# Why STEM-E

STEM and Entrepreneurship-Focused Private High School: Connecting STEM Education with Real-World Impact from Integrating STEM, Business, and Education

以 STEM 和创业为重点的私立高中：通过融合 STEM、商业与教育，实现 STEM 教育与现实世界影响的紧密连接

STEM-E.net is a STEM entrepreneurship private school providing OSSD Grade 9–12 credits. Proudly, our innovative, structured program offers a leading-edge foundation for students to pursue university education and careers in STEM and entrepreneurship. While traditional education is subject-based, all subject teachers at STEM-E.net collaborate to provide the necessary knowledge for building and completing STEM and business projects.

STEM-E.net 是一所提供 OSSD 9 至 12 年级学分的 STEM 创业私立学校。我们引以为傲的创新、系统化课程，为学生追求大学教育以及 STEM 和创业领域的职业奠定了先进的基础。与传统的学科式教育不同，STEM-E.net 的所有学科教师都会协同合作，为学生提供完成 STEM 和商业项目所需的知识。

Revolutionizing Education for the Technology Era

引领科技时代的教育变革

As technology and society evolve, traditional education no longer fully meets the needs of students. Education should prioritize application—teaching students how to leverage technology effectively. In today’s world, it is more important to understand how to give instructions to AI, utilize data-driven insights, and make informed decisions. For example, AI can research vast amounts of information in minutes, but success depends on an individual’s ability to guide AI effectively and apply the results strategically.

随着科技和社会的发展，传统教育已无法完全满足学生的需求。教育应当以应用为优先目标——教会学生如何有效利用科技。在当今世界，理解如何向人工智能下达指令、运用数据驱动的洞察力并做出明智决策，比以往任何时候都更为重要。比如，人工智能能够在几分钟内检索海量信息，但成功取决于个人能否有效引导人工智能，并合理运用其结果。

Preparing Students for the Future

为学生未来做好准备

STEM-E is a forward-thinking educational program designed to equip students with fundamental STEM concepts and real-world application skills. Our innovative case-based learning method helps students develop a holistic understanding of problems, navigate complex systems, and make strategic decisions rather than simply

following a traditional subject-based curriculum. Collaboration is a key component, as students work in teams to complete

STEM-E 是一个创新型教育项目，旨在帮助学生掌握基础的 STEM 概念和实际应用能力。我们独特的案例式学习方法能够帮助学生全面理解问题，掌握应对复杂系统的能力，并学会做出有效决策，而不仅仅是单纯地学习传统的学科课程。协作是我们项目的重要组成部分，学生将在团队中共同完成各类任务。

[STEM-E.NET](http://stem-e.net/) provides students with opportunities to explore their strengths, refine their decision-making abilities, and create a pathway to a fulfilling career. Our program emphasizes essential skills:

● Innovation, Critical thinking and Seeing the full picture

● Decision-making, Leadership and Teamwork

STEM-E.NET 为学生提供探索自身优势、提升决策能力、开创充实职业道路的机会。我们的课程重点培养以下核心能力：

● 创新精神、批判性思维和全局观

● 决策能力、领导力和团队合作

Each term, students complete a business case that integrates AI-assisted research and hands-on problem-solving. This approach allows them to explore different pathways, helping them make informed decisions about their future university studies and careers. By blending STEM and entrepreneurship, STEM-E ensures that STEM students understand business and industry dynamics, while business students gain insight into managing STEM projects and businesses.

每个学期，学生都会完成一个结合人工智能辅助研究和实践问题解决的商业案例。通过这种方式，他们能够探索不同的道路，帮助他们对未来的大学学习和职业发展做出明智的选择。STEM-E 通过融合 STEM 和创业教育，确保 STEM 学生理解商业和行业的运作，同时让商科学生深入了解如何管理 STEM 项目和企业。

## Who is STEM-E

Earn Credits Locally

在本地修读学分

WHY STEM EXCEL

为什么选择 STEM EXCEL

STEM-E.net is a STEM entrepreneurship private school providing OSSD Grade 9–12 credits. Proudly, our innovative, structured program offers a leading-edge foundation for students to pursue university education and careers in STEM and entrepreneurship. While traditional education is subject-based, all subject teachers at STEM-E.net collaborate to provide the necessary knowledge for building and completing STEM and business projects.

STEM-E.net 是一所提供 OSSD 9 至 12 年级学分的 STEM 创业私立学校。我们引以为傲的创新性、系统化课程为学生攻读大学学位及投身 STEM 和创业领域打下了先进的基础。与传统的学科式教育不同，STEM-E.net 的各科教师紧密协作，共同为学生完成 STEM 和商业项目提供所需的知识与支持。

Students can register with us full-time to work on STEM and business projects or part-time while continuing with their home school. They can also register for STEM or business courses with us after school or on weekends. As both STEM-E.net and your home school are under the same Ontario Ministry of Education, the credits and grades will be transferred to your home school.

学生可以选择在我们这里学习，专注于 STEM 和商业项目，也可以选择兼职，同时继续在原学校就读。学生还可以在课后或周末报名参加我们的 STEM 或商业课程。由于 STEM-E.net 与您的原学校均隶属于安大略省教育厅，所获得的学分和成绩将转回您的原学校。

With small class sizes, we ensure that each student receives the help they need. Our experienced teachers, who are industry experts, provide real-world industry education and mentorship. Our program has a proven track record of success, helping students successfully build team projects and gain the skills needed for STEM and entrepreneurship. We also offer additional leadership opportunities and internships that can support your university applications and provide valuable references to empower your success.

我们采用小班教学，确保每位学生都能获得所需的支持与指导。我们的教师团队由经验丰富的行业专家组成，能够为学生提供真实的行业知识和专业指导。我们的课程已被实践证明行之有效，帮助学生成功完成团队项目，并掌握投身 STEM 和创业所需的关键技能。我们还提供额外的领导力培养机会和实习机会，助力大学申请，并为学生提供有价值的推荐和支持，帮助他们迈向成功。

## Teaching Method

Our Unique Teaching Approach

我们独特的教学方法

At STEM Excel Academy, we take a different path from traditional schools by using an interdisciplinary case-based teaching method rather than a subject-siloed approach. This innovative model encourages collaboration across multiple subjects to mirror real-world problem-solving and prepare students for dynamic careers.

在 STEM Excel Academy，我们采用不同于传统学校的教学方式，通过跨学科的案例式教学方，而不是单一学科分割的模式。这种创新的教学模式鼓励多学科协作，模拟现实世界中的问题解决过程，帮助学生为充满挑战和变化的职业生涯做好准备。

Each year, students are required to take a total of eight courses. Among these, the following are mandatory:

One English course

One science course (Physics, Biology, or Chemistry)

One Math course (Algebra, Geometry or Calculus)

One Business course

The remaining four courses can be selected based on the student’s interests and goals.

每年，学生需修读共八门课程，其中包括以下必修课程：

一门英语课程

一门科学课程（物理、生物或化学）

一门数学课程（代数、几何或微积分）

一门商业课程

其余四门课程可根据学生的兴趣和目标自由选择。

How Our Teaching Model Works

我们的教学模式如何运作

English:

Students learn to write, communicate, such as explain the STEM solution, storytelling and white paper, such as history content and literature quotes to promote or highlight the features of the STEM solution, product, or service that it offers or plans to offer, helping storytelling and why it has a great impact.

Students learn how to write comprehensive business proposals. English teachers focus on developing the communication skills necessary to present solutions clearly and persuasively, a vital component of any successful business case. Students will also learn other written skills FAQs to help explain the STEM solution, social media content, award submissions, speeches, key messages, positioning statements and applications, press releases, op-eds, articles and proposals

英语：

学生将在课程中学习写作与沟通技巧，例如如何解释 STEM 方案、进行故事化表达、撰写白皮，以及如何引用历史内容或文学名句以推广或突出 STEM 方案、产品或服务的特点及其重要影响，帮助塑造故事和凸显其价值。

学生还将学习如何撰写完整的商业提案。英语教师将重点培养学生清晰、有说服力地展示解决方案的沟通能力，这也是成功商业案例的关键组成部分。除此之外，学生还会掌握其他写作技能，包括编写常见问题解答（FAQ）以说明 STEM 方案、社交媒体内容、奖项申报材料、演讲稿、核心信息、定位声明和申请文件、新闻稿、评论文章、专业文章和提案等。

STEM: Physics, Biology, or Chemistry

Whether tackling engineering, computer science, or scientific challenges, students acquire the knowledge and skills needed to develop practical solutions. STEM teachers guide students through essential concepts tailored to solving the specific case.

STEM：物理、生物或化学

无论是应对工程、计算机科学还是科学领域的挑战，学生都将在学习中掌握开发实际解决方案所需的知识和技能。STEM 教师会根据具体案例，引导学生深入理解并应用关键概念，以帮助他们解决问题。

Mathematics: Algebra, Functions, or Calculus

The quantitative reasoning skills to analyze data, create models, and optimize solutions. This analytical foundation strengthens the technical and financial aspects of the business case.

数学：代数、函数或微积分

培养学生的数据分析能力、建模能力和优化解决方案的量化推理技能。这一分析基础强化了商业案例中的技术和财务部分。

Business:

Business classes teach students to create financial plans, forecasts, and management strategies. Depending on the focus of the case, students apply tools for market analysis, budgeting, and risk assessment, ensuring their solutions are both innovative and economically viable.

商业：

商业课程教授学生如何制定财务计划、预测和管理策略。根据具体案例的重点，学生将运用市场分析、预算编制和风险评估等工具，确保他们提出的解决方案既具有创新性，又具备经济可行性。

University Pathways

## Engineering

Engineering Pathway

工程方向

Case Example: Designing a Sustainable Water Filtration System for Remote Communities

案例：为偏远社区设计可持续水过滤系统

English: Developing a Business Proposal

Students work in teams to research and draft a comprehensive business proposal for a sustainable water filtration system. In English class, they learn how to structure the proposal, write a compelling executive summary, and clearly describe their technical design. Emphasis is placed on professional tone, logical argumentation, and persuasive writing to justify the feasibility and impact of their solution.

英语：撰写商业提案

学生分组合作，调研并起草一份完整的可持续水过滤系统商业提案。在英语课程中，学生将学习如何构建提案结构、撰写有说服力的执行摘要，并清晰地描述其技术设计。课程强调专业语气、逻辑论证和说服性写作，以论证方案的可行性和社会影响。

STEM: Engineering the Solution

In STEM classes, students design and prototype a water filtration system. They learn about filtration materials, fluid dynamics, and sustainable energy sources. Using the design process, they apply scientific methods to test and optimize their system's efficiency in removing contaminants, considering environmental and logistical constraints. Teachers guide students in creative problem-solving and iterative design improvements.

STEM：工程方案设计

在 STEM 课程中，学生将设计并制作水过滤系统的原型。他们将学习过滤材料、流体动力学和可持续能源等相关知识。在设计过程中，学生应用科学方法测试并优化系统去除污染物的效率，同时考虑环境和物流方面的限制。教师将指导学生进行创造性问题解决和多轮改进设计。

Mathematics: Quantitative Analysis and Optimization

Mathematics plays a crucial role in ensuring the solution is both efficient and cost-effective. Students perform calculations to determine flow rates, pressure loss, and filter capacity. They use data modeling to predict system performance over time and calculate the total cost of implementation. Math class focuses on applying algebra, geometry, and statistical analysis to enhance the technical and economic aspects of the project.

数学：定量分析与优化

数学在确保方案高效且具成本效益方面发挥关键作用。学生将计算流速、压力损失和过滤容量，利用数据建模预测系统的长期性能，并计算项目实施的总成本。数学课程重点培养学生运用代数、几何和统计分析能力，以完善项目的技术和经济方案。

Business: Financial Planning and Market Analysis

Business classes focus on integrating financial and market strategies into the technical design. Students create detailed budgets for material costs and maintenance, perform market analysis to gauge the system's demand, and develop risk mitigation strategies. This ensures the water filtration system is not only innovative but also financially sustainable and scalable for broader deployment.

商业：财务规划与市场分析

商业课程注重将财务和市场策略融入技术设计中。学生将制定详细的材料和维护预算，开展市场分析以评估系统需求，并制定风险应对策略。这确保水过滤系统不仅具创新性，还具有财务可持续性，并可扩展至更广泛的应用场景。

Mandatory courses to take:

SPH4U - Physics SCH4U

Chemistry MHF4U

Advanced Functions MCV4U

Calculus and Vectors

ENG4U - English ​

必修课程：

SPH4U - 物理

SCH4U - 化学

MHF4U - 高等函数

MCV4U - 微积分与向量

ENG4U - 英语

English

Effective communication is critical in engineering. English classes teach students how to write clear and persuasive business proposals for technical projects. Students learn to articulate complex engineering solutions, justify decisions, and present findings in a professional manner—essential skills for engineers when communicating with stakeholders, clients, and multidisciplinary teams.

英语

有效沟通在工程领域至关重要。英语课程帮助学生学习如何撰写清晰有说服力的技术项目商业提案。学生将学会清楚表达复杂的工程方案、阐明决策依据，并以专业的方式呈现成果，这些都是工程师与利益相关方、客户及跨学科团队沟通时不可或缺的技能。

STEM

Engineering is about solving real-world problems. STEM classes provide students with the foundational technical knowledge and design principles needed to develop innovative engineering solutions. Teachers guide students in applying scientific methods, analyzing materials, and designing systems to address specific project needs, emphasizing problem-solving and creativity.

STEM

工程的核心是解决现实世界中的问题。STEM 课程为学生提供开发创新工程方案所需的基础技术知识和设计原则。教师将指导学生应用科学方法、分析材料特性、设计系统，以满足具体项目需求，并重点培养问题解决能力和创造力。

Mathematics

Mathematics underpins every engineering discipline. Students develop the ability to use quantitative reasoning, data analysis, and modelling to solve complex engineering problems. Math classes strengthen students' capacity to optimize designs, analyze performance, and ensure precise calculations, all of which are essential for engineering feasibility studies and technical proposals.

数学

数学是所有工程学科的基础。学生将在课程中培养运用量化推理、数据分析和建模来解决复杂工程问题的能力。数学课程强化学生优化设计、分析性能和确保精确计算的能力，这些对于工程可行性研究和技术提案至关重要。

Business

In engineering, financial feasibility and risk management are crucial for project success. Business classes teach students to create financial plans, forecasts, and management strategies that align with engineering objectives. Depending on the focus of the case, students analyze market demands, calculate production costs, and assess risks to ensure that technical innovations are economically viable and scalable for real-world applications.​​

商业

在工程项目中，财务可行性和风险管理是取得成功的关键。商业课程教授学生制定符合工程目标的财务计划、预测和管理策略。根据案例重点，学生将分析市场需求、计算生产成本、评估风，确保技术创新在经济上可行且具备现实推广价值。

University Majors in this Pathway:

Software Engineering

Mechanical Engineering

Electrical Engineering

Computer Engineering

Chemical Engineering

该方向对应的大学专业

软件工程

机械工程

电气工程

计算机工程

化学工程

## Computer Science

Computer Science Pathway

计算机科学方向

Case Example: Developing a Mobile App for Personal Finance Management

案例：开发个人财务管理移动应用程序

English: Writing a Software Business Proposal

Students work together to create a business proposal for a personal finance mobile app that helps users track expenses, create budgets, and manage savings goals. In English class, they learn to write detailed project plans, including a user needs analysis, project objectives, and a clear summary of technical features. They practice persuasive writing to pitch their app’s unique selling points, usability benefits, and market potential to potential investors or stakeholders. ​​

英语：撰写软件商业提案

学生将合作完成一份个人理财手机应用的商业提案，该应用帮助用户记录支出、制定预算、管理储蓄目标。在英语课程中，学生将学习如何撰写详细的项目计划，包括用户需求分析、项目目标和技术功能的清晰概述。他们还将练习说服性写作，以向潜在投资人或利益相关方推介应用的独特卖点、易用性优势和市场潜力。

STEM: Building and Coding the Solution

In computer science classes, students design and develop mobile apps. They learn coding techniques using programming languages like Python or JavaScript, apply user interface (UI) design principles, and integrate secure data storage solutions. Teachers guide students through debugging, testing, and optimizing the app for performance and security. Emphasis is placed on using agile development methods to iterate and improve the application. ​​

STEM：开发和编程解决方案

在计算机科学课程中，学生将设计并开发这款手机应用。他们会学习使用 Python 或 JavaScript 等编程语言的编程技术，应用用户界面（UI）设计原则，并集成安全的数据存储解决方案。教师将指导学生完成调试、测试，并优化应用在性能和安全性方面的表现，课程强调采用敏捷开发方法，不断迭代和改进应用程序。

Mathematics: Algorithm Efficiency and Data Analytics

Mathematics supports the app’s backend functions, such as calculating savings projections, analyzing spending patterns, and creating data visualizations for users. Math classes focus on concepts like algorithm design, optimization, and probability to ensure efficient processing of financial data. Students apply functions, sequences, and matrices to implement calculations that enhance the user experience and accuracy of financial recommendations. ​​

数学：算法效率与数据分析

数学为应用的后台功能提供支持，例如计算储蓄预测、分析支出模式和为用户生成数据可视化。数学课程重点讲授算法设计、优化和概率等概念，以确保财务数据的高效处理。学生将运用函数、数列和矩阵等知识来实现计算，提升用户体验和财务建议的准确性。

Business: Financial Planning and Market Strategy

Business classes focus on creating a comprehensive market strategy for the personal finance app. Students analyze the app’s cost structure, including development, marketing, and maintenance expenses, and forecast potential revenue from premium features or subscriptions. They perform a competitive analysis to identify market gaps and develop a pricing model that balances accessibility and profitability. Risk assessment tools are applied to evaluate cybersecurity vulnerabilities and financial regulations, ensuring the app meets both technical and business requirements for successful market deployment.

商业：财务规划与市场策略

商业课程聚焦于为个人理财应用制定全面的市场策略。学生将分析应用的成本结构，包括开发、营销和维护费用，并预测来自高级功能或订阅服务的潜在收入。他们将进行竞争分析，识别市场空白，制定兼顾可及性与盈利能力的定价模型。同时，学生将运用风险评估工具，评估网络安全隐患和金融法规要求，确保应用在技术和商业层面都符合成功进入市场的条件。

Mandatory Courses to Take:

MHF4U Advanced Functions

MCV4U - Calculus and Vectors

ENG4U - English ​​

必修课程：

MHF4U - 高等函数

MCV4U - 微积分与向量

ENG4U - 英语

English

In the field of computer science, clear documentation and effective communication are critical. English classes teach students how to write business proposals, technical documentation, and software design plans. Students learn to explain algorithms, articulate system architecture, and present solutions persuasively, equipping them with the skills to communicate with both technical teams and non-technical stakeholders.

英语

在计算机科学领域，清晰的文档编写和高效沟通至关重要。英语课程帮助学生学习如何撰写商业提案、技术文档和软件设计方案。学生将学会解释算法、阐述系统架构，并有说服力地展示解决方案，使他们具备与技术团队和非技术利益相关方沟通的能力。

STEM

Computer science focuses on solving problems using technology. STEM classes provide students with the skills to write code, develop software, and fix errors. Teachers guide students through the steps of building programs and using technology to solve real-world problems.

STEM

计算机科学的核心是运用技术解决问题。STEM 课程为学生提供编写代码、开发软件和排查错误的技能。教师将引导学生掌握程序构建步骤，并运用技术手段应对现实世界中的各种问题。

Mathematics

Mathematics is fundamental to many aspects of computer science. Math classes equip students with the quantitative reasoning and analytical skills necessary for data analysis, algorithm efficiency, and model optimization. Concepts like discrete mathematics, linear algebra, and probability enhance students’ ability to develop and evaluate computational solutions.

数学

数学是计算机科学诸多领域的基础。数学课程帮助学生掌握进行数据分析、优化算法效率和模型优化所需的量化推理和分析能力。离散数学、线性代数和概率等概念将增强学生开发和评估计算解决方案的能力。

Business

In computer science, transforming innovative ideas into successful products requires strategic business planning. Business classes teach students to develop financial plans, market strategies, and project management frameworks. They analyze software development costs, assess the competitive landscape, and evaluate cybersecurity risks. By learning about product-market fit, pricing strategies, and monetization models, students ensure their technological solutions are not only functional but also scalable and economically viable. ​​

商业

在计算机科学中，将创新理念转化为成功产品需要战略性的商业规划。商业课程教授学生如何制定财务计划、市场策略和项目管理框架。学生将分析软件开发成本、评估竞争格局，并识别网络安全风险。通过学习产品市场契合度、定价策略和变现模式，学生能够确保他们的技术解决方案不仅具备功能性，还具有可扩展性和经济可行性。

University Majors in this Pathway:

Computer Science

Data Science

Information Technology

Psychology

Biotechnology

该方向对应的大学专业：

计算机科学

数据科学

信息技术

心理学

生物技术

## Health/Life Science

Health Science/Life Science Pathway

健康科学 / 生命科学方向

Case Example: Developing a Plant-Based Alternative for Biodegradable Packaging ​ ​

案例示例：开发用于可降解包装的植物基替代材料

English: Writing a Scientific Proposal

Students collaborate to draft a research proposal for a plant-based biodegradable packaging material aimed at reducing plastic waste. In English class, they learn how to structure and write the proposal, including a detailed introduction, hypothesis, methodology, and persuasive conclusion. They practice using scientific language to describe their research process, justify their material selection, and explain the societal impact of their solution.

英语：撰写科学研究提案

学生合作起草一份研究提案，内容围绕开发一种旨在减少塑料污染的植物基可降解包装材料。在英语课程中，学生学习如何构建并撰写该提案，包括详细的引言、假设、研究方法和有说服力的结论。他们将练习使用科学语言描述研究过程、论证材料选择的合理性，并说明该方案对社会的积极影响。

STEM: Designing and Testing the Solution

In biology and chemistry classes, students explore material properties and environmental factors influencing biodegradability. They research plant-based polymers, conduct experiments to test strength and decomposition rates, and analyze results to optimize their packaging material. Teachers guide students in applying scientific methods and lab techniques while considering sustainability and scalability.

STEM：设计和测试解决方案

在生物和化学课程中，学生探索材料特性及影响可降解性的环境因素。他们研究植物基聚合物，进行实验测试包装材料的强度和分解速率，并分析实验结果以优化材料性能。教师引导学生运用科学方法和实验技术，同时关注可持续性和大规模生产的可行性。

Mathematics: Quantitative Data Analysis

In math classes, students model data from their experiments, calculate rates of decomposition, and determine the cost-efficiency of production. Using functions and calculus concepts, they analyze the relationship between variables like temperature and material breakdown. They also use statistical tools to interpret the reliability of their findings.

STEM：设计和测试解决方案

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Business: Financial Planning and Market Viability

Business classes teach students how to create a financial plan for scaling their biodegradable packaging solution. They estimate production costs for plant-based materials, project potential savings from reduced environmental impact, and analyze market trends in sustainable packaging. Students also evaluate risks related to material sourcing and regulatory compliance. This exercise emphasizes integrating scientific innovation with strategic business decisions to ensure the solution is both sustainable and economically competitive.

商业：财务规划与市场可行性

商业课程指导学生制定扩大可降解包装材料生产的财务计划。他们估算植物基材料的生产成本，预测因减少环境影响而带来的潜在节约，并分析可持续包装市场的趋势。学生还将评估材料供应、法规合规等相关风险。这一环节强调将科学创新与战略性商业决策相结合，确保解决方案既可持续又具经济竞争力。

Mandatory Courses to Take:

SBI4U - Biology

SCH4U - Chemistry

MHF4U - Advanced Functions

MCV4U - Calculus and Vectors

ENG4U - English

必修课程：

SBI4U - 生物学

SCH4U - 化学

MHF4U - 高等函数

MCV4U - 微积分与向量

ENG4U - 英语

​​

English

Clear and effective communication is vital in the life sciences. English classes teach students how to write detailed research proposals and scientific business cases. Students learn to present experimental designs, explain biological solutions, and communicate findings persuasively—key skills for publishing research, applying for grants, or pitching biotech innovations.

英语

在生命科学领域，清晰有效的沟通至关重要。英语课程教授学生如何撰写详尽的研究提案和科学商业案例。学生学习展示实验设计、解释生物学解决方案以及有说服力地传达研究结果——这些都是发表论文、申请资金或推介生物技术创新的关键技能。

STEM

Life sciences focus on understanding and solving biological and medical challenges. STEM classes provide students with the theoretical knowledge and laboratory skills necessary to develop practical solutions, such as designing experiments, analyzing biological data, or proposing treatments. Teachers guide students in applying scientific principles to real-world problems, emphasizing critical thinking and innovation in biological research.

STEM

生命科学专注于理解和解决生物及医疗挑战。STEM课程为学生提供必要的理论知识和实验室技能，以开发实际解决方案，例如设计实验、分析生物数据或提出治疗方案。教师引导学生将科学原理应用于现实问题，强调批判性思维和生物研究中的创新。

Mathematics

Mathematics provides essential tools for analyzing complex biological systems and experimental data. In life sciences, algebra, geometry, and calculus are used to model biological processes, interpret statistical data, and optimize solutions for research or healthcare applications. These quantitative reasoning skills enhance both the scientific accuracy and the economic feasibility of life sciences projects, supporting evidence-based decision-making and resource management.

数学

数学为分析复杂生物系统和实验数据提供了重要工具。在生命科学中，代数、几何和微积分被用于建模生物过程、解读统计数据，并优化科研或医疗应用的解决方案。这些定量推理技能提升了生命科学项目的科学准确性和经济可行性，支持基于证据的决策和资源管理。

Business

In life sciences, translating scientific innovations into marketable solutions requires a solid understanding of business principles. Business classes teach students to develop financial plans, forecasts, and management strategies tailored to biotechnology and healthcare. Students perform market analyses, budget resource allocations, and assess regulatory risks to ensure their solutions are both scientifically advanced and commercially viable.

商业

在生命科学领域，将科学创新转化为可市场化的解决方案需要扎实的商业知识。商业课程教授学生制定针对生物技术和医疗保健的财务计划、预测和管理策略。学生进行市场分析、预算资源分配，并评估法规风险，确保其方案既具科学先进性又具商业可行性。

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University Majors in this Pathway:

Life Science

Biochemistry

Biology

Biomedical Sciences

Health Science

Biotechnology​

该方向推荐大学专业：

生命科学

生物化学

生物学

生物医学科学

健康科学

生物技术

## Business

Business Pathway

商业方向

Pathway Case Example: Launching a Sustainable Coffee Shop Franchise ​ ​

案例示例：推出可持续发展的咖啡连锁店

English: Writing a Business Proposal

Students collaborate to write a comprehensive business proposal for launching a sustainable coffee shop franchise. In English class, they learn to articulate a clear business strategy, describe their unique eco-friendly concept, and provide compelling justifications for their market positioning. The proposal includes a detailed executive summary, mission statement, and marketing plan, with an emphasis on persuasive writing techniques to attract investors and partners. ​

英语：撰写商业计划书

学生合作撰写一份关于启动可持续咖啡连锁店的综合商业计划书。在英语课上，他们学习如何清晰表达商业策略，描述独特的环保理念，并为市场定位提供有力的理由。计划书包括详细的执行摘要、使命宣言和营销方案，强调使用有说服力的写作技巧以吸引投资者和合作伙伴。

​​STEM: Sustainable Technologies and Operational Efficiency

STEM classes provide students with insights into sustainable technologies and efficient supply chain management. They explore renewable energy systems for shop operations, analyze the environmental impact of different materials, and research advanced waste reduction techniques. Teachers guide students through evaluating technology solutions for energy savings, water conservation, and sustainable product sourcing, ensuring their business model aligns with environmental and economic goals.​​

STEM：可持续技术与运营效率

STEM课程为学生提供关于可持续技术和高效供应链管理的见解。他们探索用于店铺运营的可再生能源系统，分析不同材料的环境影响，并研究先进的废物减少技术。教师指导学生评估节能、水资源保护和可持续产品采购的技术解决方案，确保其商业模式符合环境和经济目标。

Mathematics: Quantitative Data Analysis for Decision-Making

Mathematics plays a key role in evaluating the financial viability of the business. Students calculate profit margins, break-even points, and return on investment using functions and calculus concepts. They also build financial models to optimize resource allocation and project future sales. Probability and statistics are used to assess market trends and customer behavior, providing a data-driven foundation for business decisions.​​ ​​

数学：量化数据分析支持决策

数学在评估商业财务可行性中起关键作用。学生运用函数和微积分概念计算利润率、盈亏平衡点和投资回报率。他们还建立财务模型以优化资源分配并预测未来销售。概率与统计被用来评估市场趋势和客户行为，为商业决策提供数据驱动的基础。

Business: Developing Financial Plans and Strategies

In business class, students create a financial plan outlining start-up costs, revenue projections, and strategies for managing operating expenses. They conduct a market analysis to identify target demographics and competitors, applying tools like SWOT analysis and pricing strategies. Teachers guide students in forecasting profitability, assessing risks, and developing scalable growth plans for the franchise model.

商业：制定财务计划与战略

在商业课上，学生制定财务计划，涵盖启动成本、收入预测及运营费用管理策略。他们进行市场分析，识别目标客户群和竞争对手，应用 SWOT 分析和定价策略等工具。教师引导学生预测盈利能力、评估风险，并为连锁加盟模式制定可扩展的增长计划。

Mandatory Courses to Take:

MHF4U - Advanced Functions

MCV4U - Calculus and Vectors

ENG4U - English

必修课程：

MHF4U - 高等函数

MCV4U - 微积分与向量

ENG4U - 英语

English

Strong communication is vital in business. English classes teach students how to write detailed business proposals and reports, helping them develop the skills to present ideas clearly and persuasively. This training is essential for creating professional presentations, pitching business strategies, and communicating with clients and stakeholders. ​​

英语

良好的沟通能力在商业领域至关重要。英语课程教导学生如何撰写详细的商业计划书和报告，帮助他们培养清晰且有说服力地表达观点的技能。这些训练对于制作专业演示、推销商业策略以及与客户和利益相关者沟通非常重要。

STEM

STEM classes provide students with a technical foundation to drive business innovation. They learn how to apply technology, scientific methods, and design principles to develop products and services that meet market demands. In these classes, students engage in hands-on activities like prototyping, system design, and data analysis to solve real-world problems. Teachers guide students through the process of evaluating technical feasibility, optimizing solutions, and integrating sustainability, ensuring technical designs align with business goals for practical, scalable, and competitive solutions.

STEM

STEM课程为学生提供推动商业创新的技术基础。学生学习如何应用技术、科学方法和设计原，开发满足市场需求的产品和服务。在这些课程中，学生通过动手活动，如原型设计、系统设计和数据分析，解决现实问题。教师引导学生评估技术可行性，优化解决方案，并整合可持续发展理念，确保技术设计与商业目标相符，打造实用、可扩展且具有竞争力的解决方案。

Mathematics

Mathematics is essential for making data-driven decisions in business. Math classes strengthen students' ability to analyze financial data, build models, and optimize business operations. From calculating profit margins to evaluating investment returns, quantitative reasoning helps ensure robust and efficient business solutions.

数学

数学是做出数据驱动商业决策的关键。数学课程强化学生分析财务数据、构建模型和优化商业运营的能力。从计算利润率到评估投资回报，量化推理有助于确保商业解决方案的稳健和高效。

Business

Business classes equip students with the tools to develop financial plans, conduct market analysis, and create management strategies. They learn how to make sound business decisions, analyze risks, and forecast profits, ensuring their solutions are both practical and profitable. Teachers guide students in applying real-world strategies to create innovative and sustainable business cases.

商业

商业课程为学生提供制定财务计划、进行市场分析和创建管理策略的工具。学生学习如何做出明智的商业决策，分析风险并预测利润，确保其方案既实用又盈利。教师指导学生应用现实世界的策略，创造创新且可持续的商业案例。

University Majors in this Pathway:

Business Administration

IVEY AEO

Finance

Accounting

Marketing

该路径的大学专业

商业管理

IVEY AEO项目

金融学

会计学

市场营销

# Partnership

## Study in Cambridge, UK

在英国剑桥学习

International Travel & Academic Course in UK

英国国际旅行和学术课程

Earn one Ontario High School credit over a two-week interdisciplinary academic and cultural summer school, delivered by Cambridge International Academy. You will learn from academics and researchers of the University of Cambridge. A total immersive experience of living, eating and learning like a Cambridge University student while travelling in the United Kingdom and making global friendships.

参加由剑桥国际学院举办的为期两周的跨学科学术文化暑期课程，获得一个安大略省高中学分。你将师从剑桥大学的学者和研究人员。你将体验完全沉浸式的剑桥大学学生生活、饮食和学习，同时在英国旅行并结交全球朋友。

CIA and STEM-E.net Partnership

Supporting future STEM and business leaders.

CIA 和 STEM-E.net 合作

支持未来的 STEM 和商业领袖。

## Youth Empowerment

Empowering Youth Success

助力青年成功

Building Future Leaders Together

共同培养未来领袖

At STEM Excel Academy, we are committed to nurturing a vibrant community where students thrive both academically and personally. Our dedication to excellence goes beyond the classroom, providing valuable volunteer opportunities through CYC that allow students to earn essential volunteer hours. We also offer diverse leadership roles that enhance skills and strengthen resumes, empowering students to shape their futures.

在 STEM Excel 学院，我们致力于打造一个充满活力的社区，让学生在学业和个人发展方面都能蓬勃发展。我们对卓越的追求不仅限于课堂，我们还通过 CYC 提供宝贵的志愿者机会，让学生积累必要的志愿者时间。我们还提供多元化的领导职位，提升学生的技能，丰富他们的简历，赋能学生塑造未来。

Additionally, we believe in making quality education accessible, We offer scholarships for CYC students. Join us in unlocking your full potential and building a brighter future together!

此外，我们致力于让优质教育触手可及，因此我们为CYC学生提供奖学金。加入我们，释放你的全部潜能，携手共创美好未来！

# Registration

## Scholarship and Financial Aid

CYC Scholarship Winner

CYC奖学金获得者

Scholarships and Financial Aid are available for students wishing to attend STEM-E.

有意就读 STEM-E 项目的学生可申请奖学金和助学金。

For more information please contact admin@stem-e.net

更多信息请联系 admin@stem-e.net