UNIVERSITEIT GENT

KU LEUVEN

Master of Science in Industrial Pharmacy

Universiteit Antwerpen

Vrije Universiteit Brussel

Overview

CURRENT PROGRAM STARTED IN 2016-2017

- Goal
- Revised program ‘Master of Science in Industrial Pharmacy’
- Master thesis: Project Oriented Learning
- Timelines
- Admission requirements
- Approval procedure
- Internship
- Questions and answers

Goal

- Advanced course in industrial pharmacy (1 academic year)
  - Training in different aspects related to **development**, **production** and **quality control** of drugs
- Qualified Person (QP)

Revised program 'Master of Science in Industrial Pharmacy' (1)

I. Analysis and quality control (10 STP)

A) Basic analytical techniques

- Separation techniques
- Mass spectrometry
- Sample preparation

B) Sterility and pyrogen

C) Optimisation and data-analysis

- Optimisation techniques
- Data-analysis
  - Method validation
  - Multivariate data-analysis

Revised program 'Master of Science in Industrial Pharmacy' (2)

II. Pharmaceutical technology (11 STP)

A) Introduction (facilities, water treatment,…)

B) Sterilisation techniques and unit operations in powder technology

C) Process Analytical Technology (PAT) and Quality-by-Design (QbD)

D) Pre-formulation

E) Up-scaling

F) Packaging

G) GMP & process validation

Revised program 'Master of Science in Industrial Pharmacy' (3)

III. Biotechnology (3 STP)

IV. Regulatory Affairs (7 STP)

A) Legislation

B) Regulatory affairs

C) Non-clinical part of registration file

D) Application 'Regulatory affairs'

Revised program 'Master of Science in Industrial Pharmacy' (4)

V. Clinical research (6 STP)

A) Clinical trial design

B) Biostatistics

C) Good Clinical Practice (GCP)

VI. Models for business development in the (bio)pharmaceutical sector (4 STP)

A) Seminars

B) Company visits

VII. Master thesis: Project Oriented Learning (19 STP)

Master thesis:
Project Oriented Learning

- "Learning by Doing" in, preferably, a **team** (2-4 students) or **individually,** together with industry and academics (Professors, Post-docs, PhD students)
- Project: **problem statement defined and (yearly) provided by industry**, in agreement with university
- Students have to:

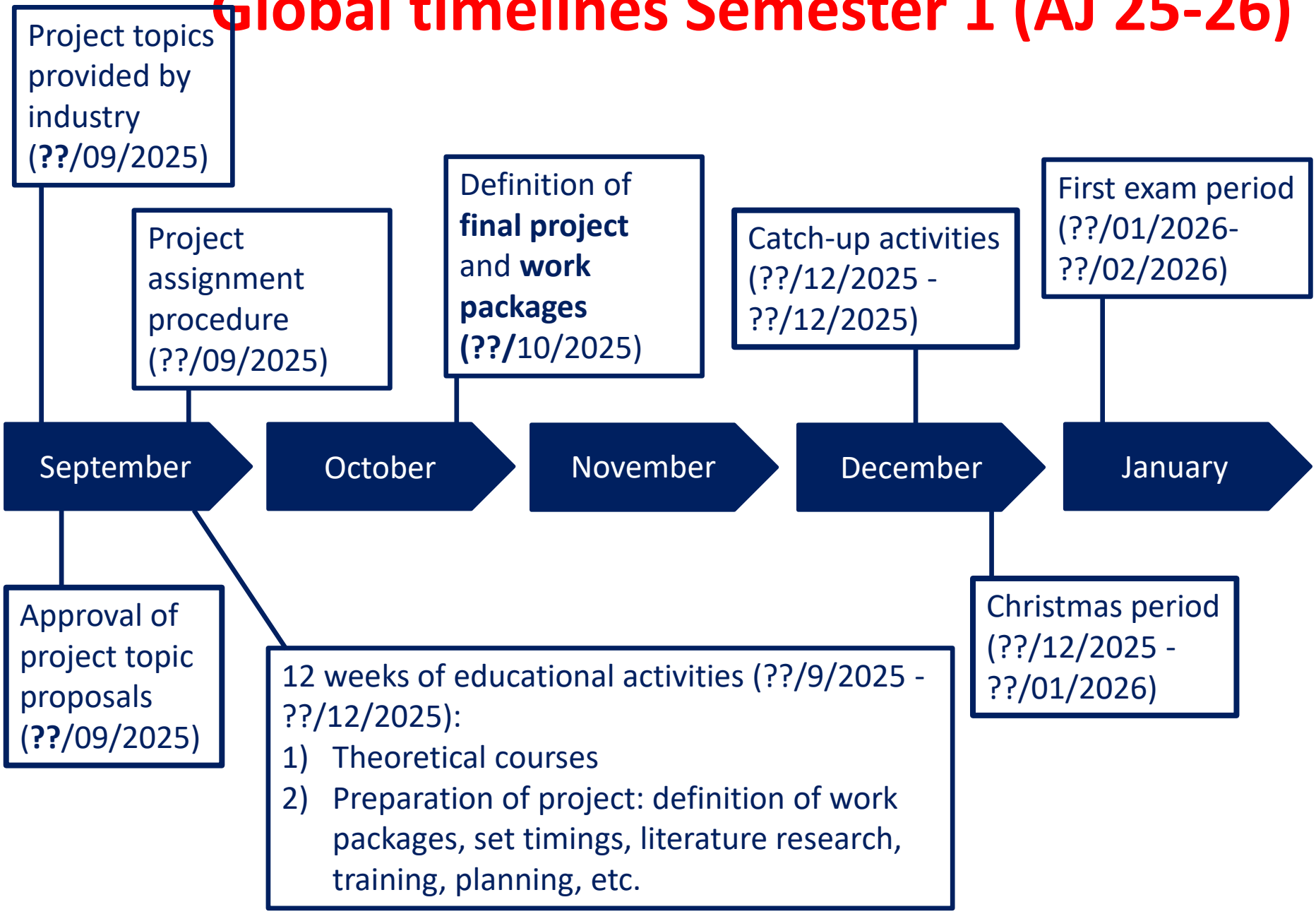
Phase I
- Define the **objectives**, perform **literature** search, define **milestones and deliverables**, etc.
- Identify **individual work packages** (individual component)
- Follow **different courses and trainings** organised by industry or university (cf. doctoral schools) to get the expertise necessary for the project

Phase II
- Execute experimental work at **both company and university laboratories**

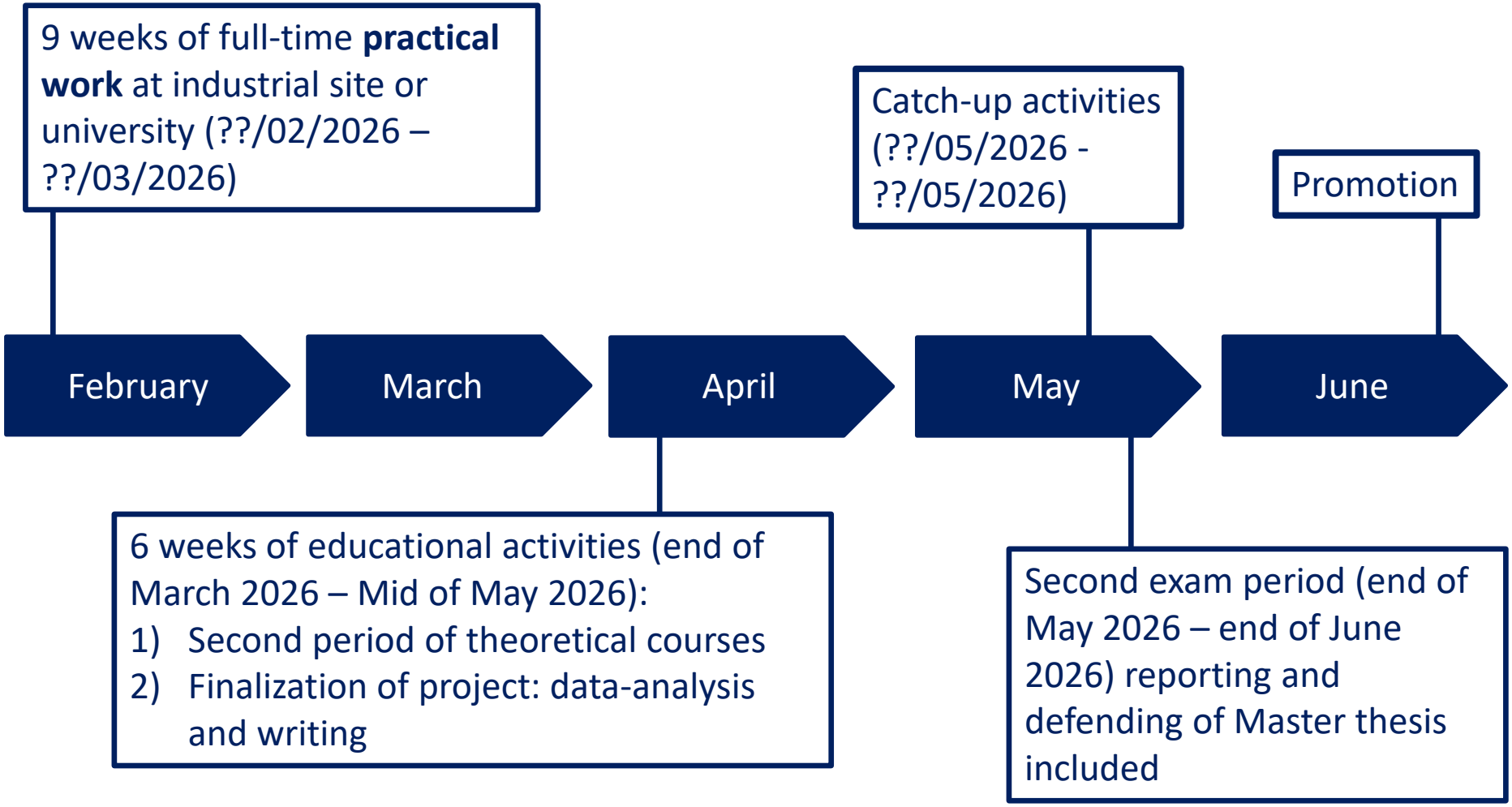
Phase III
- Critically **analyse data** + **Report** and **present** work

- The project is supported by **two promotors**, one from university and one from industry

Global timelines Semester 1 (AJ 25-26)



Global timelines Semester 2 (AJ 25-26)



Admission requirements

Enkel de kandidaat-studenten die, <u>én aan onderstaande de diplomavereisten én één van beide onderstaande selectiecriteria</u> voldoen, zullen zich effectief kunnen inschrijven voor de opleiding Master in de Industriële Farmacie aan één van de vier deelnemende universiteiten. De voorwaarden gelden zowel voor inschrijvingen via diplomadoelcontract als voor inschrijvingen via creditdoelcontract en de doctoraatsopleiding.

<u>1. Diplomavereisten</u>

- Diploma's bachelor-masterstructuur:
  - Master in de farmaceutische zorg

  OF
  - Master in de geneesmiddelenontwikkeling

  OF
- Diploma van vóór de bachelor-masterstructuur: Apotheker

<u>2. Selectiecriteria</u>

- <u>Studieresultaten:</u>

[(de eindscore van de bacheloropleiding) + (de eindscore van de masteropleiding maal twee)]/3 <u>≥</u> 65%

Eindscore bacheloropleiding *= de totale score voor de bacheloropleiding (in %). Hierbij worden alle opleidingsonderdelen van de bacheloropleiding in rekening gebracht, rekening houdend met de wegingsfactoren verbonden aan de opleidingsonderdelen.*

Eindscore masteropleiding *= de totale score voor de masteropleiding (in %). Hierbij worden alle opleidingsonderdelen van de masteropleiding in rekening gebracht, rekening houdend met de wegingsfactoren verbonden aan de opleidingsonderdelen.*

<u>OF</u>

- <u>Schriftelijke selectietest: (score op 20):</u>

Minimum 10/20 voor de schriftelijke selectietest.

Admission requirements

- **Stuur uw applicatie voor deelname aan de selectietest naar Prof. Filip Kiekens (Filip.Kiekens@Uantwerpen.be) ten laatste 12 september 2025 om 18u.**

- **Selectietest datum: 16 september 2025 om 10u (UGent)!!!!!!!!!!!!! Resultaten worden binnen de week bekend gemaakt.**

- **Je kan enkel inschrijven voor de ManaMa IF wanneer je voldoet aan de toelatingsvoorwaarden (zie vorige slide)**

- **Mail naar Filip.Kiekens@Uantwerpen.be met overzicht studieresultaten (1 pdf)**

Remarks

- **High demand for Masters in Industrial Pharmacy**
- **See extra slides/information from industry**

Internship

- ≠ Master thesis !!
- Not organized by universities
- Necessary to obtain *Qualified Person* license
- 6 months in a company authorised to produce medicinal products
- Company is located in EU
- If not on payroll of company: registration at Ghent University: *postgraduate studies in industrial pharmacy* (insurance, "child benefits")