

## **ABSTRACT**

This diploma thesis deals with selection, design and creation of new education materials for high school teacher supporting webpage [www.studiumchemie.cz](http://www.studiumchemie.cz). The selection of the proper theme was done on the basis of research and evaluation of recent materials on the mentioned webpage and materials created at the Department of chemical education of Faculty of Science of Charles University in Prague. Preliminarily, the themes of synthetic macromolecular materials and new materials were selected. The convenience of the selected themes was confirmed by research and evaluation concerned to the preliminarily selected theme of recent high school textbooks and webpages. Consequently, educational materials in the form of PowerPoint presentations, websites, worksheets, tests, games and experiments focused on the themes of synthetic macromolecular substances and new materials were created. Materials were processed in accordance with the Framework Education Programme for Secondary General Education (Grammar Schools) as well as in accordance with the requirements of the Catalogue of graduation exam requirements from chemistry. The PowerPoint presentation and the webpage on synthetic macromolecular materials were roughly evaluated by group of teachers and the results of the evaluation are also part of the thesis. The created educational materials should complement the existing materials for secondary school education, which already exist on the website [www.studiuemchemie.cz](http://www.studiuemchemie.cz). Created material should serve for secondary school teachers as support materials for their courses focused on the formation, properties and utilization of macromolecular materials and new materials.