

I. IDENTIFICATION DATA

Thesis name:	Heating and ventilation system design for villa house
Author's name:	Kristina Kubicová
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Civil Engineering (FCE)
Department:	Department of Environmental and Building Services Engineering
Thesis reviewer:	Miroslav Urban
Reviewer's department:	Department of Environmental and Building Services Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	ordinarily challenging
<i>Evaluation of thesis difficulty of assignment.</i>	
The assignment of bachelor thesis was completed	

Satisfaction of assignment	fulfilled
<i>Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.</i>	
The thesis meets the defined scope of assignment by the supervisor.	

Method of conception	correct
<i>Assess that student has chosen correct approach or solution methods.</i>	
On the basis of the analysis of the heat source selection, the student elaborated the project of the heating and ventilation system of the given object. At the same time, the student presents variants of the heat source method for heating the building and DHW preparation.	

Technical level	C - good.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
After reviewing to the technical solution I have the following comments:	
<ul style="list-style-type: none"> - The temperature gradient of heating water is considered 70/60 °C. In conjunction with a condensing gas boiler is this temperature of supply heating water unnecessarily high. - The is not specified how the convectors will be regulated - What type of piping (materiel) is used in the project? There is no information about it, in the drawing part is used marking for steel pipes ("DN15"), which are inappropriate. - Has the ventilation system some zoning (1st floor, 2nd floor or gym)? It should be considered. - Air flow volume for the gym could be higher (e.g. two exercising person need min 200 m3/h). In this case is zoning for the ventilation system necessary. 	

Formal and language level, scope of thesis	C - good.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
<ul style="list-style-type: none"> - The theoretical study has no connection with the selected villa house, it is relatively general. - Drawing part is consist of all necessary attachments, but the layout is not fully in line with the drawing requirements (e.g. directional rosette, temperature gradient, etc.). - Some layouts are too general (e.g. scheme of boiler connection, ventilation system of 1st floor) 	

Selection of sources, citation correctness	B - very good.
<i>Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished</i>	

from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.

Correct, without comments.

Additional commentary and evaluation

Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.

- *Please explain how condensing boiler work, explain the principles of work. Is the temperature gradient of heating water important and why?*
- *How to achieve individual room temperatures with convectors, which type of heating controllers can be used?*

I evaluate handed thesis with classification grade **C - good**.

Date: **17.6.2019**

Signature: