



IBDP Physics Teacher

Job Description

Department: Instruction

Term of Employment: 2 years

Band: Teacher

Reporting Accountability: Secondary Principal

Scope of Responsibility:

The IBDP Physics Teacher is responsible for the comprehensive delivery of the curriculum, fostering a deep, conceptual understanding of physics while embodying the core principles of the IB programme. This role emphasizes not only the transmission of knowledge but also the development of students as critical thinkers, inquirers, and scientifically 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, including Mechanics, Thermodynamics, Waves, Electricity & Magnetism, and Quantum & Nuclear Physics.
- Foster a conceptual and contextual understanding that enables students to apply fundamental principles to complex, real-world, and novel situations.
- Seamlessly integrate the Theory of Knowledge (TOK) to challenge students to reflect on the construction, validity, and ethical implications of scientific knowledge.

2. Scientific Investigation Skills:

- Design and facilitate engaging, inquiry-based laboratory investigations that develop proficiency in experimental techniques, data collection, and analysis.
- Expertly guide students through the Internal Assessment (IA) process, from formulating a research question to evaluating their investigation, cultivating genuine open-ended scientific exploration.
- Ensure students achieve high levels of competency in data processing, graphical analysis, and the sophisticated 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 physics 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.



- 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.
- Embody and promote the IB Learner Profile, nurturing students to become knowledgeable, inquiring, and principled scientists.

6. Professional Development, Collaboration, and Community Engagement:

- Contribute actively to the science department and 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.
- Communicate regularly with students, parents, and guardians about progress, upcoming projects, and opportunities for further learning.
- Engage in extracurricular activities related to sciences (e.g., science clubs, competitions).

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 at the secondary level.
- Experience teaching in the IB Diploma Programme or familiarity with IB Physics curriculum and standards (including the syllabus, IA, and TOK connections).
- Proficiency in relevant laboratory techniques, data logging equipment, and software for 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.
 - Experience teaching in an international or multicultural school setting.
 - Knowledge of current developments and emerging trends in physics and scientific research.

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