

# Guidelines for Intermediate Projects

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Institute of Production Systems Organization

Field of Study: Management and Production Engineering

## 1. General Concepts

An Intermediate Project in the field of Management and Production Engineering (first-cycle studies) should have a project-oriented character and serve as a test of the student's ability to apply the knowledge and skills acquired during studies.

In a bachelor-level Intermediate Project, the student should not only analyze the current state of a selected area of enterprise operations but also propose and evaluate a solution to the identified problem.

An Intermediate Project in second-cycle studies is carried out only within the specialization Global Production Engineering and Management (GPEM). It should also be project-oriented and serve as a test of the student's ability to apply the knowledge and organizational skills acquired during master's studies. In such a project, the student should analyze the current state of a selected engineering or organizational area of enterprise operations and propose a synthesis in the form of a solution to the identified problem.

An Intermediate Project is a practical project reflecting the student's ability to think analytically and in a project-oriented manner. For first-cycle studies, the focus is on applying technical and managerial knowledge, while in second-cycle studies the emphasis is also placed on synthesis skills and a comprehensive approach to organizational problems.

**Example of a bachelor-level topic:**

**"Implementation of the 5S Method in a Selected Area of an Enterprise."**

**Example of a master-level topic: "AI-Driven Demand Forecasting and Inventory Optimization."**

**The list of consultants authorized to supervise Intermediate Projects is available here:**

**[https://www.mt.pw.edu.pl/iosp/content/download/519/2915/file/01.10.2024\\_lista%20promotorow%20pd%20i%20konsultantow.pdf](https://www.mt.pw.edu.pl/iosp/content/download/519/2915/file/01.10.2024_lista%20promotorow%20pd%20i%20konsultantow.pdf)**

**Examples of Intermediate Project topics carried out by the Department of Production Processes and Logistics can be found here:**  
**<https://www.mt.pw.edu.pl/iosp/Studia/Prace-przejsciowe/Tematy-prac-przejsciowych/Zaklad-Procesow-Produkcyjnych-i-Logistyki>**

Similarly, topics from other IOSP/WMT departments are also available online.

## **2. Objectives of the Intermediate Project**

The main objective of the Intermediate Project is to prepare the student for independent, methodical work and learning, as well as for the practical use of knowledge and skills acquired during studies in solving complex problems.

Specific objectives of the Intermediate Project include:

- Preparing the student methodologically for completing the diploma thesis,
- Practicing the identification of a project problem,
- Practicing the design, analysis, and evaluation of problem solutions
- Gaining experience in the editorial and stylistic preparation of a text.

The outcome of the Intermediate Project is a written report prepared by the student. The Intermediate Project cannot in any way be a fragment of the later diploma thesis. It is recommended that the topics of Intermediate Projects and diploma theses address different issues.

The Intermediate Project not only prepares students for writing the diploma thesis, but also helps them in:

- independently identifying problems,
- selecting appropriate engineering or organizational tools,
- justifying their project-related decisions.

## **3. Topic of the Intermediate Project**

The subject of an Intermediate Project should be related to the curriculum of the given specialization or connected with research and project work conducted in the organizational unit. The project must be consistent with the scientific discipline assigned to the study program. **For the field of Management and Production Engineering, the leading disciplines are:**

## **Mechanical Engineering and Management and Quality Sciences.**

The suggested topic of an Intermediate Project is the solution of a project/research problem using methods and tools that the student became familiar with during studies. Other topics related to the study program are also allowed. An integral part of the Intermediate Project is a literature review.

The topic of the Intermediate Project should be:

- specific, feasible within one semester,
- based on a real problem (preferably from industrial practice),
- related to the competencies acquired in the specialization/field of study.

### **Example of problem-oriented formulation:**

**Instead of “Production Management” → “Application of Selected Lean Management Methods/Tools in the Assembly Process in Company X.”**

## **4. Team Size for Intermediate Projects**

Intermediate Projects should generally be carried out individually. In justified cases, and with the approval of the supervisor and the Head of Department, an Intermediate Project may be carried out by a maximum of two students.

Although individual work is recommended, cooperation between two students may be justified if the project is complex and the contribution of both students can be clearly identified. In such cases, each student must be assigned a distinct part of the project report.

## **5. Document Flow Related to Topic Selection and Approval**

1. The supervisor of an Intermediate Project can be an academic teacher or teaching staff member of the Institute of Production Systems Organization, holding at least a master's degree, authorized to supervise projects in accordance with the curriculum of the given specialization.
2. The student should obtain the consent of a staff member to act as the supervisor of the Intermediate Project. It is recommended that the student independently propose a project title and discuss it with a potential supervisor. This allows better alignment of project topics with

- the student's interests. As a result of the discussion between the student and the supervisor, the project title is established.
3. The student then completes the registration form for the Intermediate Project title. The form must be signed by the student, the supervisor, and approved by the Head of the Department to which the supervisor belongs. If the title or supervisor is not approved, the student must repeat the process, taking into account the Head's comments. The registration form should be prepared at the beginning of the semester in which the project is to be carried out.
  4. Any change in the project title and/or supervisor requires repeating the above procedure.
  5. The Intermediate Project must be completed by the student and evaluated by the supervisor no later than the last day of the semester in which it was registered. The supervisor enters the grade into the system.
  6. The title page of the Intermediate Project is the completed registration form with all required signatures.
  7. The completed project, positively evaluated by the supervisor, together with the anti-plagiarism report prepared by the supervisor, must be submitted to the Institute's office in paper form or sent as a scan to [iosp@pw.edu.pl](mailto:iosp@pw.edu.pl) no later than the last day of the semester.

**Recommended schedule of activities:**

**Weeks 1–3: Contact with potential supervisor, agreement on topic.**

**Week 4: Completion and submission of the topic registration form.**

**Weeks 5–13: Project implementation and consultations.**

**Weeks 14–15: Submission of the project, anti-plagiarism report, and possible corrections.**

**Current registration forms for Intermediate Projects are available on the IOSP website:**

**First-cycle studies:**

<https://www.mt.pw.edu.pl/iosp/Studia/Formularze>

**Second-cycle studies:**

<https://www.mt.pw.edu.pl/iospeng/Studies/Download-the-documents>

## 6. Length of the Intermediate Project

The recommended length of an Intermediate Project is:

**First-cycle (bachelor level)** – approx. 20 pages (including introduction, main body, summary, and bibliography),

**Second-cycle (master level, GPEM specialization)** – approx. 30 pages (including introduction, main body, summary, and bibliography).

The given length does not include appendices, figures, tables, and registration forms. The project should be concise, well-structured, and demonstrate the ability to synthesize material, not just describe it.

## 7. Editing Rules

The Intermediate Project must be prepared in accordance with the editorial rules specified in the Rector's Order No. 4/2022 on the unification of editorial requirements for diploma theses at the Warsaw University of Technology, as well as the detailed guidelines of the Institute of Production Systems Organization.

**The project should include the following sections:**

- Title page (registration form),
- Table of contents,
- Introduction (with justification of the topic, aim, scope, and applied methodology),
- Main chapters (containing analysis, design, or research content),
- Summary and conclusions (referring to the aim of the project, assessment of applied methodology and tools, recommendations),
- Bibliography (only sources cited in the text),
- Lists of figures, tables, and appendices (if applicable),
- Appendices (if applicable).

**Formatting requirements (based on Rector's Order No. 4/2022 and IOSP guidelines):**

- Font: Arial or Verdana, 11 pt., line spacing 1.15, justified,
- Margins: left – 30 mm, right – 20 mm, top and bottom – 25 mm,
- Page numbering: bottom outer corner, mirrored on odd/even pages,
- Headings: three levels, bold, sans-serif fonts (Arial or Verdana), sizes 14/13/12 pt.,
- Figures and tables: numbered, titled, sources provided, referenced in the text,
- Mathematical formulas: centered, numbered consecutively in round

brackets on the right.

The project must be written in an impersonal style, avoiding colloquial expressions. Each part of the text should be supported by references to literature, data, or analysis carried out by the student.

## **8. Evaluation Criteria**

The evaluation of Intermediate Projects is based on the following criteria:

1. Compliance of the project content with the approved topic and objectives,
2. Proper identification and formulation of the project problem,
3. Adequacy and correctness of the applied methods, techniques, and tools,
4. Quality of the analysis and/or design work carried out by the student,
5. Practical value of the results and proposed solutions,
6. Proper structure and logical consistency of the project,
7. Editorial quality: formatting, clarity, correct language, proper referencing,
8. Use of appropriate and sufficiently broad literature (including foreign-language sources where applicable),
9. Independence and creativity of the student's work,
10. Timeliness of task completion.

The supervisor evaluates the project in detail and enters the grade in the USOS system. The grading scale is consistent with the study regulations of the Warsaw University of Technology.

## **9. Additional Remarks**

1. The Intermediate Project should be carried out in the semester assigned in the curriculum. Failure to complete the project on time results in the need to repeat the semester.
2. The Intermediate Project cannot be a fragment of the diploma thesis. The issues addressed in the project and the diploma thesis must be different, although they may concern the same enterprise or organization.
3. The Intermediate Project must be prepared by the student independently. Plagiarism, unauthorized use of another person's work, or sharing one's own work is a serious breach of academic integrity and will be treated in accordance with the disciplinary rules of the Warsaw University of Technology.

4. The student is obliged to consult the supervisor during the preparation of the project. Consultations are an integral part of the project implementation process.
5. The student is responsible for ensuring the proper formatting and submission of the project, according to IOSP and faculty rules.
6. All issues not covered by these guidelines are regulated by the Study Regulations of the Warsaw University of Technology, the Rector's Orders, and the Dean's Orders.