



IBDP Physics and MYP Mathematics Teacher Job Description

Department: Instruction

Term of Employment: 2 years

Band: Teacher

Reporting Accountability: Secondary Principal

Scope of Responsibility:

The IBDP Physics & MYP Math Teacher is responsible for delivering a rigorous and comprehensive program in both the IB Diploma Programme (Physics) and the Middle Years Programme (Mathematics). This role requires a deep understanding of conceptual learning, inquiry-based instruction, and the ability to inspire students to think critically, solve complex problems, and develop into scientifically and mathematically literate global citizens.

Major Duties and Responsibilities:

1. Curriculum Delivery & Conceptual Mastery

- Deliver the IBDP Physics syllabus (SL & HL) with depth and rigor, ensuring mastery of core topics.
- Seamlessly integrate Theory of Knowledge (TOK) into Physics instruction to encourage reflection on the nature and ethics of scientific knowledge.
- Deliver the IB MYP Mathematics curriculum, promoting inquiry-based, concept-driven learning and real-world application of mathematical concepts.
- Foster a deep, conceptual understanding that enables students to apply principles to complex, real-world, and novel situations.
- Create and adapt instructional materials that reflect diverse learning styles and needs, including differentiation for English language learners (ELLs).

2. Scientific & Mathematical Investigation Skills:

- Design and facilitate inquiry-based laboratory investigations in Physics that develop proficiency in experimental techniques, data collection, and analysis.
- Guide students through the Internal Assessment (IA) process in Physics, from research question formulation to final evaluation.
- Cultivate mathematical inquiry and problem-solving skills through investigative tasks and real-world applications.
- Ensure students achieve high competency in data processing, graphical analysis, and evaluation of measurement uncertainties.

3. Cultivation of Higher-Order Thinking

- Move beyond algorithmic problem-solving to develop analytical and critical thinking skills, challenging students to model complex scenarios, synthesize knowledge across topics, and construct logical arguments.
- Design assessments and learning activities that require evaluation, synthesis, and creative application of both physics and mathematical principles.

4. Assessment and Feedback:

- Provide timely, targeted feedback on student progress to support their academic growth and readiness for IB assessments.
- Implement a balanced assessment model that utilizes both formative (e.g., quizzes, draft reports, concept maps) and summative (e.g., unit tests, mock exams) strategies to monitor and drive student progress.



SIAS INTERNATIONAL SCHOOL

CARING
懂得关爱

PRINCIPLED
坚持原则

RISK-TAKERS
勇于尝试

BALANCED
全面发展

Phone (0371) 88908999 | 19137129398

Web: www.siasinternationalschool.org

Intersection of Chaoyang Road and 4th Longteng St., Zhengdong New District, Henan Province, China 450000

- Analyze assessment data to identify class-wide and individual learning gaps and subsequently adapt teaching strategies to address these needs.
- Generate predicted grades for university applications through rigorous and evidence-based evaluation of student performance against IB standards.

5. Student Support and Mentorship:

- Act as a mentor for the Extended Essay in Physics (or other IBDP projects as required), guiding students through a self-directed, in-depth research project.
- Provide additional academic support to students, including individual or small-group instruction as needed.
- Supervise students in extracurricular activities related to sciences and mathematics (e.g., clubs, competitions).

6. Professional Development, Collaboration, and Community Engagement:

- Contribute actively to the school community through curriculum development, resource sharing, and collaborative planning.
- Maintain the highest standards of academic integrity in all student work, particularly concerning the IA and Extended Essay.
- Engage in continuous professional learning to stay current with best practices in IB teaching and assessment.
- Communicate regularly with students, parents, and guardians about progress, upcoming projects, and opportunities for further learning.

7. Other Duties:

- Perform other campus duties not explicitly outlined in this document, such as assisting with school ceremonies, as assigned by the Principal, Deputy Head of School, or Head of School.

Qualifications Required:

- Bachelor's degree in **Sciences, Physics, Engineering, or a closely related field** (master's degree preferred).
- Teaching certification and qualification to teach Physics and Mathematics at the secondary level.
- Experience teaching in the IBDP and MYP framework
- Proficiency in relevant laboratory techniques, data logging equipment, and data analysis.
- Strong communication and instructional skills, with the ability to foster students' analytical and problem-solving abilities.
- Preferred Qualifications:
 - IB Physics Category 1 or 2 training/IB MYP Mathematics training or certification.
 - Experience teaching in an international or multicultural school setting.
 - Knowledge of current developments and emerging trends in physics and scientific research.

Sias IS is committed to protecting all children and young people from harm. Upholding and aligning with Sias IS's core values and mission statement are non-negotiable.