
	Law (Postgraduate)			
	Economics (Postgraduate)			
	Biological Sciences (Postgraduate)			
	Biological Sciences (Undergraduate)			

Result 16 x

Output

This analysis highlights academic programs where employment rates have consistently declined over the last three academic years. Courses identified include core and competitive areas such as Computer Science (Undergraduate), Business and Management (both Undergraduate and Postgraduate), and Mechanical Engineering (Postgraduate). Additionally, Psychology, Medicine, Law, Economics, and Biological Sciences also appear with downward trends. This could indicate evolving job market dynamics, oversaturation in certain fields, or gaps between academic preparation and industry expectations. These insights may help universities reassess their course structures and better align with employer demands.

3.3 Most gender-balanced courses (ratio closest to 1.0)


```

/* 3.3 Most gender-balanced courses (ratio closest to 1.0) */
with Balance as (
select Course_Name, University_Name, abs(Male_Female_Ratio - 1) as deviation
from uk_employability.ukuniversityemployability
)
select Course_Name, University_Name, deviation
from Balance
order by deviation asc
limit 20;

```

Course_Name	University_Name	deviation
Medicine (Postgraduate)	Imperial College London	0
Economics (Postgraduate)	University of Glasgow	0
Biological Sciences (Postgraduate)	University of Oxford	0
Psychology (Postgraduate)	University of Birmingham	0
Mechanical Engineering (Undergraduate)	University of Warwick	0
Business and Management (Postgraduate)	University of Southampton	0
Psychology (Undergraduate)	University of Manchester	0
Education (Postgraduate)	University of Leeds	0
Law (Undergraduate)	University of Sheffield	0
Biological Sciences (Postgraduate)	University of Southampton	0
Law (Undergraduate)	University of Warwick	0
Medicine (Postgraduate)	University of Manchester	0

This section identifies courses with nearly equal representation of male and female students, indicated by a deviation close to zero. Many postgraduate and undergraduate programs across prestigious universities show strong gender balance, including Medicine, Economics, Biological Sciences, Psychology, Mechanical Engineering, Business and Management, Education, Law, Mathematics, Physics, and History. Such balanced courses highlight progress toward gender equality in higher education across diverse fields.

3.4 Universities with the most consistent satisfaction scores

```

/* 3.4 Universities with the most consistent satisfaction scores */
select University_Name, stddev(Student_Satisfaction_Score) as Satisfaction_STD
from uk_employability.ukuniversityemployability
group by University_Name
order by Satisfaction_STD asc
limit 10
;

```


Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	University_Name	Satisfaction_STD			
▶	University of Edinburgh	9.40847226203891			
	University of Sheffield	9.553014149122427			
	University of Bristol	9.80425601885902			
	University of Leeds	9.815916411624544			
	University of Oxford	9.865315194604223			
	University of Cambridge	10.118204611271485			
	University of Manchester	10.198949536049724			
	University of Glasgow	10.218194143563508			
	University College London	10.292662514572646			
	Brunel University London	10.343664238986538			

Result 18 x

This analysis highlights universities with the lowest standard deviation in student satisfaction scores, indicating consistent satisfaction levels across their courses. The University of Edinburgh and the University of Sheffield lead with the most consistent scores, followed closely by the University of Bristol and the University of Leeds. Other top universities like Oxford, Cambridge, Manchester, and UCL also maintain relatively stable satisfaction rates, reflecting steady student experiences.

3.5 Courses with high satisfaction but high unemployment

```
/* 3.5 Courses with high satisfaction but high unemployment */
select University_Name, Course_Name, Student_Satisfaction_Score, Unemployment_Rate_prcntge
from uk_employability.ukuniversityemployability
where Student_Satisfaction_Score > 85
and Unemployment_Rate_prcntge > 15;
```

Result Grid					Filter Rows:	Export:	Wrap Cell Content:
	University_Name	Course_Name	Student_Satisfaction_Score	Unemployment_Rate_prcntge			
▶	University of Oxford	Business and Management (Undergraduate)	88.46	21.41			
	University of Oxford	Mechanical Engineering (Postgraduate)	92.59	19.09			
	University of Oxford	Biological Sciences (Undergraduate)	86.76	17.96			
	University of Oxford	Education (Undergraduate)	90.31	18.26			
	University of Oxford	Physics (Postgraduate)	88.71	27.24			
	University of Cambridge	Computer Science (Undergraduate)	91.07	18.07			
	University of Cambridge	Business and Management (Undergraduate)	94.45	31.17			
	University of Cambridge	Mechanical Engineering (Postgraduate)	91.62	16.43			
	University of Cambridge	Mechanical Engineering (Postgraduate)	94.84	20.43			
	University of Cambridge	Psychology (Undergraduate)	88.9	22.06			
	University of Cambridge	Medicine (Undergraduate)	91.97	23.99			
	University of Cambridge	Medicine (Postgraduate)	88.88	25.47			

ukuniversityemployability 19 x

Despite having high student satisfaction scores, several courses across top universities show surprisingly high unemployment rates. This includes programs at Oxford, Cambridge, Imperial, UCL, and Edinburgh. For example, Business and Management and Physics at both Oxford and Cambridge have satisfaction scores above 88% but unemployment rates over 20%. Similarly, Psychology, Education, and Mechanical Engineering also show this mismatch.

This trend suggests that a positive academic experience doesn't always translate into immediate job opportunities, possibly due to competitive markets, lack of practical exposure, or industry demand gaps.

3. Insights

1. University Employment Trends

Several UK universities stand out for offering strong post-graduate employment prospects. Institutions such as the **University of Nottingham**, the **University of Sheffield**, **Brunel University London**, and the **University of Glasgow** consistently maintain **employment rates above the national average**, suggesting robust industry links, strong academic reputation, and effective career support services.

2. Most Common Job Sectors

The most frequent job sectors across the graduate field are:

- Healthcare
- Education
- Engineering
- Legal
- Arts

3. Computer Science Admission Patterns

Computer Science courses have shown stable acceptance and enrolment rates between 2018 and 2023, with a slight dip observed in the 2020–2021 period. This could be attributed to pandemic-related disruptions. Overall, interest in CS remains strong, with recovery visible in recent years.

4. Courses Popular Among International Students

Courses such as Mechanical Engineering, Law, Economics, and Business at top institutions (e.g., Oxford, Cambridge, Imperial) report over 30% international student enrolment and average salaries above £35,000. This signals global appeal, academic prestige, and strong earning potential, making these programs especially competitive internationally.

5. High Student Satisfaction Courses

Courses in Computer Science and Business & Management have consistently reported above-average student satisfaction, particularly at institutions like Imperial College London and the University of Cambridge. These points toward strong teaching quality, support structures, and curriculum relevance in these subjects.

6. High Satisfaction but Low Employment

Interestingly, some high-satisfaction courses suffer from elevated unemployment rates post-graduation. Examples include:

- Business & Management (Cambridge, Oxford)
- Mechanical Engineering (Oxford, Cambridge)
- Physics (Imperial)

This suggests a possible disconnect between course content and labour market demands, or saturated job markets for these disciplines.

7. Gender Balanced Courses

Courses at several universities exhibit perfect gender balance (0% deviation), including:

- Psychology at Manchester
- Law at Sheffield
- Medicine at Imperial
- Mechanical Engineering at Warwick

These findings highlight successful efforts in achieving gender diversity, especially in fields historically skewed towards a specific gender.

8. Courses with Declining Employment Rates

Some subjects, despite popularity, are seeing a consistent decline in employment rates over a 3-year period. These include:

- Psychology
- Business and Management
- Law
- Mechanical Engineering
- Computer Science

This trend underscores the need for universities to reassess curriculum alignment, upskill students, and strengthen industry partnerships in these areas.

9. Top-Earning Courses

The highest average salaries are typically seen in:

- Business and Management
- Psychology
- Medicine
- Engineering
- Mathematics

Universities like Cambridge, Imperial, and UCL consistently appear among the top 3 highest-paying course lists, indicating strong ROI (return on investment) for students in these programs.

10. Universities with Consistent Satisfaction

Institutions such as:

- University of Edinburgh
- University of Sheffield
- University of Bristol

exhibit low variation in student satisfaction scores, meaning students consistently report positive experiences across multiple courses, a testament to quality assurance and stable academic standards.

4. Recommendations

Based on the data analysis, it's clear that universities with higher employment rates and student satisfaction tend to offer courses aligned closely with current job market demands. So, universities should focus on regularly updating their course content to reflect industry trends, especially in high-growth sectors like healthcare, technology, and engineering. This will help students gain relevant skills and improve their chances of employment after graduation.

Another point is about international students. Courses with a strong international presence and good salary outcomes, such as those at Oxford and Cambridge, suggest that attracting diverse talent can benefit both the institution and the students. Universities should consider enhancing their international recruitment efforts while providing tailored support to help these students succeed.

We also noticed some courses have high student satisfaction but relatively high unemployment rates. This signals a potential mismatch between what students enjoy studying and the real-world demand for those skills. Universities and career services should collaborate to provide better career guidance, internships, and industry connections, so students can transition more smoothly from education to employment.

Finally, consistent monitoring of satisfaction scores and employment outcomes is essential. Universities that track these metrics closely can identify problem areas quickly and take corrective action, whether that means improving teaching quality, updating course materials, or expanding industry partnerships.

5. Conclusions

Our comprehensive analysis of UK universities reveals clear patterns in graduate employability, course satisfaction, salary outcomes, and demographic diversity. Top institutions such as Cambridge, Oxford, Imperial, and Edinburgh consistently deliver high-paying courses and internationally attractive programs, particularly in Business, Medicine, and Engineering. While Computer Science and Business courses enjoy high student satisfaction, some of them struggle with employment alignment, pointing to a need for improved career integration and curriculum updates. Encouragingly, many courses show excellent gender balance, and several universities maintain consistent satisfaction scores, reflecting strong academic and support systems. These insights can help prospective students make informed decisions and guide institutions in refining their educational offerings to meet evolving industry and societal needs.