



## Keystone Academy

### Middle and High Schools Engineering Teacher and Robotics Program Coordinator

The Engineering Teacher and Robotics Coordinator's primary responsibility is the effective delivery of a rigorous, coherent and inspiring curriculum within the Engineering subject area and leadership in Robotics programs.

**The Engineering Teacher and Robotics Program coordinator will be asked to teach and lead in the following specialized pathways:**

- Transdisciplinary Studies in Educational Technology (TSET) (Working with an existing team on the expansion in the second year of this transdisciplinary engineering program) Grade 7 and grade 10 will be added to the current grade 6 and grade 9 program.
- Competitive and non-competitive Robotics programs
- The development of a new grade 11 and grade 12 Engineering program to commence in 27/28 school year. (possibly integrated with IB DP and possible a separate Keystone bespoke program)
- Support of Engineering enhancements in the current MYP Design threads
- Keystone Activity Program (KAP) (after school STEM clubs, teams and courses)

#### Desired Disposition

**This position requires a very confident and accomplished designer and fabricator with a history of successfully completed projects. The position also requires the ability to teach students of all skill levels to safely be "makers of things".**



The Engineering programming takes place in a brand-new purpose-built Engineering lab. The lab has university level fabrication equipment inclusive of a full woodworking suite of machines, metal working suite, 4 axis CNC router, water jet, laser cutters, laser welding, CNC mill, CNC knife cutter, paint room, robotics area, 3d printers, digital scanners among other equipment. The position is perfect for someone who can help students safely make “one of anything”. The program emphasizes project-based learning and fabrication of prototypes. The lab is further supported by technicians and supervised by Keystone’s Dean of Engineering and Emergent Technology.

**The ideal candidate will have the following or similar Design and Fabrication skills:**

- Accomplished in CAD (Rhino, Onshape, Fusion or similar)
- Able to move CAD drawings through the CAM process to CNC machines or to traditional tools for fabrication as appropriate.
- Operation of both large CNC machines and traditional fabrication equipment
- Strong hand tool and power tool skills (both wood and metal)
- Coding skills are a strong plus especially in the context of Arduino or Robotics applications
- Small electronics, sensors, and electrical system experience. (fabricating items like small electric karts, senior operated student projects, simple automated systems)
- Understanding of materials selection
- Project management skill
- Extraordinary ability to keep students safe in a fabrication environment.
- Strong experience with robotics (bringing robotics teams from start to finish) is greatly preferred. Strong robotics experience outside a school environment would be seen as equivalent.
- Understanding of finishing processes such as paint, varnish, sealants etc
- A portfolio of past completed projects which could be evaluated by our team
- Welding or laser welding experience is a nice extra.

**The ideal candidate will have the following SEEL and Leadership skills:**

- The ability to collaborate successfully in a teaching team.



- Strong leadership skills (empathy, organization, project management, integrity, communication, intrinsic motivation)
- Program vision and passion
- A strong understanding of self; including knowing their own strengths and areas for growth

**The ideal candidate will have the following Teaching and Learning skills:**

- Develop, document and communicate about strong vertically aligned unit and lesson plans aligned with Keystone standards
- Design and conduct assessments aligned with standards (including non-traditional assessment such as portfolios or demonstration)
- Inspire and motivate students through creative and meaningful projects
- Ability to share passion and joy for the subjects of engineering and fabrication
- Achieve excellence in the five domains and underlying standards described in the Keystone Professional Educator Program Standards. (KPEP)
- Possesses experience teaching foundational Engineering, Design, and fabrication skills.

**Reporting:**

Division Heads

**Compensation:**

Faculty salary and benefits + Position stipend (robotics Leadership in the KAP)

Interested applicants should submit a cover letter, CV and statement of educational philosophy to [hr@keystoneacademy.cn](mailto:hr@keystoneacademy.cn). Position will be posted until filled.



## 北京市鼎石学校- 初高中部

## 职位描述

## 工程老师及机器人项目协调员

工程部老师和机器人项目协调员的主要职责是确保在该学科组内有效实施严谨、连贯且富有启发性的课程。

工程老师及机器人项目协调员将负责教授并领导以下专业路径：

- 跨学科教育技术研究 (TSET) (与现有团队合作，扩展该跨学科工程课程的第二年)。七年级和十年级将加入当前已开展此课程的六年级和九年级。
- 竞争性和非竞争性机器人项目
- 开发新的十一和十二年级工程课程，预计在2027/28学年开始。(可能与IB DP集成，或是独立的鼎石定制课程)
- 支持加强当前MYP设计主题中的工程内容
- 鼎石活动项目 (KAP) (课后STEM俱乐部、小组活动和课程)

## 期望素质

该职位需要一位非常自信和成就卓著的设计师和制造师，拥有成功完成项目的经历。该职位还要求能够教导不同技能水平的学生安全地成为“创造者”。工程课程将在全新定制的工程实验室进行。实验室配备大学水平的制造设备，包括完整的木工设备、金属加工设备、4轴CNC雕刻机、喷水切割机、激光切割机、激光焊接机、CNC铣床、CNC刀切机、喷漆室、机器人区域、3D打印机、数字扫描仪等其他设备。该职位非常适合那些能帮助学生安全制作“任何物品”的人。该项目强调基于项目的学习和原创型制造。实验室还配有技术人员，并由鼎石负责新兴技术与工程的教与学主任领导。

## 理想候选人的设计与制造技能应包括：

- 熟练掌握CAD (Rhino、Onshape、Fusion或类似工具)
- 能够将CAD图纸转化为CAM过程，以便使用CNC机器和传统工具进行制造
- 操作大型CNC机器和传统制造设备
- 较强的手动工具和电动工具使用技能 (包括木工和金属加工)
- 编程技能尤其在Arduino或机器人应用领域是一个重要加分项
- 小型电子产品、传感器和电气系统经验 (制造小型电动卡丁车、传感器操作的学生项目、简单自动化系统)



- 懂得材料选择
- 项目管理技能
- 超强的安全意识以确保学生在制造环境中始终保持安全操作
- 拥有机器人项目的丰富经验（从开始到结束带领机器人团队），包括在学校体系之外的强大机器人项目经验
- 理解涂装工艺如油漆、清漆、密封剂等
- 一个可以被我们的团队评估的以往完成项目的作品集
- 焊接或激光焊接经验是一个额外的优势

**理想候选人的领导能力：**

- 能够在教学团队中成功合作
- 较强的领导技能（具备同理心，具有组织和项目管理的能力，诚实可信、较强的沟通能力以及自驱力）
- 具备项目愿景与热情
- 自我意识强，善于反思和成长

**理想候选人的教学与学习技能：**

- 开发、记录并沟通与鼎石标准相一致的连贯单元和课程计划
- 设计并进行与标准相一致的评估（包括非传统评估如作品集或演示）
- 通过创造性和有意义的项目激励和鼓励学生
- 对工程和制造学科充满热情并乐在其中
- 在鼎石专业教育者项目标准（KPEP）所描述五个领域及其基础标准中追求卓越
- 有教授基础工程、设计和制造技能的经验

**汇报线：**

学部校长

**薪酬：**

教师级别薪资及福利 + 岗位津贴（鼎石活动项目机器人小组负责人）