



Graduate Portfolio Health Check

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Market Insights Brief

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I. Recommendations and Considerations

Research Challenge

A partner institution requested a Portfolio Health Check to evaluate the institution's existing graduate engineering portfolio and assess growth opportunities.

A full list of courses evaluated appears in the appendix.

Region

The region for this analysis included:

- England

Recommended Next Steps

- Request a 360-degree course assessment to examine potential for growth in an existing course
- Request a market opportunity scan for help identifying promising new course subjects
- Review the Business Affairs Forum's [Rightsizing the Program Portfolio](#) study to learn more about a transformed course review process

Key Findings

EAB's market scoring analysis identified the following courses as best poised for growth among the partner institution's existing graduate engineering portfolio. These courses demonstrate high and/or growing labour market demand:

- *Bioengineering* – Second highest percentage average quarterly growth in relevant job postings (i.e., 5.54 per cent) and highest projected growth over the next 10 years (i.e., 9,131 job postings), signaling growing employment opportunities for course graduates.
- *Civil Engineering* – High average quarterly number of relevant job postings (i.e., 26,442 job postings), indicating ample demand for graduates.
- *Electrical and Electronic Engineering, MSc in Advanced Electrical and Electronic Engineering with Extended Research and MSc in Electrical Engineering* - Highest average quarterly number of relevant job postings (i.e., 44,124 job postings), and high average quarterly growth in job postings (i.e., 1,152 job postings), indicating an increasingly favourable labour market.
- *Transportation Engineering* – Consistent historical growth in relevant job postings (i.e., 3.47 per cent per quarter) and strong projected growth over the next 10 years (i.e., 7,430 job postings), signaling growing labour market.

All courses received scores relative to each other. Thus, a course described with weak regional labour market demand does not necessarily represent low opportunity for growth in absolute terms, but rather lower opportunity for growth when compared to other courses in the portfolio.

Overview

EAB evaluated the partner institution's graduate engineering portfolio based on labour market demand variables (i.e., regional job growth over time, regional projected job growth). EAB assigned each course a quantitative score for labour market demand.

See the Appendix for a detailed explanation of the methodology used in this analysis.

Research Limitations

The analysis only considers course potential in terms of labour demand and does not account for courses' operational costs or potential capacity limitations (e.g., instructor shortages).

Administrators should note that the available labour market data cannot be differentiated by degree level; while the Forum analysed growth in demand for course graduates using relevant skills for each course, growth in demand includes demand for professionals at all degree levels.

II. Courses Analyzed and Scoring Source Data

Labour Market Intelligence Data

Regional Data

Course	Average Quarterly Job Postings, 2018 Q2-2021 Q1	Average Quarterly Per Cent Growth in Job Postings, 2018 Q2-2021 Q1	Average Quarterly Actual Growth in Job Postings, 2018 Q2-2021 Q1	Projected National Occupation Per Cent Growth, 2020-2030	Projected National Occupation Actual Growth, 2020-2030	Labour Market Score
Bioengineering	3,405	5.54%	186	5.61%	9,131	4.00
Civil Engineering	26,442	4.65%	1,164	4.77%	2,541	3.26
Electrical and Electronic Engineering	44,124	2.93%	1,152	4.76%	2,722	3.21
Transportation Engineering	1,793	3.47%	48	5.69%	7,430	3.21
Building Engineering	21,419	2.87%	553	4.77%	2,541	2.79
Electronics and Drives	4,574	3.55%	159	4.76%	2,722	2.68
Architecture Design	7,667	2.34%	105	7.17%	2,457	2.68
Computer Engineering	16,746	2.73%	410	4.37%	2,947	2.63
Advanced Materials	2,619	2.49%	59	5.19%	4,150	2.42
Sustainable Energy	565	4.73%	23	5.08%	5,016	2.32
Chemical Engineering	4,125	3.04%	97	4.75%	2,681	2.26
Environmental Engineering	1,646	2.55%	30	5.08%	5,962	2.26
Ergonomics	1,198	2.80%	31	5.20%	2,945	2.16
Human Computer Interaction	27,615	1.21%	192	4.74%	2,139	2.05
Structural Engineering	7,469	1.78%	88	4.77%	2,541	1.84
3D Printing	949	2.67%	19	5.20%	2,945	1.79
Mechanical Engineering	24,981	0.94%	104	4.68%	2,406	1.68

Appendix: Research Parameters and Sources

Research Methodology

EAB's market insights research guides strategic programmatic decisions at partner institutions. The Market Insights Service combines qualitative and quantitative data to help administrators identify opportunities for new course development, assess job market trends, and align curriculum with employer and student demand.

EAB employed a quantitative scoring system to assess labour market demand for each course. To score each course, EAB distilled the most fundamental external signals of market demand in terms of labour market intelligence, outlined below. Each course was assigned a score (zero through five) based on available data across five metrics, synthesized to the labour market demand score.

Quantitative scores were calculated using benchmark scores based on labour market demand for all courses in the portfolio; therefore, **course performance scores are relative to performance against the reviewed portfolio.**

This analysis was completed during the 2021 novel coronavirus outbreak, and the Forum cannot yet anticipate how the ensuing economic downturn and eventual recovery will deviate from historic labour market trends. The recommendations and insights are based on the best available information, but course decision-making is occurring in an unprecedented context. Leadership may want to refresh the analysis at a later date to understand how the labour market has responded.

Data Analyzed

Labour Market Demand

Data Point	Time Period Used	Rationale
Average number of jobs posted quarterly	2018 Q2-2021 Q1	Measures the actual number of jobs posted per quarter, during the most recent period of data available.
Average quarterly growth in proportion of job postings (per cent change)	2018 Q2-2021 Q1	Measures the quarterly change in job postings. EAB analyzed job posting growth in terms of proportion to identify occupations growing faster than the labour market as a whole and to account for economic fluctuations.
Average quarterly growth in job postings (actual change)	2018 Q2-2021 Q1	Measures the quarterly change in job postings. EAB analyzed actual change in addition to per cent change to account for volume of job posting growth.
Projected occupational growth (per cent change)	2020-2030	Indicates potential future growth in labour market demand in the United Kingdom.
Projected occupational growth (actual change)	2020-2030	Indicates potential future growth in labour market demand in the United Kingdom.

Definitions and Project Sources

Definitions

“Region” and “regional” refer to England.

Sources

The Forum consulted the following sources for this report:

- Emsi Analyst, described below

Labour Market Intelligence Partner: Emsi

This report includes data made available through EAB’s partnership with Emsi (formerly Economic Modeling Specialists International), a labour market analytics firm serving higher education, economic development, and industry leaders in the U.S., Canada and the United Kingdom.

Emsi curates and maintains the most comprehensive labour market data sets available for academic course planning, providing real-time job posting data, workforce and alumni outcomes data, and traditional government sources of data. Under this partnership, EAB may use Emsi’s proprietary Analyst™ and Alumni Insight™ tools to answer partner questions about employer demand, the competitive landscape, in-demand skills, postings versus actual hires, and skills gaps between job postings and professionals in the workforce. The Emsi tools also provide EAB with in-depth access to unsuppressed, zip-code-level government data for occupations, industries, courses, and demographics. For more complete descriptions of the Emsi tools, visit:

- <http://www.economicmodeling.com/analyst/>
- <https://www.economicmodeling.com/alumni-insight/>

To learn more about Emsi and its software and services, please contact Bob Hieronymus, Vice President of Business Development at bob.hieronymus@economicmodeling.com or (208) 883-3500.



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