

**Exhibit P8.1: National Requirements for Being a Physics Teacher in the Final Year of School**

*Reported by National Research Coordinators*

Country	Requirements
France	Being a physics and chemistry secondary school teacher is the only requirement to teach Grade 12 advanced physics. Secondary school teachers must hold a master's degree and pass the competitive national examination.
Italy	Teachers must hold a degree in physics (5 years of university study), complete a 1-year teacher certification course, and win a public contest.
Lebanon	Teachers must hold a Bachelor of Science degree or teaching diploma in physics for Grades 9, 10, 11, and 12.
Norway	Teachers are required to have at least a university bachelor's degree and have taken at least 1 full year (60 credit points) of physics courses. They also need 1 year of teacher education courses, consisting of general pedagogy, physics education, and teaching practice in schools. These courses may be taken separately after finishing subject studies, or as an integrated part. The current tendency is that a full master's degree will be required.
Portugal	Fully qualified physics (and chemistry) teachers must have at least a Master of Science degree in physics and chemistry education, which includes a professional internship. They must pass both a general knowledge exam and a specific (physics and chemistry) teachers' qualifying examination.
Russian Federation	In general, physics teachers should complete a university degree in physics education or have completed a university major in physics or engineering, etc., as well as a set of education courses. Usually, advanced physics teachers have completed additional specific courses in advanced physics in a university education program. As a rule, teachers of advanced physics courses have 3–5 years of experience teaching in upper-secondary school.
Slovenia	All teachers must have an appropriate university degree in education, pedagogical training, and have successfully completed the teaching certification examination. Teachers for the physics program should have a second-level university degree, which means 5 years of mathematics and physics university study or two university education science subjects with a set of physics pedagogical courses.
Sweden	Teachers must be licensed through a teacher education program. To become a physics teacher in upper-secondary school you need at least 1.5 years of physics courses at a university. You also need 1.5–2 years of tertiary level studies in one more subject, and 1.5 years of courses in specific and general education. In total, 300 credits for 5–5.5 years are required. After finishing a teacher education program, prospective teachers apply for a license at the Swedish National Agency for Education.
United States	All public school teachers must be licensed by their state's department of education, and requirements for licensure vary by state. Secondary school physics teachers may have a bachelor's degree in physics (and possibly a master's degree in education), or a double major in physics and education. Additionally, all teachers must be highly qualified, which includes demonstrating expertise in their subject area by either passing a subject test or completing an undergraduate degree, completing a graduate degree, completing coursework equivalent to an undergraduate major, or completing advanced certification or credentialing.

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS Advanced 2015