



# CURRICULUM

|                     |                                     |
|---------------------|-------------------------------------|
| Study Type          | Bachelor                            |
| Study Language      | Czech                               |
| Faculty             | Faculty of Environmental Technology |
| Study programme     | Environmental Technology            |
| Study sub-programme | Environmental Analytical Chemistry  |
| Year                | 2019/2020                           |



## Organization of the academic year 2017/2018

The academic year **2017/2018** starts on **11th September 2017** and ends on **7th September 2018**

### Structure of the academic year

| <b>Winter semester (WS)</b>  |                       |
|--|-----------------------|
| The dates of registration for the summer semester will be organized by the Dean´s office of the respective faculty no later than by <b>29th September 2017</b> . |                       |
| Lectures, seminars, laboratory work:   | 18. 9. – 22. 12. 2017 |
| Assessment period:   | 2. 1. – 16. 2. 2018   |

| <b>Summer semester (SS)</b>  |   |
|--|---|
| The dates of registration for the summer semester will be organized by the Dean´s office of the respective faculty no later than <b>2nd March 2018</b> |   |
| Lectures, seminars, laboratory work:   | 19. 2. – 25. 5. 2018                        |
| Assessment period:   | 28. 5. – 29. 6. 2018<br>27. 8. – 7. 9. 2018 |

The lessons start no earlier than at 8:00 a.m. The lessons always start on the hour, the duration of one lesson is 50 minutes.

The Rector´s Days: **20. 11. and 24. 11. 2017**

The Students´ Scientific Conference: 20. 11. 2017  
Open Days: 24. 11. and 25. 11. 2017  
19. 1. and 20. 1. 2018

## **Enrolment in compulsory-optional and optional courses and registration for timetable**

|   |                       |
|---|-----------------------|
| Registration for the timetable for WS:  | 7. 9. – 15. 9. 2017   |
| Preliminary enrolment in compulsory-optional and optional courses for SS:         | 23. 11. – 1. 12. 2017 |
| Registration for the timetable for SS:  | 8. 2. -16. 2. 2018    |
| Preliminary enrolment in compulsory-optional and optional courses for WS 2018/19: | 10. 5. – 18. 5. 2018  |

## **Important dates for students of III. year of Bachelor studies**

|   |                |
|---|----------------|
| <b>Check of study requirements fulfillment:</b> |                |
| I. term of State Final Examination*:            | by 8. 6. 2018  |
| II. term of State Final Examination*:           | by 10. 7. 2018 |

|  |                |
|--|----------------|
| <b>Submission of Bachelor Diploma Thesis</b> |                |
| I. term of State Final Examination*:         | by 8. 6. 2018  |
| II. term of State Final Examination*:        | by 10. 7. 2018 |

|                                       |                      |
|---------------------------------------|----------------------|
| <b>State Final Examination terms:</b> |                      |
| I. term of State Final Examination*:  | 18. 6. – 29. 6. 2018 |
| II. term of State Final Examination*: | 27. 8. – 7. 9. 2018  |

|   |                      |
|---|----------------------|
| <b>State Final Examination terms for students of Bachelor degree programme Specialization in pedagogics :</b> |                      |
| I. term of State Final Examination*:  | June 2018            |
| II. term of State Final Examination*:   | 20. 8. – 30. 8. 2018 |

\* The exact dates are to be decided by the Dean of the respective faculty.

**The graduation ceremony** for Bachelor degree graduates will be held on **10th October and 11th October 2018.**

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**Abbreviations and their meaning:**

| <b>Abbrev.<br/>ENG</b> | <b>Abbrev.<br/>CZE</b> |                   |
|------------------------|------------------------|-------------------|
| C                      | Z                      | credit            |
| MC                     | KZ                     | classified credit |
| Ex                     | Zk                     | examination       |

|   |                 |
|---|-----------------|
| p | lecture         |
| c | seminar         |
| l | laboratory work |

*the numbers preceding an abbreviation indicate number of lessons per week*



Study Programme: **Environmental Technology**  
 Study Sub-programme: **Environmental Analytical Chemistry**  
 Code: **ACHZP**

### 1st year - WINTER SEMESTER

| Code   | Subject                                | Department | Study Hours | Exam | Cred |
|--|--|------------|-------------|------|------|
| N101002  | Chemical Calculations                  | 101        | 2c          | C    | 2    |
| N101005  | General and Inorganic Chemistry I      | 101        | 3p+2c       | C+Ex | 8    |
| N215022  | Application of Computer Techniques     | 215        | 3c          | MC   | 3    |
| N218026  | Alternative Energy Sources I           | 218        | 2p          | Ex   | 3    |
| N240011  | Fundamentals of Toxicology and Ecology | 240        | 2p          | Ex   | 3    |
| N240022  | Fundamentals of Biology                | 240        | 2p          | Ex   | 3    |
| N413022  | Mathematics I                          | 413        | 3p+4c       | C+Ex | 9    |
| <b>List of optional subjects for this semester is located on the page 11</b> |  |            |             |      |      |

### 1st year - SUMMER SEMESTER

| Code   | Subject                            | Department | Study Hours | Exam | Cred |
|--|------------------------------------|------------|-------------|------|------|
| N101003  | Inorganic Chemistry: Laboratory I  | 101        | 4l          | MC   | 3    |
| N110004  | Organic Chemistry I                | 110        | 2p+2c       | C+Ex | 6    |
| N444001  | Physics I                          | 444        | 3p+2c       | C+Ex | 7    |
| N834008  | Professional English Language I    | 834        | 2c          | C    | 1    |
| <b>Elective subjects 1, 2 (choose at least 2 subject(s) from this group)</b> |                                    |            |             |      |      |
| N101006  | General and Inorganic Chemistry II | 101        | 2p+2c       | C+Ex | 5    |
| N216034  | Climate Change                     | 216        | 2p          | Ex   | 3    |
| N240010  | Ecology                            | 240        | 2p          | Ex   | 3    |
| N323004  | Sensory Analysis                   | 323        | 2p+1c       | C+Ex | 4    |
| N413003  | Mathematics II                     | 413        | 3p+3c       | C+Ex | 8    |
| <b>List of optional subjects for this semester is located on the page 12</b> |                                    |            |             |      |      |

## 2nd year - WINTER SEMESTER

| Code   | Subject                          | Department | Study Hours | Exam | Cred |
|--|----------------------------------|------------|-------------|------|------|
| N110002  | Organic Chemistry: Laboratory I  | 110        | 4l          | MC   | 3    |
| N240009  | Environmental Chemistry          | 240        | 3p          | Ex   | 5    |
| N320001  | Biochemistry I                   | 320        | 3p          | Ex   | 5    |
| N403011  | Physical Chemistry I             | 403        | 3p+2c       | C+Ex | 6    |
| N444003  | Physics: Laboratory              | 444        | 3l          | MC   | 3    |
| N834009  | Professional English Language II | 834        | 2c          | C+Ex | 2    |
| <b>Elective subject 3 (choose at least 1 subject(s) from this group)</b>     |                                  |            |             |      |      |
| N110005  | Organic Chemistry II             | 110        | 3p+2c       | C+Ex | 7    |
| N437005  | Enterprise Economics             | 837        | 2p+1c       | C+Ex | 4    |
| <b>List of optional subjects for this semester is located on the page 14</b> |                                  |            |             |      |      |

## 2nd year - SUMMER SEMESTER

| Code   | Subject                          | Department | Study Hours | Exam | Cred |
|--|----------------------------------|------------|-------------|------|------|
| N217032  | Environmental Statistic          | 217        | 1p+2c       | C+Ex | 4    |
| N218016  | Sources of Chemical Information  | 218        | 3c          | MC   | 3    |
| N218028  | Project                          | 218        | 6c          | MC   | 6    |
| N402002  | Analytical Chemistry I           | 402        | 2p+2c       | C+Ex | 5    |
| N403013  | Physical Chemistry: Laboratory I | 403        | 4l          | MC   | 3    |
| N403014  | Physical Chemistry II            | 403        | 3p+2c       | C+Ex | 7    |
| <b>List of optional subjects for this semester is located on the page 17</b> |                                  |            |             |      |      |



**3rd year - WINTER SEMESTER**

| Code   | Subject  | Department | Study Hours | Exam | Cred |
|--|--|------------|-------------|------|------|
| N216007  | Atmospheric Chemistry                          | 216        | 2p          | Ex   | 3    |
| N216030  | Principles of Atmosphere Analytics             | 216        | 1p+2c       | C+Ex | 4    |
| N217001  | Water Analysis                                 | 217        | 2p          | Ex   | 3    |
| N218025A   | Seminar and laboratory exercise of environment | 218        | 8l          | MC   | 6    |
| N402003  | Analytical Chemistry: Laboratory I             | 402        | 5l          | MC   | 4    |
| N402004  | Analytical Chemistry II                        | 402        | 2p+1c       | C+Ex | 4    |
| <b>Elective subject 4 (choose at least 1 subject(s) from this group)</b>     |  |            |             |      |      |
| N320009  | Microbiology                                   | 320        | 3p          | Ex   | 5    |
| N403001  | Physico-Chemical Properties of Substances      | 403        | 2p+1c       | C+Ex | 4    |
| N409002A   | Unit Operations of Chemical Engineering I      | 409        | 2p+3c       | C+Ex | 6    |
| <b>List of optional subjects for this semester is located on the page 20</b> |  |            |             |      |      |

**3rd year - SUMMER SEMESTER**

| Code   | Subject                              | Department | Study Hours | Exam | Cred |
|--|--------------------------------------|------------|-------------|------|------|
| N217003  | Hydrochemistry                       | 217        | 3p+2c       | C+Ex | 7    |
| N240013  | Creation of scientific presentations | 240        | 3c          | MC   | 3    |
| N402007  | Analytical Chemistry: Laboratory II  | 402        | 4l          | MC   | 4    |
| N963014  | Bachelor Thesis                      | 963        | 12c         | C    | 15   |
| <b>List of optional subjects for this semester is located on the page 24</b> |                                      |            |             |      |      |



## Optional subjects for 1st year, WINTER SEMESTER

Obory: ACHZP

| Code    | Subject              | Department | Study Hours | Exam | Cred |
|---------|----------------------|------------|-------------|------|------|
| N101030 | Chemistry: Seminar   | 101        | 2c          | C    | 1    |
| N413037 | Mathematics: Seminar | 413        | 2c          | C    | 1    |
| N834005 | Czech Language I     | 834        | 2c          | C    | 1    |
| N834066 | English seminar      | 834        | 2c          | C    | 0    |

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## Optional subjects for 1st year, SUMMER SEMESTER

Obory: ACHZP

| Code     | Subject                                 | Department | Study Hours | Exam | Cred |
|----------|---|------------|-------------|------|------|
| N101006  | General and Inorganic Chemistry II      | 101        | 2p+2c       | C+Ex | 5    |
| N111041  | Physiology                              | 111        | 1p+1c       | C+Ex | 3    |
| N112005  | Polymeric Materials                     | 112        | 2p          | Ex   | 3    |
| N216034  | Climate Change                          | 216        | 2p          | Ex   | 3    |
| N217002  | Industrial Wasterwaters                 | 217        | 3p          | Ex   | 5    |
| N217005  | Distribution Networks and Sewerage      | 217        | 2p+1c       | C+Ex | 4    |
| N217016  | Water Quality Protection                | 217        | 2p+1c       | C+Ex | 4    |
| N218026A | Alternative Energy Sources I            | 218        | 2p          | Ex   | 3    |
| N218027  | Alternative Energy Sources II           | 218        | 2p          | Ex   | 3    |
| N240010  | Ecology                                 | 240        | 2p          | Ex   | 3    |
| N323004  | Sensory Analysis                        | 323        | 2p+1c       | C+Ex | 4    |
| N324002  | Production of Food Raw Materials        | 324        | 2p          | Ex   | 3    |
| N342025  | Plant Remedies and Traditional Medicine | 342        | 2p          | Ex   | 3    |
| N413003  | Mathematics II                          | 413        | 3p+3c       | C+Ex | 8    |
| N413010  | Computer Algebra System Maple           | 413        | 2c          | MC   | 2    |
| N444005  | Fundamentals of Machinery               | 444        | 2p+1c       | C+Ex | 4    |
| N445002  | Algorithms and Programming              | 445        | 2c          | MC   | 2    |
| N445004  | Mathematical Methods in Engineering     | 445        | 2p+2c       | C+Ex | 5    |
| N445006  | Computer Graphics                       | 445        | 1p+3c       | C+Ex | 5    |
| N445036  | Enterprise Processes Simulation         | 445        | 1p+2c       | MC   | 3    |
| N445044  | Graphs in Engineering                   | 445        | 2p+1c       | MC   | 3    |
| N445054  | Computer Data Acquisition               | 445        | 2p+2c       | C+Ex | 5    |
| N445079  | Information Engineering Project I       | 445        | 3c          | MC   | 3    |
| N832004  | Political Science                       | 832        | 2p          | C    | 2    |
| N832009  | Modern Czech History                    | 832        | 2p          | C    | 2    |
| N832011  | Human Resource Management               | 832        | 2p+1c       | C+Ex | 4    |
| N832013  | Fundamentals of Law                     | 832        | 2p          | Ex   | 3    |
| N832014  | History of Chemistry                    | 832        | 2p          | MC   | 3    |
| N834006  | Czech Language II                       | 834        | 2c          | C    | 1    |
| N834019  | English - pre-intermediate II           | 834        | 2c          | C    | 1    |
| N834021  | English - intermediate II               | 834        | 2c          | C    | 1    |
| N834023  | German - beginners II                   | 834        | 2c          | C    | 1    |
| N834025  | German - pre-intermediate II            | 834        | 2c          | C    | 1    |
| N834027  | German - intermediate II                | 834        | 2c          | C    | 1    |
| N834029  | French - beginners II                   | 834        | 2c          | C    | 1    |
| N834031  | French - pre-intermediate II            | 834        | 2c          | C    | 1    |

| Code    | Subject                       | Department | Study Hours | Exam | Cred |
|---------|-------------------------------|------------|-------------|------|------|
| N834033 | French - intermediate II      | 834        | 2c          | C    | 1    |
| N834035 | Russian - beginners II        | 834        | 2c          | C    | 1    |
| N834037 | Russian - pre-intermediate II | 834        | 2c          | C    | 1    |
| N834045 | English - advanced II         | 834        | 2c          | C    | 1    |
| N834053 | Russian - intermediate II     | 834        | 2c          | C    | 1    |
| N834056 | Spanish - beginners II        | 834        | 2c          | C    | 1    |
| N834057 | Spanish - pre-intermediate II | 834        | 2c          | C    | 1    |
| N834059 | Spanish - intermediate II     | 834        | 2c          | C    | 1    |

## Optional subjects for 2nd year, WINTER SEMESTER

Obory: ACHZP

| Code    | Subject  | Department | Study Hours | Exam | Cred |
|---------|--|------------|-------------|------|------|
| N101001 | Safety and Legislation in Chemistry                                    | 101        | 2p          | Ex   | 3    |
| N101004 | Inorganic Chemistry: Laboratory II                                     | 101        | 4l          | MC   | 4    |
| N105004 | Introduction to Chemical Technologies                                  | 105        | 2p          | Ex   | 3    |
| N105006 | Fundamentals of Inorganic Technologies                                 | 105        | 2p          | Ex   | 3    |
| N106001 | Materials Degradation  | 106        | 2p          | Ex   | 3    |
| N106006 | Properties and Testing of Metals                                       | 106        | 2p+1c       | C+Ex | 4    |
| N106009 | Historical Methods of Metal Production and Processing                  | 106        | 2p          | Ex   | 3    |
| N107021 | Waste Treatment: of Building Materials, Glass, Ceramics                | 107        | 2p          | Ex   | 3    |
| N107022 | Historical Methods of Glass and Ceramic Manufacturing and Processing   | 107        | 2p          | Ex   | 3    |
| N108003 | Introduction to Mineralogy   | 108        | 2p          | Ex   | 3    |
| N108004 | Introduction to Study of Materials                                     | 108        | 2p          | Ex   | 3    |
| N108021 | Analysis of Solid Pharmaceuticals                                      | 108        | 2p          | Ex   | 3    |
| N108022 | Chemistry and Physics of Solid Pharmaceuticals                         | 108        | 2p          | Ex   | 3    |
| N110005 | Organic Chemistry II   | 110        | 3p+2c       | C+Ex | 7    |
| N148003 | Preventive Conservation  | 148        | 2p          | Ex   | 3    |
| N148027 | History of Textiles Manufacturing and Processing                       | 148        | 2p          | Ex   | 3    |
| N148028 | Chemistry of Fibres  | 148        | 2p          | Ex   | 3    |
| N148031 | Textile Conservation   | 148        | 2p          | Ex   | 3    |
| N215005 | Fundamentals of Petroleum Processing and Utilization                   | 215        | 2p          | Ex   | 3    |
| N215006 | Organic Technology   | 215        | 2p          | Ex   | 3    |
| N215007 | Fuels Analysis   | 215        | 3p          | Ex   | 5    |
| N216001 | Safety and reliability in the power engineering and the other industry | 216        | 2p+1c       | C+Ex | 4    |
| N216007 | Atmospheric Chemistry  | 216        | 2p          | Ex   | 3    |
| N216008 | Gas Cleaning Technology  | 216        | 3p          | Ex   | 5    |
| N216023 | Processing of Waste Gases  | 216        | 2p+1c       | C+Ex | 4    |
| N216034 | Climate Change   | 216        | 2p          | Ex   | 3    |
| N217001 | Water Analysis   | 217        | 2p          | Ex   | 3    |
| N217006 | Fundamentals of Wastewater Treatment                                   | 217        | 3p+2c       | C+Ex | 7    |
| N217008 | Water Treatment  | 217        | 2p          | Ex   | 3    |

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| Code     | Subject   | Department | Study Hours | Exam | Cred |
|----------|---|------------|-------------|------|------|
| N217031  | Technologies for Production of Biogas and Biohydrogen | 217        | 2p          | Ex   | 3    |
| N218026  | Alternative Energy Sources I                          | 218        | 2p          | Ex   | 3    |
| N240009  | Environmental Chemistry                               | 240        | 3p          | Ex   | 5    |
| N251005  | Laboratory of Fuels                                   | 215        | 6l          | MC   | 4    |
| N322024  | Basics cosmetics                                      | 322        | 1p+1c       | C+Ex | 3    |
| N342001  | Bioorganic Chemistry of Natural Compounds             | 342        | 2p+2c       | C+Ex | 5    |
| N342029  | Basics Scientific Communication                       | 342        | 2p+1c       | C+Ex | 4    |
| N413003A | Mathematics II  | 413        | 3p+3c       | C+Ex | 8    |
| N413005  | Numerical Methods                                     | 413        | 3p+2c       | C+Ex | 7    |
| N413010A | Computer Algebra System Maple                         | 413        | 2c          | MC   | 2    |
| N413039  | Fourier transform for Bc. students                    | 413        | 2p+2c       | C+Ex | 5    |
| N437005  | Enterprise Economics                                  | 837        | 2p+1c       | C+Ex | 4    |
| N437019  | Basic Food Marketing                                  | 837        | 2p          | Ex   | 3    |
| N437022  | Basic Marketing of Chemical Products                  | 837        | 2p          | Ex   | 3    |
| N437037  | Development of Social Competencies                    | 837        | 2p+1c       | C    | 3    |
| N437061  | Introduction to Entrepreneurship                      | 837        | 2p          | Ex   | 2    |
| N444006  | Physics II  | 444        | 2p+2c       | C+Ex | 5    |
| N444008  | Measurement in Environmental Protection               | 444        | 2p+1c       | Ex   | 4    |
| N444010  | Biophysics  | 444        | 2p+1c       | C+Ex | 4    |
| N445003  | Database Systems                                      | 445        | 1p+3c       | C+Ex | 5    |
| N445005  | Webdesign I   | 445        | 1p+3c       | MC   | 4    |
| N445008  | Spreadsheet Applications                              | 445        | 1p+2c       | MC   | 4    |
| N445011  | Presentation Skills                                   | 445        | 1p+3c       | MC   | 3    |
| N445012  | Signal Processing                                     | 445        | 3p+2c       | C+Ex | 5    |
| N445030  | Artificial Intelligence                               | 445        | 2p+2c       | C+Ex | 5    |
| N445055  | Programming Techniques                                | 445        | 1p+3c       | C+Ex | 5    |
| N445056  | Project Management                                    | 445        | 2p+2c       | C+Ex | 5    |
| N445078  | Introduction to Programming                           | 445        | 1p+3c       | C+Ex | 5    |
| N445081  | Information Engineering Project II                    | 445        | 3c          | MC   | 3    |
| N445086  | Fundamentals of Microprocessor Technology             | 445        | 1p+2c       | MC   | 3    |
| N832001  | Microeconomics  | 832        | 2p          | C    | 2    |
| N832002  | Sociology   | 832        | 2p          | C    | 2    |
| N832003  | Fundamentals of Philosophy                            | 832        | 2p          | C    | 2    |
| N832041  | European history                                      | 832        | 2p          | C    | 2    |
| N832045  | International economics                               | 832        | 2p          | Ex   | 3    |

## Optional subjects for 2nd year, WINTER SEMESTER

| Code    | Subject                        | Department | Study Hours | Exam | Cred |
|---------|--------------------------------|------------|-------------|------|------|
| N832048 | Intellectual property          | 832        | 2p          | C    | 2    |
| N832049 | Presentation skills            | 832        | 1p+1c       | C+Ex | 4    |
| N832051 | Science Journalism             | 832        | 2c          | C    | 2    |
| N834005 | Czech Language I               | 834        | 2c          | C    | 1    |
| N834018 | English - pre-intermediate I   | 834        | 2c          | C    | 1    |
| N834020 | English - intermediate I       | 834        | 2c          | C    | 1    |
| N834022 | German - beginners I           | 834        | 2c          | C    | 1    |
| N834024 | German - pre-intermediate I    | 834        | 2c          | C    | 1    |
| N834026 | German - intermediate I        | 834        | 2c          | C    | 1    |
| N834028 | French - beginners I           | 834        | 2c          | C    | 1    |
| N834030 | French - pre-intermediate I    | 834        | 2c          | C    | 1    |
| N834032 | French - intermediate I        | 834        | 2c          | C    | 1    |
| N834034 | Russian - beginners I          | 834        | 2c          | C    | 1    |
| N834036 | Russian - pre-intermediate I   | 834        | 2c          | C    | 1    |
| N834044 | English - advanced I           | 834        | 2c          | C    | 1    |
| N834052 | Russian - intermediate I       | 834        | 2c          | C    | 1    |
| N834054 | Spanish - beginners I          | 834        | 2c          | C    | 1    |
| N834055 | Spanish - pre-intermediate I   | 834        | 2c          | C    | 1    |
| N834058 | Spanish - intermediate I       | 834        | 2c          | C    | 1    |
| N834067 | Italian language - beginners I | 834        | 2c          | C    | 1    |

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## Optional subjects for 2nd year, SUMMER SEMESTER

Obory: ACHZP

| Code     | Subject   | Department | Study Hours | Exam | Cred |
|----------|---|------------|-------------|------|------|
| N101006  | General and Inorganic Chemistry II                                      | 101        | 2p+2c       | C+Ex | 5    |
| N101008  | Structure and Properties of Materials                                   | 101        | 2p+1c       | C+Ex | 4    |
| N106004  | Metallurgy  | 106        | 2p          | Ex   | 3    |
| N106018  | Metallic Materials  | 106        | 2p          | Ex   | 3    |
| N106023  | Materials Corrosion for Conservators                                    | 106        | 2p          | Ex   | 3    |
| N107001  | Inorganic Non-Metallic Materials  | 107        | 2p          | Ex   | 3    |
| N107004  | Spectroscopic and Microscopic Methods for Characterization of Materials | 107        | 3p+1c       | C+Ex | 5    |
| N107023  | Surface Treatment and Conservation of Glass and Ceramics                | 107        | 2p          | Ex   | 3    |
| N108002  | Single Crystals   | 108        | 2p          | Ex   | 3    |
| N108013  | Chemistry of the Environment  | 108        | 3p          | Ex   | 4    |
| N110003  | Organic Chemistry: Laboratory II  | 110        | 4l          | MC   | 4    |
| N111006  | Environmental Protection Processes                                      | 111        | 2p+1c       | C+Ex | 4    |
| N111008  | User Software   | 111        | 3c          | MC   | 3    |
| N112003  | Macromolecular Chemistry  | 112        | 2p+1c       | C+Ex | 4    |
| N112005  | Polymeric Materials   | 112        | 2p          | Ex   | 3    |
| N148001  | Building materials of monuments and their deterioration                 | 148        | 2p          | Ex   | 3    |
| N215002  | Fundamentals of Combustion Processes                                    | 215        | 2p          | Ex   | 3    |
| N216003  | Fundamentals of Coal and Gas Processing and Utilization                 | 216        | 2p          | Ex   | 3    |
| N216034  | Climate Change  | 216        | 2p          | Ex   | 3    |
| N217002  | Industrial Wasterwaters   | 217        | 3p          | Ex   | 5    |
| N217004  | Decentralised Treatment and Reuse of Wastewater                         | 217        | 2p          | Ex   | 3    |
| N217005  | Distribution Networks and Sewerage                                      | 217        | 2p+1c       | C+Ex | 4    |
| N217016  | Water Quality Protection  | 217        | 2p+1c       | C+Ex | 4    |
| N218004  | Fundamentals of Power Engineering                                       | 218        | 2p+1c       | C+Ex | 4    |
| N218026A | Alternative Energy Sources I  | 218        | 2p          | Ex   | 3    |
| N218027  | Alternative Energy Sources II   | 218        | 2p          | Ex   | 3    |
| N240010  | Ecology   | 240        | 2p          | Ex   | 3    |
| N240031  | Management of chemicals (REACH)   | 240        | 1p+1c       | MC   | 3    |
| N320002  | Biochemistry II   | 320        | 2p          | Ex   | 3    |
| N321001  | Food Technology and Biotechnology                                       | 321        | 3p          | MC   | 3    |
| N322002  | Physical Properties of Foods I  | 322        | 2p+1c       | C+Ex | 4    |
| N322026  | Probiotics and Functional Food I  | 322        | 2p          | Ex   | 3    |

| Code     | Subject   | Department | Study Hours | Exam | Cred |
|----------|---|------------|-------------|------|------|
| N323001  | Food Chemistry                                      | 323        | 2p+2c       | C+Ex | 5    |
| N323004  | Sensory Analysis                                    | 323        | 2p+1c       | C+Ex | 4    |
| N324002  | Production of Food Raw Materials                    | 324        | 2p          | Ex   | 3    |
| N342002  | Raw materials from Sustainable Sources              | 342        | 2p          | Ex   | 3    |
| N342022  | Isolation and Identification of Natural Compounds   | 342        | 2p+1c       | C+Ex | 4    |
| N342025  | Plant Remedies and Traditional Medicine             | 342        | 2p          | Ex   | 3    |
| N402007  | Analytical Chemistry: Laboratory II                 | 402        | 4l          | MC   | 4    |
| N403002  | Measurement of Basic Physico-Chemical Quantities    | 403        | 3c          | MC   | 3    |
| N403003  | Introduction to Chemical-Engineering Thermodynamics | 403        | 1p+2c       | C+Ex | 4    |
| N403014  | Physical Chemistry II                               | 403        | 3p+2c       | C+Ex | 7    |
| N409002  | Unit Operations of Chemical Engineering I           | 409        | 2p+3c       | C+Ex | 6    |
| N413003  | Mathematics II                                      | 413        | 3p+3c       | C+Ex | 8    |
| N413008A | Applied Mathematics                                 | 413        | 2p+2c       | C+Ex | 5    |
| N413009  | Introduction to Mathematical Optimization           | 413        | 2p+2c       | C+Ex | 5    |
| N413010  | Computer Algebra System Maple                       | 413        | 2c          | MC   | 2    |
| N413017  | Financial Mathematics                               | 413        | 2p+1c       | MC   | 3    |
| N413031  | Mathematics III                                     | 413        | 2p+2c       | C+Ex | 5    |
| N413033  | Mathematics for Quantum Chemistry                   | 413        | 2p+2c       | C+Ex | 5    |
| N437003  | Management of Enterprise Processes                  | 837        | 2p+1c       | C+Ex | 4    |
| N437006  | Financial Accounting                                | 837        | 2p+2c       | C+Ex | 5    |
| N437038  | Career and Development SelfManagement               | 837        | 2p          | C    | 2    |
| N437059  | Negotiation and conflict communication              | 837        | 1p+2c       | MC   | 3    |
| N444005  | Fundamentals of Machinery                           | 444        | 2p+1c       | C+Ex | 4    |
| N444007  | Fundamentals of Electronics                         | 444        | 2p+2c       | C+Ex | 5    |
| N445002  | Algorithms and Programming                          | 445        | 2c          | MC   | 2    |
| N445004  | Mathematical Methods in Engineering                 | 445        | 2p+2c       | C+Ex | 5    |
| N445006  | Computer Graphics                                   | 445        | 1p+3c       | C+Ex | 5    |
| N445022A | Image Processing I                                  | 445        | 2p+2c       | C+Ex | 5    |
| N445044  | Graphs in Engineering                               | 445        | 2p+1c       | MC   | 3    |
| N445052  | Database Systems Design                             | 445        | 1p+3c       | C+Ex | 5    |
| N445054  | Computer Data Acquisition                           | 445        | 2p+2c       | C+Ex | 5    |
| N445070  | Geographical Information Systems                    | 445        | 2p+1c       | MC   | 3    |
| N445079  | Information Engineering Project I                   | 445        | 3c          | MC   | 3    |
| N832004  | Political Science                                   | 832        | 2p          | C    | 2    |
| N832005  | Macroeconomics                                      | 832        | 2p          | Ex   | 3    |

| Code    | Subject   | Department | Study Hours | Exam | Cred |
|---------|---|------------|-------------|------|------|
| N832009 | Modern Czech History  | 832        | 2p          | C    | 2    |
| N832010 | Selected Topics in Philosophy and the Philosophy of Science | 832        | 2p          | C    | 2    |
| N832011 | Human Resource Management                                   | 832        | 2p+1c       | C+Ex | 4    |
| N832013 | Fundamentals of Law   | 832        | 2p          | Ex   | 3    |
| N832014 | History of Chemistry  | 832        | 2p          | MC   | 3    |
| N832015 | Fundamentals of Financial Management                        | 832        | 2p          | C    | 2    |
| N834006 | Czech Language II   | 834        | 2c          | C    | 1    |
| N834019 | English - pre-intermediate II                               | 834        | 2c          | C    | 1    |
| N834021 | English - intermediate II                                   | 834        | 2c          | C    | 1    |
| N834023 | German - beginners II                                       | 834        | 2c          | C    | 1    |
| N834025 | German - pre-intermediate II                                | 834        | 2c          | C    | 1    |
| N834027 | German - intermediate II                                    | 834        | 2c          | C    | 1    |
| N834029 | French - beginners II                                       | 834        | 2c          | C    | 1    |
| N834031 | French - pre-intermediate II                                | 834        | 2c          | C    | 1    |
| N834033 | French - intermediate II                                    | 834        | 2c          | C    | 1    |
| N834035 | Russian - beginners II                                      | 834        | 2c          | C    | 1    |
| N834037 | Russian - pre-intermediate II                               | 834        | 2c          | C    | 1    |
| N834045 | English - advanced II                                       | 834        | 2c          | C    | 1    |
| N834053 | Russian - intermediate II                                   | 834        | 2c          | C    | 1    |
| N834056 | Spanish - beginners II                                      | 834        | 2c          | C    | 1    |
| N834057 | Spanish - pre-intermediate II                               | 834        | 2c          | C    | 1    |
| N834059 | Spanish - intermediate II                                   | 834        | 2c          | C    | 1    |
| N834068 | Italian language - beginners II                             | 834        | 2c          | C    | 1    |

## Optional subjects for 3rd year, WINTER SEMESTER

Obory: ACHZP

| Code     | Subject  | Department | Study Hours | Exam | Cred |
|----------|--|------------|-------------|------|------|
| N101001  | Safety and Legislation in Chemistry                                  | 101        | 2p          | Ex   | 3    |
| N101004  | Inorganic Chemistry: Laboratory II                                   | 101        | 4l          | MC   | 4    |
| N105002  | Electrochemical Processes  | 105        | 2p          | Ex   | 3    |
| N106001  | Materials Degradation  | 106        | 2p          | Ex   | 3    |
| N106003  | Materials Corrosion  | 106        | 3p          | Ex   | 4    |
| N106006  | Properties and Testing of Metals                                     | 106        | 2p+1c       | C+Ex | 4    |
| N106009  | Historical Methods of Metal Production and Processing                | 106        | 2p          | Ex   | 3    |
| N106025  | Treatment and Conservation of Metal Surfaces                         | 106        | 2p          | Ex   | 3    |
| N106037  | Waste Processing   | 106        | 2p          | Ex   | 3    |
| N107005  | Technical Mineralogy   | 107        | 2p+1c       | C+Ex | 4    |
| N107006  | Fundamentals of Glass and Ceramic Technologies                       | 107        | 2p+1c       | C+Ex | 4    |
| N107021  | Waste Treatment: of Building Materials, Glass, Ceramics              | 107        | 2p          | Ex   | 3    |
| N107022  | Historical Methods of Glass and Ceramic Manufacturing and Processing | 107        | 2p          | Ex   | 3    |
| N108001  | Structure of Crystals  | 108        | 2p          | Ex   | 3    |
| N108003  | Introduction to Mineralogy   | 108        | 2p          | Ex   | 3    |
| N108004  | Introduction to Study of Materials                                   | 108        | 2p          | Ex   | 3    |
| N108018  | Gemmology  | 108        | 2p          | Ex   | 3    |
| N108021  | Analysis of Solid Pharmaceuticals                                    | 108        | 2p          | Ex   | 3    |
| N108022  | Chemistry and Physics of Solid Pharmaceuticals                       | 108        | 2p          | Ex   | 3    |
| N110005  | Organic Chemistry II   | 110        | 3p+2c       | C+Ex | 7    |
| N111014  | Engineering in the Pharmaceutical Industry                           | 111        | 3p          | Ex   | 5    |
| N112001  | Physics of Polymers  | 112        | 2p+1c       | C+Ex | 4    |
| N112003A | Macromolecular Chemistry   | 112        | 2p+1c       | C+Ex | 4    |
| N112004  | Characterization Methods for Polymeric Materials                     | 112        | 2p+2c       | C+Ex | 4    |
| N126003  | Structure and Properties of Polymers                                 | 126        | 2p          | Ex   | 3    |
| N126012  | Introduction to Electronics  | 126        | 2p          | Ex   | 3    |
| N148003  | Preventive Conservation  | 148        | 2p          | Ex   | 3    |
| N148009  | Methods of Conservation Survey                                       | 148        | 2p          | Ex   | 3    |
| N148016  | History of Handicrafts: Glass, Ceramics and Porcelain                | 148        | 2p          | Ex   | 3    |

| Code     | Subject  | Department | Study Hours | Exam | Cred |
|----------|--|------------|-------------|------|------|
| N148017  | History of Handicrafts: Metals   | 148        | 2p          | Ex   | 3    |
| N148027  | History of Textiles Manufacturing and Processing                       | 148        | 2p          | Ex   | 3    |
| N148028  | Chemistry of Fibres  | 148        | 2p          | Ex   | 3    |
| N148031  | Textile Conservation   | 148        | 2p          | Ex   | 3    |
| N148040  | Technical documentation of clothing                                    | 148        | 2p          | Ex   | 3    |
| N148067  | History of clothing  | 148        | 2p          | Ex   | 3    |
| N215001  | Technical Calculations on PC   | 215        | 4c          | C    | 4    |
| N215005  | Fundamentals of Petroleum Processing and Utilization                   | 215        | 2p          | Ex   | 3    |
| N215006  | Organic Technology   | 215        | 2p          | Ex   | 3    |
| N215007  | Fuels Analysis   | 215        | 3p          | Ex   | 5    |
| N216001  | Safety and reliability in the power engineering and the other industry | 216        | 2p+1c       | C+Ex | 4    |
| N216007  | Atmospheric Chemistry  | 216        | 2p          | Ex   | 3    |
| N216008  | Gas Cleaning Technology  | 216        | 3p          | Ex   | 5    |
| N216023  | Processing of Waste Gases  | 216        | 2p+1c       | C+Ex | 4    |
| N217001  | Water Analysis   | 217        | 2p          | Ex   | 3    |
| N217006  | Fundamentals of Wastewater Treatment                                   | 217        | 3p+2c       | C+Ex | 7    |
| N217008  | Water Treatment  | 217        | 2p          | Ex   | 3    |
| N217031  | Technologies for Production of Biogas and Biohydrogen                  | 217        | 2p          | Ex   | 3    |
| N218005  | Treatment of Feed- and Industrial Water                                | 218        | 2p+1c       | C+Ex | 4    |
| N218026  | Alternative Energy Sources I   | 218        | 2p          | Ex   | 3    |
| N240007  | Life Cycle Assessment  | 240        | 3p          | Ex   | 5    |
| N251005  | Laboratory of Fuels  | 215        | 6l          | MC   | 4    |
| N319033  | Hygiene and Safety in Microbiology                                     | 319        | 2p          | Ex   | 3    |
| N320009  | Microbiology   | 320        | 3p          | Ex   | 5    |
| N320081  | Molecular genetics and DNA analysis                                    | 320        | 2p          | Ex   | 3    |
| N322024  | Basics cosmetics   | 322        | 1p+1c       | C+Ex | 3    |
| N323009  | Food Safety  | 323        | 2p+1c       | C+Ex | 4    |
| N323035  | Analysis of Foods and Natural Products                                 | 323        | 2p+1c       | C+Ex | 4    |
| N324001  | Principles of Food Preservation and Packaging                          | 324        | 2p+1c       | C+Ex | 4    |
| N342026  | Chemical Modelling: Seminar  | 342        | 3c          | MC   | 3    |
| N342029  | Basics Scientific Communication  | 342        | 2p+1c       | C+Ex | 4    |
| N402004  | Analytical Chemistry II  | 402        | 2p+1c       | C+Ex | 4    |
| N402007A | Analytical Chemistry: Laboratory II                                    | 402        | 4l          | MC   | 4    |

| Code     | Subject  | Department | Study Hours | Exam | Cred |
|----------|--|------------|-------------|------|------|
| N403001  | Physico-Chemical Properties of Substances                          | 403        | 2p+1c       | C+Ex | 4    |
| N403008  | Electrochemistry   | 403        | 2p+1c       | C+Ex | 4    |
| N403012  | Physical Chemistry: Laboratory II                                  | 403        | 3l          | MC   | 3    |
| N403049  | Experiments of Physical Chemistry in Light of Computer Simulations | 403        | 1c          | C    | 1    |
| N409002A | Unit Operations of Chemical Engineering I                          | 409        | 2p+3c       | C+Ex | 6    |
| N409003  | Unit Operations of Chemical Engineering II                         | 409        | 2p+3c       | C+Ex | 6    |
| N409017  | Product Engineering I  | 409        | 2p+1c       | C+Ex | 4    |
| N413003A | Mathematics II   | 413        | 3p+3c       | C+Ex | 8    |
| N413005  | Numerical Methods  | 413        | 3p+2c       | C+Ex | 7    |
| N413010A | Computer Algebra System Maple                                      | 413        | 2c          | MC   | 2    |
| N413039  | Fourier transform for Bc. students                                 | 413        | 2p+2c       | C+Ex | 5    |
| N437004  | Basic Marketing  | 837        | 2p+2c       | C+Ex | 5    |
| N437005  | Enterprise Economics   | 837        | 2p+1c       | C+Ex | 4    |
| N437016  | Foundations of Enterprise Financing                                | 837        | 2p+1c       | C+Ex | 4    |
| N437019  | Basic Food Marketing   | 837        | 2p          | Ex   | 3    |
| N437022  | Basic Marketing of Chemical Products                               | 837        | 2p          | Ex   | 3    |
| N437037  | Development of Social Competencies                                 | 837        | 2p+1c       | C    | 3    |
| N437060  | Systematic problems solving  | 837        | 1p+2c       | MC   | 3    |
| N437061  | Introduction to Entrepreneurship                                   | 837        | 2p          | Ex   | 2    |
| N444004  | Measuring and Control Engineering                                  | 444        | 2p          | Ex   | 3    |
| N444006  | Physics II   | 444        | 2p+2c       | C+Ex | 5    |
| N444008  | Measurement in Environmental Protection                            | 444        | 2p+1c       | Ex   | 4    |
| N444010  | Biophysics   | 444        | 2p+1c       | C+Ex | 4    |
| N445003  | Database Systems   | 445        | 1p+3c       | C+Ex | 5    |
| N445005  | Webdesign I  | 445        | 1p+3c       | MC   | 4    |
| N445008  | Spreadsheet Applications   | 445        | 1p+2c       | MC   | 4    |
| N445011  | Presentation Skills  | 445        | 1p+3c       | MC   | 3    |
| N445012  | Signal Processing  | 445        | 3p+2c       | C+Ex | 5    |
| N445028  | Computer Control Systems   | 445        | 2p+2c       | C+Ex | 5    |
| N445030  | Artificial Intelligence  | 445        | 2p+2c       | C+Ex | 5    |
| N445055  | Programming Techniques   | 445        | 1p+3c       | C+Ex | 5    |
| N445056  | Project Management   | 445        | 2p+2c       | C+Ex | 5    |
| N445078  | Introduction to Programming  | 445        | 1p+3c       | C+Ex | 5    |
| N445081  | Information Engineering Project II                                 | 445        | 3c          | MC   | 3    |
| N445086  | Fundamentals of Microprocessor Technology                          | 445        | 1p+2c       | MC   | 3    |

| Code    | Subject                        | Department | Study Hours | Exam | Cred |
|---------|--------------------------------|------------|-------------|------|------|
| N832001 | Microeconomics                 | 832        | 2p          | C    | 2    |
| N832002 | Sociology                      | 832        | 2p          | C    | 2    |
| N832003 | Fundamentals of Philosophy     | 832        | 2p          | C    | 2    |
| N832041 | European history               | 832        | 2p          | C    | 2    |
| N832043 | Soft Skills I                  | 832        | 2p          | C    | 2    |
| N832045 | International economics        | 832        | 2p          | Ex   | 3    |
| N832048 | Intellectual property          | 832        | 2p          | C    | 2    |
| N832049 | Presentation skills            | 832        | 1p+1c       | C+Ex | 4    |
| N832051 | Science Journalism             | 832        | 2c          | C    | 2    |
| N834005 | Czech Language I               | 834        | 2c          | C    | 1    |
| N834018 | English - pre-intermediate I   | 834        | 2c          | C    | 1    |
| N834020 | English - intermediate I       | 834        | 2c          | C    | 1    |
| N834022 | German - beginners I           | 834        | 2c          | C    | 1    |
| N834024 | German - pre-intermediate I    | 834        | 2c          | C    | 1    |
| N834026 | German - intermediate I        | 834        | 2c          | C    | 1    |
| N834028 | French - beginners I           | 834        | 2c          | C    | 1    |
| N834030 | French - pre-intermediate I    | 834        | 2c          | C    | 1    |
| N834032 | French - intermediate I        | 834        | 2c          | C    | 1    |
| N834034 | Russian - beginners I          | 834        | 2c          | C    | 1    |
| N834036 | Russian - pre-intermediate I   | 834        | 2c          | C    | 1    |
| N834038 | Business English I             | 834        | 2c          | C    | 1    |
| N834044 | English - advanced I           | 834        | 2c          | C    | 1    |
| N834052 | Russian - intermediate I       | 834        | 2c          | C    | 1    |
| N834054 | Spanish - beginners I          | 834        | 2c          | C    | 1    |
| N834055 | Spanish - pre-intermediate I   | 834        | 2c          | C    | 1    |
| N834058 | Spanish - intermediate I       | 834        | 2c          | C    | 1    |
| N834067 | Italian language - beginners I | 834        | 2c          | C    | 1    |

## Optional subjects for 3rd year, SUMMER SEMESTER

Obory: ACHZP

| Code    | Subject   | Department | Study Hours | Exam | Cred |
|---------|---|------------|-------------|------|------|
| N101008 | Structure and Properties of Materials                                   | 101        | 2p+1c       | C+Ex | 4    |
| N105001 | Applied Chemical Processes  | 105        | 2p+1c       | C+Ex | 4    |
| N106004 | Metallurgy  | 106        | 2p          | Ex   | 3    |
| N106018 | Metallic Materials  | 106        | 2p          | Ex   | 3    |
| N106027 | Metal Processing Technology   | 106        | 2p          | Ex   | 3    |
| N107001 | Inorganic Non-Metallic Materials  | 107        | 2p          | Ex   | 3    |
| N107004 | Spectroscopic and Microscopic Methods for Characterization of Materials | 107        | 3p+1c       | C+Ex | 5    |
| N107023 | Surface Treatment and Conservation of Glass and Ceramics                | 107        | 2p          | Ex   | 3    |
| N107028 | Enamels, Enrobes, Ceramic Colours and Decoration Techniques             | 107        | 2p          | Ex   | 3    |
| N108002 | Single Crystals   | 108        | 2p          | Ex   | 3    |
| N110006 | Structural Analysis   | 110        | 2p+1c       | C+Ex | 4    |
| N110023 | Structure and Reactivity of Organic Compounds                           | 110        | 3p+1c       | C+Ex | 6    |
| N110026 | Fundamentals of Chemistry of Pharmaceuticals                            | 110        | 3p          | Ex   | 5    |
| N111005 | Catalysis   | 111        | 2p+1c       | C+Ex | 4    |
| N111006 | Environmental Protection Processes                                      | 111        | 2p+1c       | C+Ex | 4    |
| N111042 | Quality Assessment and Quality Assurance in Chemical Technology         | 111        | 2p          | Ex   | 3    |
| N111045 | Trends in Drug Research and Development                                 | 111        | 2p          | C+Ex | 3    |
| N112006 | Technology of Polymeric Materials Processing                            | 112        | 2p          | Ex   | 3    |
| N112036 | Crude for Polymeric Products  | 112        | 2p          | Ex   | 3    |
| N126002 | Materials for Electronics   | 126        | 2p+1c       | C+Ex | 4    |
| N126026 | Introduction to nanomaterials   | 126        | 2p          | Ex   | 3    |
| N148001 | Building materials of monuments and their deterioration                 | 148        | 2p          | Ex   | 3    |
| N148018 | History of Handicrafts: Textiles  | 148        | 2p          | Ex   | 3    |
| N148030 | Pattern Construction  | 148        | 4c          | C    | 3    |
| N215002 | Fundamentals of Combustion Processes                                    | 215        | 2p          | Ex   | 3    |
| N216003 | Fundamentals of Coal and Gas Processing and Utilization                 | 216        | 2p          | Ex   | 3    |
| N217002 | Industrial Wasterwaters   | 217        | 3p          | Ex   | 5    |
| N217003 | Hydrochemistry  | 217        | 3p+2c       | C+Ex | 7    |



| Code     | Subject  | Department | Study Hours | Exam | Cred |
|----------|--|------------|-------------|------|------|
| N217004  | Decentralised Treatment and Reuse of Wastewater      | 217        | 2p          | Ex   | 3    |
| N217005  | Distribution Networks and Sewerage                   | 217        | 2p+1c       | C+Ex | 4    |
| N217016  | Water Quality Protection                             | 217        | 2p+1c       | C+Ex | 4    |
| N218001  | Utilization of Nuclear Fuels                         | 218        | 2p          | Ex   | 3    |
| N218004  | Fundamentals of Power Engineering                    | 218        | 2p+1c       | C+Ex | 4    |
| N218026A | Alternative Energy Sources I                         | 218        | 2p          | Ex   | 3    |
| N218027  | Alternative Energy Sources II                        | 218        | 2p          | Ex   | 3    |
| N240010  | Ecology  | 240        | 2p          | Ex   | 3    |
| N240031  | Management of chemicals (REACH)                      | 240        | 1p+1c       | MC   | 3    |
| N319001  | Biology of the Cell                                  | 319        | 2p          | Ex   | 3    |
| N319004  | Biotechnology I                                      | 319        | 2p+1c       | C+Ex | 4    |
| N319005  | Biotechnology II                                     | 319        | 2p+1c       | C+Ex | 4    |
| N319006  | Physiology of Industrial Microorganisms              | 319        | 2p          | Ex   | 3    |
| N320006  | Bioanalytical Methods                                | 320        | 2p          | Ex   | 3    |
| N321001  | Food Technology and Biotechnology                    | 321        | 3p          | MC   | 3    |
| N322001  | Food Technology II                                   | 322        | 3p+1c       | C+Ex | 6    |
| N322002  | Physical Properties of Foods I                       | 322        | 2p+1c       | C+Ex | 4    |
| N322026  | Probiotics and Functional Food I                     | 322        | 2p          | Ex   | 3    |
| N323001  | Food Chemistry                                       | 323        | 2p+2c       | C+Ex | 5    |
| N323004  | Sensory Analysis                                     | 323        | 2p+1c       | C+Ex | 4    |
| N323010  | Food Analysis and Control                            | 323        | 2p          | Ex   | 3    |
| N324002  | Production of Food Raw Materials                     | 324        | 2p          | Ex   | 3    |
| N342002  | Raw materials from Sustainable Sources               | 342        | 2p          | Ex   | 3    |
| N342005  | Structural Analysis of Natural Compounds             | 342        | 2p          | Ex   | 3    |
| N402007  | Analytical Chemistry: Laboratory II                  | 402        | 4l          | MC   | 4    |
| N403002  | Measurement of Basic Physico-Chemical Quantities     | 403        | 3c          | MC   | 3    |
| N403007  | Theoretical Chemistry                                | 403        | 3p+1c       | C+Ex | 5    |
| N403014  | Physical Chemistry II                                | 403        | 3p+2c       | C+Ex | 7    |
| N403036  | Physical Chemistry of Surfaces and Colloidal Systems | 403        | 2p+1c       | C+Ex | 4    |
| N409001  | Food Engineering and Bioengineering                  | 409        | 3p+2c       | C+Ex | 6    |
| N409002  | Unit Operations of Chemical Engineering I            | 409        | 2p+3c       | C+Ex | 6    |
| N413003  | Mathematics II                                       | 413        | 3p+3c       | C+Ex | 8    |
| N413008A | Applied Mathematics                                  | 413        | 2p+2c       | C+Ex | 5    |
| N413009  | Introduction to Mathematical Optimization            | 413        | 2p+2c       | C+Ex | 5    |
| N413017  | Financial Mathematics                                | 413        | 2p+1c       | MC   | 3    |

| Code     | Subject   | Department | Study Hours | Exam | Cred |
|----------|---|------------|-------------|------|------|
| N413031  | Mathematics III   | 413        | 2p+2c       | C+Ex | 5    |
| N413033  | Mathematics for Quantum Chemistry                           | 413        | 2p+2c       | C+Ex | 5    |
| N437001  | Basic Logistics   | 837        | 2p+2c       | C+Ex | 5    |
| N437003  | Management of Enterprise Processes                          | 837        | 2p+1c       | C+Ex | 4    |
| N437006  | Financial Accounting  | 837        | 2p+2c       | C+Ex | 5    |
| N437038  | Career and Development SelfManagement                       | 837        | 2p          | C    | 2    |
| N437059  | Negotiation and conflict communication                      | 837        | 1p+2c       | MC   | 3    |
| N444005  | Fundamentals of Machinery                                   | 444        | 2p+1c       | C+Ex | 4    |
| N444007  | Fundamentals of Electronics                                 | 444        | 2p+2c       | C+Ex | 5    |
| N444020  | Measuring and Control Engineering: Laboratory               | 444        | 3l          | MC   | 3    |
| N445002  | Algorithms and Programming                                  | 445        | 2c          | MC   | 2    |
| N445004  | Mathematical Methods in Engineering                         | 445        | 2p+2c       | C+Ex | 5    |
| N445006  | Computer Graphics   | 445        | 1p+3c       | C+Ex | 5    |
| N445007  | Object Oriented Programming                                 | 445        | 2p+3c       | C+Ex | 5    |
| N445022A | Image Processing I  | 445        | 2p+2c       | C+Ex | 5    |
| N445044  | Graphs in Engineering                                       | 445        | 2p+1c       | MC   | 3    |
| N445052  | Database Systems Design                                     | 445        | 1p+3c       | C+Ex | 5    |
| N445054  | Computer Data Acquisition                                   | 445        | 2p+2c       | C+Ex | 5    |
| N445070  | Geographical Information Systems                            | 445        | 2p+1c       | MC   | 3    |
| N832005  | Macroeconomics  | 832        | 2p          | Ex   | 3    |
| N832009  | Modern Czech History  | 832        | 2p          | C    | 2    |
| N832010  | Selected Topics in Philosophy and the Philosophy of Science | 832        | 2p          | C    | 2    |
| N832011  | Human Resource Management                                   | 832        | 2p+1c       | C+Ex | 4    |
| N832013  | Fundamentals of Law   | 832        | 2p          | Ex   | 3    |
| N832014  | History of Chemistry  | 832        | 2p          | MC   | 3    |
| N832015  | Fundamentals of Financial Management                        | 832        | 2p          | C    | 2    |
| N832043A | Soft Skills I   | 832        | 2p          | C    | 2    |
| N832049  | Presentation skills   | 832        | 1p+1c       | C+Ex | 4    |
| N834006  | Czech Language II   | 834        | 2c          | C    | 1    |
| N834019  | English - pre-intermediate II                               | 834        | 2c          | C    | 1    |
| N834021  | English - intermediate II                                   | 834        | 2c          | C    | 1    |
| N834023  | German - beginners II                                       | 834        | 2c          | C    | 1    |
| N834025  | German - pre-intermediate II                                | 834        | 2c          | C    | 1    |
| N834027  | German - intermediate II                                    | 834        | 2c          | C    | 1    |
| N834029  | French - beginners II                                       | 834        | 2c          | C    | 1    |
| N834031  | French - pre-intermediate II                                | 834        | 2c          | C    | 1    |

| Code    | Subject                         | Department | Study Hours | Exam | Cred |
|---------|---------------------------------|------------|-------------|------|------|
| N834033 | French - intermediate II        | 834        | 2c          | C    | 1    |
| N834035 | Russian - beginners II          | 834        | 2c          | C    | 1    |
| N834037 | Russian - pre-intermediate II   | 834        | 2c          | C    | 1    |
| N834039 | Business English II             | 834        | 2c          | C    | 1    |
| N834045 | English - advanced II           | 834        | 2c          | C    | 1    |
| N834053 | Russian - intermediate II       | 834        | 2c          | C    | 1    |
| N834056 | Spanish - beginners II          | 834        | 2c          | C    | 1    |
| N834057 | Spanish - pre-intermediate II   | 834        | 2c          | C    | 1    |
| N834059 | Spanish - intermediate II       | 834        | 2c          | C    | 1    |
| N834068 | Italian language - beginners II | 834        | 2c          | C    | 1    |