

Doctoral programme in Microbiology and Biotechnology, Degree structure 2020- 2023 (valid 01.08.2020 onwards)

Doctoral programme in microbiology and biotechnology:

1. Doctoral thesis
2. Scientific content studies
 - a. In depth MBDP thematic courses
 - b. Studies supporting the scientific discipline
3. Transferable skills
 - a. Presentation and academic writing
 - b. University pedagogy
 - c. Management and career skills
 - d. Other studies in transferable skills

| Study module | Code | Scope, cr | Type | Compulsory / alternative / optional | Complete all / compete specific credit amount | Who can award the credits |
|---|----------|-----------|--------------|-------------------------------------|---|--|
| 1. Doctoral thesis | MBDP-999 | | Study module | Compulsory | | |
| 2. Scientific content studies | MBDP-998 | 30 cr | Study module | Compulsory | Complete 30 credits of scientific content studies | |
| A) In depth MBDP thematic courses | | 15 cr | | Compulsory | Complete 15 credits of in depth thematic courses | |
| Advanced studies in microbiology and biotechnology | | 1-15 cr | Course | Optional | | |
| Microbiology and biotechnology 1 | MBDP-101 | 1-5 cr | Course | Optional | | Course teacher |
| Microbiology and biotechnology 2 | MBDP-102 | 1-5 cr | Course | Optional | | Course teacher |
| Microbiology and biotechnology 3 | MBDP-103 | 1-5 cr | Course | Optional | | Course teacher |
| Microbiology and biotechnology 4 | MBDP-104 | 1-5 cr | Course | Optional | | Course teacher |
| Bacterial genomes | MBDP-105 | 3-5 cr | Course | Optional | | Course teacher |
| MBDP first manuscript | MBDP-106 | 1-3 cr | Course | Optional | | Course teacher |
| Other relevant courses | MBDP-008 | 1-15 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| B) Studies supporting the scientific discipline | | 15 cr | | | Complete 15 credits of studies supporting the scientific discipline | |
| Research ethics | PHD-401 | 1-2 cr | Course | Compulsory | Complete at least 1 cr | Course teacher |
| MBDP orientation | MBDP-001 | 1 cr | Course | Compulsory | | MBDP office |
| Follow-up / Thesis committee meetings | | 0 cr | | Compulsory | | |
| Follow-up meeting 1 | MBDP-201 | 0 cr | Course | Compulsory | | MBDP office |
| Follow-up meeting 2 | MBDP-202 | 0 cr | Course | Compulsory | | MBDP office |
| Follow-up meeting 3 | MBDP-203 | 0 cr | Course | Compulsory | | MBDP office |
| Follow-up meeting 4 | MBDP-204 | 0 cr | Course | Compulsory | | MBDP office |

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| Scientific seminar series | | 2-5 cr | | Compulsory | Complete at least 2 credits | |
| Virus club seminars | MBDP-301 | 1-3 cr | Course | Optional | | Course teacher |
| Microbiology seminars | MBDP-302 | 1-3 cr | Course | Optional | | Course teacher |
| Other relevant scientific seminars | MBDP-303 | 1-3 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| International conferences, workshops, meetings | | 2-5 cr | | Compulsory | Complete at least 2 credits | |
| Conference 1 | MBDP-401 | 1-2 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Conference 2 | MBDP-402 | 1-2 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Conference 3 | MBDP-403 | 1-2 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Teaching, mentoring, supervision | | 1-4 cr | | Optional | | |
| Teaching | MBDP-002 | 1-2 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Mentoring | MBDP-003 | 1-2 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Supervision | MBDP-004 | 1-2 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Research / study visit | MBDP-005 | 1-3 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Publication outside the thesis | MBDP-006 | 1-4 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| Book exam | MBDP-007 | 1-4 cr | Course | Optional | | Course teacher |
| Other relevant courses | MBDP-008 | 1-10 cr | Course | Optional | | Supervisor / coordinating academic / MBDP office |
| MBDP annual meeting | | 1-4 cr | | Optional | | |
| Annual meeting 1 | MBDP-501 | 1 cr | Course | Optional | | MBDP office |
| Annual meeting 2 | MBDP-502 | 1 cr | Course | Optional | | MBDP office |
| Annual meeting 3 | MBDP-503 | 1 cr | Course | Optional | | MBDP office |
| Annual meeting 4 | MBDP-504 | 1 cr | Course | Optional | | MBDP office |
| 3. Transferable skills | YEB-997 | 10 cr | Study module | Compulsory | Complete 10 credits of transferable skills | |
| A) Presentation and academic writing skills | | 2-6 cr | | Compulsory | Complete at least 2 cr | |
| Popularisation of science | YEB-101 | 1-2 cr | Course | Optional | | Course teacher |
| Conference presentation | YEB-103 | 2 cr | Course | Optional | | Course teacher |
| Scientific writing | YEB-104 | 2 cr | Course | Optional | | Course teacher |
| Grant writing I | YEB-105 | 1 cr | Course | Optional | | Course teacher |
| Grant writing II | YEB-121 | 1 cr | Course | Optional | | Course teacher |
| Academic pitching | YEB-106 | 1 cr | Course | Optional | | Course teacher |
| Principles of peer review | YEB-107 | 1 cr | Course | Optional | | Course teacher |
| Data visualisation | YEB-108 | 1 cr | Course | Optional | | Course teacher |
| Science communication | YEB-111 | 2 cr | Course | Optional | | Course teacher |
| Asiantuntijana digitaalisessa mediassa | TIVI-Y911 | 5 cr | Course | Optional | | Course teacher |
| Tiedejournalismi | TIVI-Y912 | 5 cr | Course | Optional | | Course teacher |
| Tieteen popularisointi | TIVI-Y913 | 5 cr | Course | Optional | | Course teacher |
| Tieteenjulkisuus ja tiedeviestintä | PVM-V308 | 5 cr | Course | Optional | | Course teacher |
| Tiedeviestintä ja asiantuntijuus | PVM-604 | 5 cr | Course | Optional | | Course teacher |
| Optional studies in presentation and academic writing skills | YEB-199 | 1-8 cr | Course | Optional | | MBDP office |

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| B) University pedagogy | | 1-5 cr | | Optional | | |
| Pedagogy of supervising | YEB-118 | 1 cr | Course | Optional | | Course teacher |
| Basics of university pedagogy in life sciences | YEB-201 | 5 cr | Course | Optional | | Course teacher |
| Pedagogy of teaching | YEB-202 | 1 cr | Course | Optional | | Course teacher |
| Learning in higher education | UP1 | 5 cr | Course | Optional | | Course teacher |
| Constructive alignment in course design | UP2.1 | 5 cr | Course | Optional | | Course teacher |
| Assessment of learning and giving feedback | UP2.2 | 5 cr | Course | Optional | | Course teacher |
| Optional studies in university pedagogy | YEB-299 | 1-6 cr | Course | Optional | | MBDP office |
| C) Management and career skills | | 2-6 cr | | Compulsory | Complete at least 2 cr | |
| Board membership | YEB-102 | 1 cr | Course | Optional | | Course teacher |
| Leading a creative expert organisation | YEB-113 | 2 cr | Course | Optional | | Course teacher |
| Job application techniques | YEB-110 | 2 cr | Course | Optional | | Course teacher |
| Principles of business for bioscientists | YEB-109 | 2 cr | Course | Optional | | Course teacher |
| Research funding opportunities | YEB-100 | 1 cr | Course | Optional | | Course teacher |
| Interpersonal skills | YEB-306 | 1 cr | Course | Optional | | Course teacher |
| PhD career course | PHD-101 | 2 cr | Course | Optional | | Course teacher |
| Open Science Online course | PHD-301 | 1 cr | Course | Optional | | Course teacher |
| Introduction to Open Data Science | PHD-302 | 5 cr | Course | Optional | | Course teacher |
| Project management and leadership | PHD-303 | 2 cr | Course | Optional | | Course teacher |
| Optional studies in management and career skills | YEB-399 | 1-8 cr | Course | Optional | | MBDP office |
| D) Other studies in transferable skills | | 1-6 cr | | Optional | | |
| The Elements of AI: Introduction to AI | AYTKT21018 | 2 cr | Course | Optional | | Course teacher |
| Software carpentry | PHD-402 | 1 cr | Course | Optional | | Course teacher |
| Starting Up | PHD-403 | 2 cr | Course | Optional | | Course teacher |
| Industrial property rights | YEB-401 | 2 cr | Course | Optional | YEB-401 | Course teacher |
| Other optional studies in transferable skills | YEB-499 | 1-6 cr | Course | Optional | | MBDP office |