Detailed Requirements for Master's Thesis Conducted at the Faculty of Food Technology

2nd circle Study Program: Food Sciences – Technology and Nutrition

1. Basic requirements

1.1. Required Structure of a Master's Thesis

	Table of Contents
	Introduction
1.	Literature review
2.	Aim and scope of the study
3.	Material and research methodology
4.	Discussion and interpretation of results
5.	Conclusions
6.	References
7.	(if applicable) Appendix

1.2 Nature of the Master's Thesis

The thesis topic should be aligned with the field of study. The thesis required for second-cycle studies is research-based and is prepared based on scientific research conducted by the author. This research includes, in particular:

- **Technological experiments** - the "Materials and Methodology" chapter requires a detailed description of the experiments, allowing for their substantive evaluation and replication.
- **Laboratory experiments** - the "Materials and Methodology" chapter requires a detailed description of the analyses used, allowing for their substantive evaluation and replication.
- **Survey research** - the "Materials and Methodology" chapter requires a description of the sample selection, the research method, the methods used for data analysis (e.g., descriptive, inductive, deductive, as well as statistical methods such as chi-square, regression, etc.), and a description of the sample. The minimum sample size is 250

respondents. In situations justified by a significantly limited population or difficult access (e.g., individuals suffering from specific diseases, businesses, individuals conducting specific activities), a smaller number of respondents may be permitted after demonstrating this in the study sampling description.

- **Meta-analysis (statistical analysis of a systematic review of available publications).** Systematic reviews and meta-analyses should be conducted in accordance with the PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), which include the minimum set of elements necessary for the proper conduct of systematic reviews and meta-analyses.

A master's thesis may also be prepared as an article published in a scientific journal (described in section 2).

Master's theses are required to have a specific research goal and include a research hypothesis (in Chapter 2). The thesis should analyze the relationships between the results obtained and support their interpretation with a discussion based on the relevant literature. Furthermore, a statistical analysis of the data is required, and its results should be discussed in the thesis. When preparing a dissertation using artificial intelligence tools, a student must comply with the current regulations governing this area at the Warsaw University of Life Sciences.

1.3. Formal Requirements

- Chapters 1 to 5 of a master's thesis (except for the one published as an article, see section 3) must total no less than 35 pages, with the "Discussion and Discussion of Results" section being no shorter than 15 full pages.
- The text of the thesis must cite and include in the reference list at least 50 substantive sources (academic or popular science), including at least 15 in the Englishh language. Each bibliographic entry in the reference list must include a verified and active DOI link (this applies to publications in academic journals). If no DOI has been assigned to a cited publication, the entry should state ‘no DOI’. It is recommended that you use primarily up-to-date academic publications. References listed in the bibliography but not cited in the text will not be taken into account when assessing compliance with the formal requirements regarding the bibliography..

A thesis that does not meet the above requirements or contains a significant number of glaring factual errors, or contains a significant number of deviations from the requirements described in point 4 regarding the preparation of the bibliography (including verified, active DOI links to publications in scientific journals), the manner of citing bibliographies in the text, and the manner of presenting results, cannot be accepted for defense. Such a thesis should not be accepted by the supervisor or should be returned by the reviewer for corrections no later than two business days before the scheduled defense date.

2. Diploma Thesis Published as a Scientific Article or Monograph Chapter

A master's thesis in the form of an article published in a scientific journal, may be considered a publication related to the learning outcomes achieved in a given field, level, and profile of study, in a peer-reviewed journal included in the list of scientific journals and peer-reviewed materials from international conferences, published in a communication of the minister responsible for higher education and science pursuant to Article 267, paragraph 3 of the Act of 20 July 2018, the Law on Higher Education and Science (Journal of Laws of 2021, item 478). A diploma thesis in the form of a publication is prepared individually or as co-authored by no more than two people, with the student's contribution constituting no less than 50% and confirmed in a declaration submitted by both co-authors.

Approval for this form of the diploma thesis is granted by the Vice-Dean after reviewing the relevant application submitted by the student and reviewed by the thesis supervisor. The Vice-Dean then grants approval for the thesis to be accepted for the diploma examination after submitting the publication along with the relevant application and the co-authors' declaration. Detailed requirements for such diploma theses are specified in the currently applicable Order No. 100 of the Rector of the Warsaw University of Life Sciences of September 22, 2018.

2.1. Required Structure of a master's thesis prepared in the form of a published article or a chapter in a monograph

Page 7	Copy of the journal/monograph cover in which the text was published
Page 9	Copy of the first page of the article/chapter
Page 11	Literature study (expanded introduction)
	Copy of the entire article/chapter

The literature review expands on the introduction included in the publication and concludes with a list of references used to develop this part of the thesis. The literature review should cite and include in the bibliography at least 30 for a master's thesis. The bibliography may include works cited in the article. References listed in the bibliography but not cited in the text will not be considered for the assessment of compliance with the formal bibliography requirements.

3. General Provisions for Diploma Theses

3.1. Figures and Tables

- Original figures and tables (not prepared by the student) may be used in the thesis, provided that the publisher (author) has obtained permission to use them. This does not apply to records of activity carried out on the internet or in any other virtual sphere of human activity that is the subject of this paper (consent is not required).
- Figure titles should be placed below the figures, and table titles should be placed above the tables.
- Figure and table numbering should be continuous throughout the thesis.
- The thesis should include references to each figure or table in the text, including its number.
- The same (i.e., unprocessed in any way) research results cannot be presented in both figures and tables in the text (outside of the Appendix).
- Figures and tables should be placed in the text so as to maintain continuity throughout the chapter.
- SI units should be used throughout the thesis.

3.2 Division into Chapters and Subchapters

Each main chapter (in the above-presented layout of the engineering/master's thesis) begins on a new page, and each subchapter is fully numbered starting from the chapter number (e.g., 1.2.1.).

3.3 Preparation of References and Citation Style

3.3.1 In-text Citations

• Each scientific publication cited in the text or constituting a source of information presented in the text should be cited by providing the authors' surnames in square brackets. If the publication has more than two authors, "et al." is added to the first author's surname, e.g.:

Interactions depend on …….. [Amoako and Awika 2016];

By appropriate combination of factors such as ……. [Zhu 2016];

Two-phase endotherms were obtained …….. [Zhao et al. 2020].

• If the reference refers to several publications, they should be listed in chronological order from the oldest to the newest publication (individual publications separated by commas). However, if different publications are cited identically, the year should be added, e.g.:

The above issues have been the subject of many studies …… [Avanzato 2009, De Vasconcelos et al. 2010a, De Vasconcelos et al. 2010b, Kochmański et al. 2010, Martinez Ballesta et al. 2010].

• An alternative (example) way of citing a publication by inserting it into the body of the sentence:

In research conducted by Nazzaro et al. [2011]……

Holme and Peck [2019] confirmed that……..

• Legal acts, standards, or Internet sources should be cited as follows:

[Regulation/Act/Directive year], [Standard number], [Internet number in order of citation], e.g.:

Food for special medical purposes in accordance with Regulation (EC) No. 609/2013 of the European Parliament and of the Council [Regulation 2013] is ……..

It offers over 200 products dedicated to both children and adults

[Internet 2].

3.3.2 Reference List

- A list of all items cited in the text (uniform, without division into types of sources cited) should be prepared alphabetically, with all items numbered.
- For articles, provide all authors, the year and title of the publication, the full name of the journal, volume, pages or publication number, and an active DOI link. Verified, active DOI links are required for thesis acceptance.

Examples of proper data preparation for the reference list:

- Sha L., Xiong Y.L. 2020: Plant protein-based alternatives of reconstructed meat: science, technology, and challenges. Trends in Food Science & Technology, 102, 51-61,https://doi.org/10.1016/j.tifs.2020.05.022
- Valková V., Ďúranová H., Štefániková J., Miškeje M., Tokár M., Gabríny L., Kowalczewski P.Ł., Kačániová M. 2020b: Wheat bread with grape seeds micropowder: impact on dough rheology and bread properties. Applied Rheology, 30, 138-150, https://doi.org/10.1515/arh2020-0112
- Estévez M.; Xiong Y.L. 2021: Protein oxidation in foods: mechanisms, consequences, and antioxidant solutions. Foods, 10, 2346, https://doi.org/10.3390/foods10102346
- Stasiak-Różańska L., Kraśniewska K., Berthold-Pluta A. 2018: Blue cheeses – occurrence of Listeria monocytogenes bacteria. Characterization and risk assessment. Food Industry, 72, 33-40, https://doi.org/10.15199/65.2018.3.7

When citing textbooks (monographs), provide the authors' surnames, year of publication, title, publisher, place of publication, and page numbers or page ranges, e.g.:

- Baj J. 2018: Microbiology. PWN Scientific Publishing House, Warsaw, 36–46

- Brown T. 2016: Biochemistry. Scion Publishing Ltd., Banbury, 17, 30–54, 127–129, 177

When citing chapters in textbooks or monographs in which individual chapters have different authors, provide the authors' surnames, year of publication, chapter title, title and editor of the entire publication, publisher, place of publication, and page numbers of the cited chapter:

- Dołęga A. 2017: Mineral components. In: Food Chemistry, Volume 1 - Main Food Components (ed. Z.E. Sikorski, H. Staroszczyk), PWN Scientific Publishing House, Warsaw, pp. 67–102
- Suppakul P. 2016: Active and intelligent packaging for fruits and vegetables. In: Handbook of Vegetable Preservation and Processing (ed. Y.H. Hui, E. Özgül-Evranuz), CRC Press, Boca Raton, pp. 130–156

Citing conference materials:

- Okello H.O., Brennan J.G., Lewis M.J., Gilmour S. 1998: Optimization of the spray drying of the enzyme polyphenol oxidase by reaction surface methodology. In: Proceedings of 11th International Drying Symposium “Drying'98” (ed. A.S. Mujumdar, C.B. Akritidis, D. Marinos
- Kouris, G.D. Saravacos), Ziti Editions, Thessaloniki, vol. C, 1713–1722

Legal acts, internet sources, instructions, reports:

- FAO 2019: The state of food security and nutrition in the world 2019. Safeguarding against economic slowdowns and downturns. Rome Instruction 1: Megazyme. D-Sorbitol/Xylitol. Assay procedure
- Internet 1: https://izomery.pzh.gov.pl/ (accessed on October 14, 2025)
- PN-ISO 6092:2017-03. Milk powder – Determination of titratable acidity (Routine method)
- RASFF Report 2019: The rapid alert system for food and feed. Annual Report 2019

- Regulation 2017: Regulation of the Minister of Health of 7 December 2017 on the quality of water intended for human consumption (Journal of Laws of 2017, item 2294)