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Integrating computational physics problems into upper division physics curriculum TIKHON BYKOV, McMurry University — In recent years computational physics is starting to become a standard part of undergraduate physics curriculum. There are two alternative approaches on how computational physics can be taught. It can either be a standalone computational physics course or various computational physics problems can be integrated into existing upper division physics curriculum. McMurry physics department has chosen the second approach. It appears that learning computational physics methods in the context of typical physics problem enhances understanding of both numerical and programming aspects. In this talk, I will give examples of the types of computational physics problems being considered in Classical Mechanics, Thermodynamics and Electricity & Magnetism courses to illustrate the main numerical methods used in physics.

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