I. Personal and study details

Student's name: Arslanturk Serdar Can  
Personal ID number: 453075 
Faculty / Institute: Faculty of Mechanical Engineering  
Department / Institute: Department of Process Engineering  
Study program: Bachelor of Mechanical Engineering  
Branch of study: Power and Process Technology

II. Bachelor's thesis details

Bachelor's thesis title in English: 
**Rheology of collagen material**

Bachelor's thesis title in Czech: 
**Rheologie kolagenu materiálu**

Guidelines:
The identification of flow properties of investigated material, especially when the material exhibits non-newtonian behavior, which is usual for food, is preceding key step in design of the equipment determined for material transport, e.g. in pipes. The aim of the work is assessment of the rheological properties of the collagen matter in the capillary rheometer. The coefficients of the rheological model will be identified from experimental data for various capillary geometry and shear rate. Also the exit pressure at die will be investigated related to viscoelastic behavior of material.

Aims:
1) Perform literature search focused on the collagen properties.
2) Evaluate the experimental data from measurement on capillary rheometer.
3) Design own script to identify the parameters of rheological models and exit pressure at die of capillary.

Bibliography / sources:

Name and workplace of bachelor's thesis supervisor: 
Ing. Jan Skočilas, Ph.D., Department of Process Engineering, FME

Name and workplace of second bachelor's thesis supervisor or consultant:

Date of bachelor's thesis assignment: 31.10.2019  
Deadline for bachelor thesis submission: 10.01.2020

Assignment valid until: _________________________________

Ing. Jan Skočilas, Ph.D.  
Supervisor's signature

prof. Ing. Tomáš Jirout, Ph.D.  
Head of department's signature

prof. Ing. Michael Valášek, DrSc.  
Dean's signature

III. Assignment receipt

The student acknowledges that the bachelor's thesis is an individual work. The student must produce his thesis without the assistance of others, with the exception of provided consultations. Within the bachelor's thesis, the author must state the names of consultants and include a list of references.

31-10-2019  
Date of assignment receipt  
Student's signature