

Faculty of Psychology and Educational Sciences, Faculty of Bioscience Engineering  
Master of Science in Teaching in Science and Technology (abridged programme) -- Bioengineering

Language of instruction: Dutch

Programme version 6

## 1 Teaching Component 60 credits

### 1.1 Programme Pathway Theoretical Education 18 credits

| Nr | Course  | CRDT | Ref | MT1 | Session       | Study |
|----|---|------|-----|-----|---------------|-------|
| 1  | H002169 Powerful Learning Environments<br>Bram De Wever -- Department of Educational Studies                      | 6    |     | 1   | A:1, K:1, B:1 | 180   |
| 2  | H002197 The Teacher within School and Society<br>Melissa Tuytens -- Department of Educational Studies             | 4    |     | 1   | A:1, B:1, K:1 | 120   |
| 3  | H002198 Psychology of Adolescence<br>Wim Beyers -- Department of Developmental, Personality and Social Psychology | 4    |     | 1   | A:1, K:1, B:1 | 120   |
| 4  | H002196 Classroom Management and Reflection<br>Melissa Tuytens -- Department of Educational Studies               | 4    |     | 1   | A:2, B:2, K:2 | 120   |

### 1.2 Programme Pathway Teaching Methodology 12 credits

Subscribe to 12 credit units from the following list, with

- 6 credit units with reference a
- 6 credit units with another reference with
  - Bachelor in de bio-ingenieurswetenschappen: a course with reference b, c, d or e
  - Bachelor or master in de bio-ingenieurswetenschappen, Main Subjects/Majors 'bos- en natuurbeheer', 'land- en waterbeheer' or 'land, water en klimaat': a course with reference b,c,d,e or f
  - Bachelor in de biowetenschappen: a course with reference c or d
  - Bachelor in de bio-industriële wetenschappen, Master in de industriële wetenschappen: biochemie, Master in de industriële wetenschappen: milieukunde and en Master in de bio- industriële wetenschappen circulaire bioprocestechnologie: a course with reference d
  - Bachelor in de industriële wetenschappen: a course with reference e

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | H002218 Teaching Methodology: Bioengineering<br>Kathy Messens -- Department of Biotechnology                                | 6    | a   | 1   | A:J     | 180   |
| 2  | H002226 Teaching Methodology: Mathematics I<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry     | 6    | b   | 1   | A:J     | 180   |
| 3  | H002220 Teaching Methodology: Biology<br>Dominique Adriaens -- Department of Biology  | 6    | c   | 1   | A:J     | 180   |
| 4  | H002219 Teaching Methodology: Chemistry<br>Katrien Strubbe -- Department of Chemistry                                       | 6    | d   | 1   | A:J     | 180   |
| 5  | H002224 Teaching Methodology Physics<br>Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering | 6    | e   | 1   | C:J     | 180   |
| 6  | H002222 Teaching Methodology: Geography<br>Nico Van de Weghe -- Department of Geography                                     | 6    | f   | 1   | J:J     | 180   |

### 1.3 Programme Pathway Internship 15 credits

Subscribe to 1 module from the following list. Subject to approval by the faculty.

#### 1.3.1 A. The student does not take an Additional Teaching Methodology Course as an Elective Course 15 credits

Subscribe to 15 credit units, with

- 7 credit units from courses with reference a
- 4 credit units with reference b corresponding to the Teaching Methodology Course taken in de Programme Pathway Teaching Methodology
- 4 credit units with reference c corresponding to the Teaching Methodology Course taken in de Programme Pathway Teaching Methodology or 'Internship C: bioengineering'.

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | H002281 Reference Internship: Bioengineering<br>Kathy Messens -- Department of Biotechnology                  | 3    | a   | 1   | A:J     | 90    |
| 2  | H002300 Internship A: Bioengineering<br>Kathy Messens -- Department of Biotechnology                          | 4    | a   | 1   | A:J     | 100   |
| 3  | H002319 Internship B: Mathematics<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry | 4    | b   | 1   | A:J     | 100   |
| 4  | H002315 Internship B: Biology<br>Dominique Adriaens -- Department of Biology                                  | 4    | b   | 1   | A:J     | 100   |
| 5  | H002312 Internship B: Chemistry<br>Katrien Strubbe -- Department of Chemistry                                 | 4    | b   | 1   | A:J     | 100   |
| 6  | H002316 Internship B: Physics<br>Philippe Smet -- Department of Solid State Sciences                          | 4    | b   | 1   | A:J     | 100   |
| 7  | H002317 Internship B: Geography<br>Nico Van de Weghe -- Department of Geography                               | 4    | b   | 1   | A:J     | 108   |
| 8  | H002334 Internship C: Bioengineering<br>Kathy Messens -- Department of Biotechnology                          | 4    | c   | 1   | A:J     | 108   |
| 9  | H002336 Internship C: Mathematics<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry | 4    | c   | 1   | A:J     | 100   |
| 10 | H002331 Internship C: Biology<br>Dominique Adriaens -- Department of Biology                                  | 4    | c   | 1   | A:J     | 100   |
| 11 | H002330 Internship C: Chemistry<br>Katrien Strubbe -- Department of Chemistry                                 | 4    | c   | 1   | A:J     | 100   |
| 12 | H002335 Internship C: Physics<br>Philippe Smet -- Department of Solid State Sciences                          | 4    | c   | 1   | A:J     | 100   |
| 13 | H002339 Internship C: Geography<br>Nico Van de Weghe -- Department of Geography                               | 4    | c   | 1   | A:J     | 108   |

### 1.3.2 B. The student takes an Additional Teaching Methodology Course as an Elective Course

15 credits

Subscribe to 15 credit units from the following list, with

- 7 credit units from the courses with reference a
- 4 credit units from the courses with reference b corresponding to the Teaching Methodology Course taken in the Programme Pathway Teaching Methodology
- 4 credit units from the courses with reference c corresponding to the Teaching Methodology Course taken in Module 2 of the Elective courses (Additional Teaching Methodology Course).

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | H002281 Reference Internship: Bioengineering<br>Kathy Messens -- Department of Biotechnology                  | 3    | a   | 1   | A:J     | 90    |
| 2  | H002300 Internship A: Bioengineering<br>Kathy Messens -- Department of Biotechnology                          | 4    | a   | 1   | A:J     | 100   |
| 3  | H002319 Internship B: Mathematics<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry | 4    | b   | 1   | A:J     | 100   |
| 4  | H002315 Internship B: Biology<br>Dominique Adriaens -- Department of Biology                                  | 4    | b   | 1   | A:J     | 100   |
| 5  | H002312 Internship B: Chemistry<br>Katrien Strubbe -- Department of Chemistry                                 | 4    | b   | 1   | A:J     | 100   |
| 6  | H002316 Internship B: Physics<br>Philippe Smet -- Department of Solid State Sciences                          | 4    | b   | 1   | A:J     | 100   |
| 7  | H002317 Internship B: Geography<br>Nico Van de Weghe -- Department of Geography                               | 4    | b   | 1   | A:J     | 108   |
| 8  | H002336 Internship C: Mathematics<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry | 4    | c   | 1   | A:J     | 100   |
| 9  | H002331 Internship C: Biology<br>Dominique Adriaens -- Department of Biology                                  | 4    | c   | 1   | A:J     | 100   |
| 10 | H002330 Internship C: Chemistry<br>Katrien Strubbe -- Department of Chemistry                                 | 4    | c   | 1   | A:J     | 100   |
| 11 | H002335 Internship C: Physics<br>Philippe Smet -- Department of Solid State Sciences                          | 4    | c   | 1   | A:J     | 100   |
| 12 | H002339 Internship C: Geography<br>Nico Van de Weghe -- Department of Geography                               | 4    | c   | 1   | A:J     | 108   |

## 1.4 Programme Pathway Practice Oriented Educational Research Project

9 credits

| Nr | Course   | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1  | H002464 Practice Oriented Educational Research Project | 9    |     | 1   | J:J     | 250   |

## 1.5 Elective Courses

6 credits

Subscribe to 6 credit units from one or different modules from the following list. Subject to approval by the faculty.

### 1.5.1 Module 1: List of Elective Courses

The courses with reference b can only be chosen if the course with reference a has been passed.

| Nr | Course   | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1  | H001608 Movement and Sports: Now and Later<br>Veerle Segers -- Department of Movement and Sports Sciences  | 4    |     | 1   | A:2     | 120   |
| 2  | H001977 Coaching and Diversity<br>Elisabeth De Schauwer -- Department of Special Education   | 3    | UKV | 1   | A:J     | 90    |
| 3  | A005503 Context and Nuance. A Critical Reflection on Current Topics<br>Stef Craps -- Department of Literary Studies  | 6    | UKV | 1   | A:1     | 180   |
| 4  | H001838 Culture, Media and Education<br>Kris Rutten -- Department of Educational Studies   | 4    |     | 1   | A:2     | 120   |
| 5  | H002150 Digital Learning Environments<br>Tammy Schellens -- Department of Educational Studies  | 3    |     | 1   | A:1     | 90    |
| 6  | C004225 Physics for Citizens<br>Steven Caluwaerts -- Department of Physics and Astronomy   | 4    | UKV | 1   | A:1     | 120   |
| 7  | D012276 Introduction to Flemish Sign Language<br>Beatrijs Wille -- Department of Linguistics   | 4    |     | 1   | A:1     | 120   |
| 8  | H000358 Learning Psychology<br>Yannick Boddez -- Department of Experimental Clinical and Health Psychology   | 5    |     | 1   | A:2     | 150   |
| 9  | H000124 Learning Disabilities<br>Petra Warreyn -- Department of Experimental Clinical and Health Psychology  | 5    |     | 1   | A:2     | 150   |
| 10 | H002128 Methods to Facilitate Socratic Group Discussions in the Educational Context<br>Veerle Provoost -- Department of Philosophy and Moral Sciences                  | 4    |     | 1   | A:2     | 120   |
| 11 | H002213 Motivational Psychology<br>Maarten Vansteenkiste -- Department of Developmental, Personality and Social Psychology   | 5    |     | 1   | A:1     | 150   |
| 12 | K000245 Sociology of Education<br>Mieke Van Houtte -- Department of Sociology  | 5    |     | 1   | A:2     | 150   |
| 13 | E099210 Essentials of Artificial Intelligence: a Beginner's Guide [en]<br>Joni Dambre -- Department of Electronics and Information Systems                             | 3    | UKV | 1   | A:1     | 90    |
| 14 | H002246 Theory and Practice of Content and Language Integrated Learning<br>Ulrike Vogl -- Department of Linguistics  | 3    | a   | 1   | A:1     | 90    |
| 15 | H002344 Linguistic Proficiency in Content and Language Integrated Learning: Dutch<br>Bart Deygers -- Department of Translation, Interpreting and Communication         | 3    | b   | 1   | A:2     | 90    |
| 16 | H002247 Linguistic Proficiency in Content and Language Integrated Learning: English [en]<br>June Eyckmans -- Department of Translation, Interpreting and Communication | 3    | b   | 1   | A:2     | 90    |
| 17 | H002248 Linguistic Proficiency in Content and Language Integrated Learning: French [fr]<br>Pascale Hadermann -- Department of Linguistics                              | 3    | b   | 1   | A:2     | 90    |
| 18 | H002249 Linguistic Proficiency in Content and Language Integrated Learning: German [de]<br>Gunther Martens -- Department of Literary Studies                           | 3    | b   | 1   | A:2     | 90    |
| 19 | H002283 Teaching Methodology: General Subjects for Technical and Vocational Education, including Internship<br>Katrien Strubbe -- Department of Chemistry              | 6    |     | 1   | A:2     | 160   |

### 1.5.2 Module 2: Additional Course Teaching Methodology

Subscribe to a Teaching Methodology Course other than chosen in the Programme Pathway Teaching Methodology and depending on the bachelor degree.

- Bachelor in de bio-ingenieurswetenschappen: 6 credit units with reference g, h, i or j. The course unit with reference k can only be taken if in the Programme Pathway Teaching Methodology, 'Teaching Methodology Mathematics I' is taken prior or concurrently.
- Bachelor or master bio-ingenieurswetenschappen: Main Subjects/Majors 'bos- en natuurbeheer', 'bos- en waterbeheer' or 'land, water en klimaat': 6 credits with reference g, h, i, j or l. The course unit with reference k can only be taken if in the Programme Pathway Teaching Methodology, 'Teaching Methodology Mathematics I' is taken prior or concurrently.
- Bachelor in de biowetenschappen: 6 credit units with reference h or i

- Master in de industriële wetenschappen: biochemie, Master in de industriële wetenschappen: milieukunde and en Master in de bio-industriële wetenschappen circulaire bioprocesstechnologie: a course with reference d
- Bachelor in de industriële wetenschappen: a course with reference e

Taking an additional Teaching Methodology Course implies taking the corresponding Internship in the Programme Pathway Internship. Students who are able to demonstrate that they have acquired at least 30 academic credits in another specific domain (60 credits if it concerns a language), can submit a request to the Curriculum Manager for the Master of Education to take the corresponding teaching methodology course. If the Curriculum Manager agrees, the Programme Pathway Internship needs to be revised allowing a student to follow an "Internship C" in this additional teaching methodology.

| Nr | Course  | CRDT | Ref | MT1 | Session | Study |
|----|---|------|-----|-----|---------|-------|
| 1  | H002226 Teaching Methodology: Mathematics I<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry     | 6    | g   | 1   | A:J     | 180   |
| 2  | H002220 Teaching Methodology: Biology<br>Dominique Adriaens -- Department of Biology  | 6    | h   | 1   | A:J     | 180   |
| 3  | H002219 Teaching Methodology: Chemistry<br>Katrien Strubbe -- Department of Chemistry                                       | 6    | i   | 1   | A:J     | 180   |
| 4  | H002224 Teaching Methodology Physics<br>Stefaan Cottenier -- Department of Electromechanical, Systems and Metal Engineering | 6    | j   | 1   | C:J     | 180   |
| 5  | H002227 Teaching Methodology: Mathematics II<br>Hendrik Van Maldeghem -- Department of Mathematics: Algebra and Geometry    | 6    | k   | 1   |         | 168   |
| 6  | H002222 Teaching Methodology: Geography<br>Nico Van de Weghe -- Department of Geography                                     | 6    | l   | 1   |         | 180   |

### 1.5.3 Module 3: Additional Internship

| Nr | Course   | CRDT | Ref | MT1 | Session | Study |
|----|--|------|-----|-----|---------|-------|
| 1  | H002332 Short Additional Internship<br>Katrien Strubbe -- Department of Chemistry    | 3    |     | 1   | A:J     | 80    |
| 2  | H002333 Extended Additional Internship<br>Katrien Strubbe -- Department of Chemistry | 6    |     | 1   | A:J     | 160   |

### 1.5.4 Module 4: an Elective Course related to Education

Subscribe to a course of no less than 6 credit units, related to education, and lectured at a university belonging to the Flemish Community (see also: [Enlight Elective Courses](#)), subject to approval by the faculty.

#### Teaching

When a course is not taught (solely) in the programme's language of instruction, the effectively used languages are indicated in square brackets following the course name, using the following ISO codes:

|               |             |             |               |                |                      |             |
|---------------|-------------|-------------|---------------|----------------|----------------------|-------------|
| bg: Bulgarian | de: German  | es: Spanish | ja: Japanese  | pl: Polish     | sh: Croatian/Serbian | zh: Chinese |
| cs: Czech     | el: Greek   | fr: French  | nl: Dutch     | pt: Portuguese | sl: Slovene          |             |
| da: Danish    | en: English | it: Italian | no: Norwegian | ru: Russian    | sv: Swedish          |             |

#### Semester

Semesters are indicated by their number (1 or 2); semester 3 represents the summer period and J indicates a course spanning semesters 1 and 2. When a capital letter precedes a semester number, the course has multiple offerings. The letter indicates the offering concerned.

When a semester is shown in brackets, the course is not offered this year in the specific offering.

The offering frequency and first year of offering are indicated by the following codes:

|                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|
| a: bi-annually  | c: annually, from 2025-2026     | f: annually, from 2026-2027     | i: annually, from 2027-2028     |
| b: tri-annually | d: bi-annually, from 2025-2026  | g: bi-annually, from 2026-2027  | j: bi-annually, from 2027-2028  |
|                 | e: tri-annually, from 2025-2026 | h: tri-annually, from 2026-2027 | k: tri-annually, from 2027-2028 |