



# STEM Course Growth Opportunities

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EAB Market Insights

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Senior Research Associate

Lilia Shea

Senior Research Manager

Kirsten Hinck

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# Report Introduction and Table of Contents

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This report presents new opportunities for academic course development. The sections outlined below present a ranking of our recommended new course opportunities, provide the data supporting those recommendations and our underlying methodology, and explain how we can support your next steps.

## *Table of Contents*

Executive Overview . . . . .	5
Project Analysis . . . . .	7
Project Methodology . . . . .	9
Next Steps from This Market Opportunity Scan . . . . .	11

# Report Introduction (cont.)

## Project Objective: Identify New Course Opportunities



### New Course Parameters

*Determined by the Partner Institution*

Course Characteristics

- Type: Degree
- Modality: In-person

Region: England

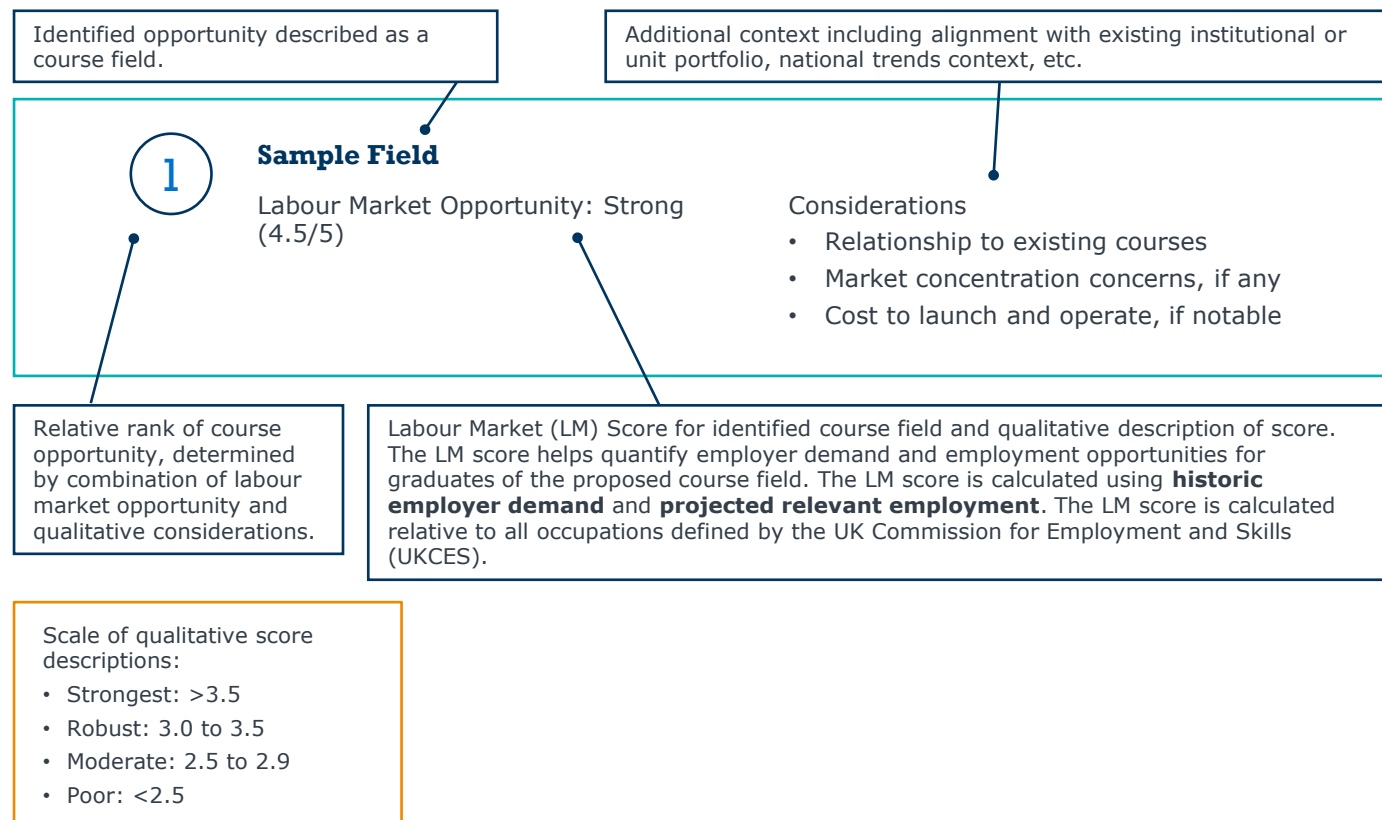


### Process to Identify New Course Opportunities

*Detailed methodology appears on page 9*

1. Analyse regional labour market to identify high-demand fields
2. Rank the courses based on labour market index scores and existing resources
3. Courses that present opportunity for growth based on labour market outlook appear on the following page.

## How to Interpret Identified New Course Opportunities



# Executive Overview

## Existing Courses with Strongest Potential for Enrolment Growth

This analysis found that courses in the partner's existing portfolio align well with employer demand. As a result, some of the recommendations below are for net new programs, but most of the recommended fields are reflective of courses already offered at the partner institution. While some opportunity exists to develop new programming, administrators will likely find greater growth opportunities in expanding existing courses.

### Course Opportunities for the Partner Institution

1

#### Data Science

Labour Market Opportunity: Strongest (3.98/5)

Related Current Offering: Removed for anonymity

#### Considerations

- Highest historical and projected per cent growth for 'Telecommunications engineers' (i.e., 6.21 and 5.88 per cent, respectively), indicating very high recent and future demand for course graduates.

2

#### Business Analytics

Labour Market Opportunity: Strongest (3.94/5)

Related Current Offering: Removed for anonymity

#### Considerations

- High number of relevant job postings in the last 36 months (i.e., 27,520 job postings) indicates strong employer demand despite lower employer demand growth rate (i.e., 0.88 per cent).
- Administrators may want to consider offering business analytics programming at the undergraduate level.

3

#### Civil Engineering

Labour Market Opportunity: Strongest (3.93/5)

Related Current Offering: Removed for anonymity

#### Considerations

- Highest net increase in job postings among profiled courses during the profiled period (i.e., 553) indicates both high volume and strong growth in number of job postings for civil engineers.

4

#### Biomedical Science

Labour Market Opportunity: Strongest (3.87/5)

Related Current Offering: Removed for anonymity

#### Considerations

- High projected growth for 'Biomedical scientists and biochemists' (i.e., 6.10 per cent from 2020 to 2030) indicates an increasingly favourable labour market for course graduates.

5

#### Design Engineering

Labour Market Opportunity: Strongest (3.70/5)

Related Current Offering: Removed for anonymity

#### Considerations

- Top skills sought by employers include 'New product development,' 'Computer-Aided Design,' 'SolidWorks,' '3D Modeling,' and 'Mechanical Engineering'; incorporating such skills into course curriculum will likely enhance graduate employment prospects.
- Strong historical (i.e., 1.21 per cent growth on average per quarter) and projected employer demand (i.e., 5.20 per cent from 2020 to 2030) indicates favourable labour market for course graduates.

From the broader analysis, these five courses rose to the top based on growth potential and alignment with the the partner institution's existing portfolio. To see all courses under consideration please see page 8.

For labour market details on all identified fields see pages 7-8.

# Executive Overview (cont.)

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## Action Items

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*Detailed next steps and supporting EAB resources and services appear on page 9*



### **Within the Partner Institution**

- Discuss identified new course opportunities with relevant leadership and academic staff.
- Use additional market data to make informed decisions on identified course opportunities before launch.
- Evaluate current budget capabilities and determine resources available to invest in new course launch.
- Consider potential employer partnerships to support growth.
- Determine impact of new course on existing portfolio.



### **In Partnership with EAB**

- Request a call with EAB research team to review the report and discuss next steps.
- Request further validation of desired new course opportunities via a Program Feasibility Study.
- Evaluate existing portfolio against labour market via a Portfolio Health Check.

# Project Analysis

Courses Preparing for These Occupations Should Attract Adult Students

**Labour Market Data for Relevant Occupations with Labour Market Scores above 2.5**

Regional Data

Occupation	Job Postings, 2018 Q2-2021 Q1			Employment, 2020-2030		Labour Market Score (Out of a maximum of 5)
	Avg. Quarterly Job Postings	Avg. Quarterly Growth (Per cent)	Avg. Quarterly Growth (Actual)	Projected Growth (Per cent)	Projected Growth (Actual)	
<b>Telecommunications engineers</b>	2,796	5.88%	150	6.21%	2,994	<b>4.00</b>
<b>Business and related research professionals</b>	10,569	2.93%	222	5.83%	2,124	<b>3.95</b>
<b>Business and related associate professionals n.e.c.</b>	27,520	0.88%	34	5.30%	8,076	<b>3.94</b>
<b>Civil engineers</b>	15,479	3.86%	553	4.77%	2,541	<b>3.93</b>
<b>Biological scientists and biochemists</b>	2,184	4.09%	81	6.10%	4,621	<b>3.87</b>
<b>IT specialist managers</b>	20,628	0.88%	102	4.43%	8,648	<b>3.72</b>
<b>Design and development engineers</b>	9,901	1.21%	91	5.20%	2,945	<b>3.70</b>
<b>Electrical engineers</b>	4,566	3.61%	135	4.80%	1,567	<b>3.51</b>
<b>Information technology and telecommunications professionals n.e.c</b>	28,114	0.40%	-33	5.33%	8,613	<b>3.37</b>
<b>Environment professionals</b>	2,793	3.48%	87	4.78%	1,452	<b>3.35</b>
<b>Programmers and software development professionals</b>	71,432	-0.07%	-462	5.63%	15,164	<b>3.22</b>
<b>Chemical scientists</b>	929	4.87%	42	5.13%	1,013	<b>3.18</b>
<b>IT business analysts, architects and systems designers</b>	16,458	0.06%	-49	5.09%	5,478	<b>3.11</b>

## Why Examine Labour Market Data?

Courses aligned to labour market needs offer the best potential to attract adult students: adults are predominantly motivated to enroll by career outcomes, ranging from upskilling in their current job to preparing for a career switch. Analysing historic employer demand (i.e., job postings) and projected employment ensure what the Forum knows about the regional labour market determines proposed new course opportunities.

Sources: Emsi Analyst, EAB Research & Analysis

# Project Analysis (cont.)

These Course Fields Align with the Selected In-Demand Occupations

## Occupational Alignment to Identified Subject Fields

<i>Occupation</i>		<i>Field Name</i>
<ul style="list-style-type: none"><li>• Telecommunications engineers</li><li>• Business and related research professionals</li></ul>	→	Data Science
Business and related associate professionals n.e.c.	→	Business Analytics
Civil engineers	→	Civil Engineering
Biomedical scientists and biochemists	→	Biomedical Science
<ul style="list-style-type: none"><li>• IT specialist managers</li><li>• Information technology and telecommunications professionals n.e.c.</li><li>• IT business analysts, architects and systems designers</li></ul>	→	Information Technology
Design and development engineers	→	Design Engineering
Electrical engineers	→	Electrical Engineering
Environment professionals	→	Environmental Science
Programmers and software development professionals	→	Computer Science
Chemical scientists	→	Chemistry



## Labour Market Analysis

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### **Analyse regional labour market to identify high-demand fields**

This analysis serves as an indicator of external labour market needs. The objective is to identify occupations with strong labour market demand, which serves as a proxy for adult student demand.

The analysis includes:

- Volume and growth of job postings
- Projected growth in employment

We review the top occupations in terms of labour market demand to identify trends. We then determine course fields aligned to these labour market trends.

#### *Data collected and scoring methodology*

EAB analysed labour market intelligence for the region and scored occupations (zero to five) based on growth and volume of job postings and employment.

EAB's analysis scored each occupation based on five discrete metrics:

Job Postings Data, 2018 Q2-2021 Q1:

- Average quarterly job postings
- Average quarterly per cent growth in job postings
- Average quarterly actual growth in job postings

Employment Projections Data, 2020-2030:

- Projected growth in employment (actual)
- Projected growth in employment (per cent)

Each occupation received a score of zero through five for each metric, based on its performance against all occupations considered. EAB then calculated a Labour Market Score (zero through five) for each occupation based on the average score for each metric.

# Project Methodology (cont.)

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## Data Sources

 **Emsi** <https://www.economicmodeling.com/>

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 programme 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, programs, 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](mailto:bob.hieronymus@economicmodeling.com) or (208) 883-3500.

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# Next Steps from this Market Opportunity Scan

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## Follow These Steps to Act on New Course Opportunities

### Internal

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Share the report with relevant leadership and academic staff on campus. Use the recommended EAB resources below to guide conversations with stakeholders and make informed decisions.



**Identify the most interesting opportunities for further analysis.** Consider how the report's findings match institutional goals. How do the fields surfaced in the report align with institutional strengths, available resources, and academic staff priorities? See EAB's '[Top-Down New Program Opportunity Analyses](#)' toolkit to learn what internal and external data sources you should leverage to determine which new course fields to prioritise.



**Continue to use market data to make informed decisions.** Reference EAB's '[Market Demand Validation Checklist](#)' for additional guidelines on how to interpret the labour market data in this report. Use this checklist to avoid underestimating competition or overestimating employer and student demand as well as to vet initial projections for new courses.



**Evaluate current budget capabilities and determine resources available to invest in new course launch.** Refer to EAB's '[New Program Cost-Minimization Checklist](#)' for ten tactics that can limit initial investment in new courses by leveraging existing resources and EAB's '[New Program Budget Templates](#)' to project costs for new course development.



**Consider potential employer partnerships to support growth.** Employer partnerships can help generate revenue to support mission-critical courses and offerings. EAB's '[Toolkit to Grow Employer Partnerships](#)' and '[Critical Disciplines to Grow Employer Partnerships](#)' research can help administrators identify potential partners and build successful, long-lasting employer relationships.



**Determine impact of new courses on institution's existing portfolio.** Leveraging resources from existing courses can help limit course launch costs. However, those financial gains are diminished if a new course attracts enrolments away from an existing degree rather than securing net new enrolments. EAB's '[Portfolio Cannibalization Feedback Form](#)' can help institutional leaders and academic staff flag new course that serve similar markets as the institution's existing portfolio and determine if a new degree will result in net positive or net negative enrolment shifts.

### In Partnership with EAB

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**Request a project debrief call with EAB research team to review the report.** Meet with members of our research team to discuss the findings of the report and potential next steps.



**Validate selected new course opportunities.** Request a Course Feasibility Study to explore the market viability of an identified new course opportunity.



**Evaluate existing portfolio against labour market and competitive opportunity.** Request a Portfolio Health Check to understand how existing offerings score on labour market opportunity.



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