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An Operations Research–Based Teaching Unit for Grade 10: The ROAR Experience, Part I

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Abstract. We introduce *Ricerca Operativa Applicazioni Reali* (ROAR; in English, *Real Applications of Operations Research*), a three-year project for higher secondary schools. Its main aim is to improve students' interest, motivation, and skills related to Science, Technology, Engineering, and Mathematics disciplines by integrating mathematics and computer science through operations research. ROAR offers examples and problems closely connected with students' everyday life or with the industrial reality, balancing mathematical modeling and algorithmics. The project is composed of three teaching units, addressed to grades 10, 11, and 12. The implementation of the first teaching unit took place in Spring 2021 at the