



Appendices for the Bachelor's degree programme(s) in Life Science & Technology 2026/2027

- I. Learning outcomes of the Bachelor's degree programme
- II. Majors and Minors
- III. Course units in the first year of the degree programme
- IV. Course units in the second and third years of the degree programme
- V. Contact hours
- VI. Additional requirements Open Degree programmes
- VII. Transitional provisions



Appendix I. Learning outcomes of the Bachelor's degree programme (Art. 3.1.1)

Graduates are able to:

1. The graduate has demonstrated basic knowledge and understanding of biology, chemistry and physics enabling them to understand and describe concepts in life sciences, chemical biology and biophysics.
2. The graduate has knowledge and understanding of the main methods by which biological processes can be investigated using concepts and techniques from physics, chemistry, mathematics and computer science.
3. The graduate can work safely (under supervision) in various laboratory settings, specifically chemical synthesis laboratories, and can work according to Safe Microbiological Techniques (SMT) guidelines.
4. The graduate is able to (under supervision), formulate a research hypothesis or propose a research design, and possesses sufficient practical skills to (under supervision) conduct the experiment and interpret the results.
5. The graduate has the ability to interpret the results of scientific research and relate the interpretation to other results and interpretations described in the scientific literature.
6. The graduate has understanding of both the societal relevance and impact of the life sciences in different cultural and/or geographical contexts, and is aware of the ethical aspects involved with life sciences research and applications (such as genetic modification, animal testing).
7. The graduate can collaborate and communicate effectively with peers in a multidisciplinary context and in a multicultural team, taking multiple perspectives into account.
8. The graduate can report and discuss, both orally and in writing, on life sciences related subjects, both with specialists as well as non-specialists.
9. The graduate is capable of recognizing and acquiring novel techniques and skills in the broader life sciences, such as the use of artificial intelligence.
- 10.** The graduate is capable of making an autonomous, argued decision on further learning trajectories, such as the choice of a fitting MSc programme, and is aware of the importance of life-long learning.



Appendix II. Majors and Minors (Art. 3.7.4 and 7.1.3)

As of September 2020, the degree programme has one major: Life Science & Technology.

This consists of the course units listed in Appendix III.

The degree programme includes a minor of 30 ECTS, see also TER article 7.1.

Students who started with Life Science & Technology after the 1st of September 2020 are allowed to participate in the following minors:

- Faculty minor programmes
- University minor programmes
- Minor programmes consisting of courses taken at other Dutch universities
- Minor programmes consisting of courses taken at international universities.

As specified in appendix IV, students can also use electives to create a minor in their chosen specialisation.

Students who want to follow a minor programme at a different Dutch university or a university abroad need to request permission from the Board of Examiners first.

Students who complete their bachelor degree programme have access to several master programmes within FSE. Admission requirements are listed in the TER appendix of those master programmes:

- Biology
- Biomedical Engineering
- Biomedical Sciences
- Biomolecular Sciences
- Chemistry
- Energy and Environmental Sciences
- Medical Pharmaceutical Sciences
- Physics
- Science Education and Communication
- Admission to other master programmes is decided by the Board of Admission of that master programme



Appendix III. Course units in the first year of the degree programme

- List of course units (Art. 4.1.1 and 9.4.3)
- Compulsory order of examinations (Art. 9.3)

First year programme:

Course unit name	Course code	ECTS	Practical	Entry requirements
Optics	WBLT001-05	5		
Mammalian Cell Biology	WBLT002-05	5		
Practical Course Optics and Cell Biology	WBLT003-05	5	Lab	
Organic Chemistry for Life Science 1	WBLT004-05	5		
Biochemistry for LST	WBLT005-05	5	Computer	
Calculus for LST	WBLT006-05	5		
Programming for Life Sciences	WBLT009-05	5	Computer	
Thermodynamics	WBLT008-05	5		
Principles of Physiology	WBLT011-05	5	Lab	
Pharmaceutical Analysis	WBFA067-05	5	Lab	
Biophysics	WBLT007-05	5		
Scientific Reading and Communication Skills	WBLT010-05	5		



Appendix IV. Course units in the second and third years of the degree programme

- List of course units (Art. 7.1.1 and 9.4.3)
- Compulsory order of examinations (Art. 9.3)

Second year programme

Course unit name	Course code	ECTS	Practical	Entry requirements
Applied Microbiology	WBLT012-05	5		
Linear Algebra for LST	WBLT015-05	5		
Practical Course Microbiology *	WBLT014-05	5	Lab	
Bioinorganic Chemistry	WBLT013-05	5		
Quantum and Classical Mechanics for LST	WBLT016-05	5		
Imaging	WBLT020-05	5		
Organic Chemistry for Life Science 2	WBLT018-05	5		
Spectroscopic Tools for Life Sciences	WBLT017-05	5		
Practical Skills in Organic Chemistry for LST	WBLT019-05	5	Lab	
Genetics and Evolution	WBLT023-05	5		
Applied Biotechnology	WBLT021-05	5		
LST and Society: Ethical and Professional Aspects	WBLT022-05	5		

* LST students can get a certificate for Safe Microbiological Techniques (SMT)/ Veilige Microbiologische Technieken (VMT) via this course.

Third year programme

Course unit name	ECTS	Practical	Entry requirements
Minor	30	Depends on minor	
Bachelor Research Project *	15	X	At least 120 ECTS, including the complete first year programme
Electives * <ul style="list-style-type: none"> • Biology • Chemistry • Biomedical Engineering • Medical Pharmaceutical Sciences • Physics 	15	Depends on elective	Depends on course

* Electives and bachelor research project will also depend on the master programme the student wants to pursue. Electives and bachelor research project must be approved by the Board of Examiners.

For entry requirements, check the TER appendix of the relevant bachelor programme.



Electives and bachelor project in Biomedical Engineering

These electives can also be used to create a minor in Biomedical Engineering.

The assessment method of the courses can be found in the assessment plan of the degree programme

Course unit name	Course code	ECTS	Specialisation BME
Anatomy and Physiology	WBBE024-05	5	X
Applied Medical Visualization	WBBE045-05	5	X
Biomechanics	WBBE002-05	5	
Biomedical Instrumentation	WBBE003-05	5	X
Ethics 3: Research Ethics	WBBE046-02	2	X
Material Science	WBBE005-05	5	X
Mathematical Tools (for BME)	WBBE055-05	5	X
Physics and Technology of Medical Imaging	WBBE057-05	5	X
Python and Numerical Methods	WBBE033-05	5	X
Research Course BME	WBBE010-03	3	X
Statistics 1 for BME	WBBE025-05	5	X – Biomedical Sciences
Waves and Optics for BME	WBBE040-05	5	X
Bachelor Project in Biomedical Engineering	WBBE901-15	15	X

and in the Ocasys database. For entry requirements, check the TER appendix of the relevant bachelor programme and the Ocasys database.

Electives and bachelor project in Medical Pharmaceutical Sciences

These electives can also be used to create a minor in Medical Pharmaceutical Sciences.

Course unit name	Course code	ECTS	Specialisation MPS
Biostatistics	WBFA011-05	5	X
Drugs for the Central Nervous System	WBFA033-05	5	1 from this group
Immunofarmacologie	WBFA015-05	5	
Introduction to Nanomedicine and Drug Targeting	WBFA060-05	5	
Medicinal Chemistry and Biophysics	WBFA038-05	5	
Metabolisme en Toxicologie	WBFA016-05	5	X
MG: Circulatory Tract	WBFA040-05	5	1 from this group
MG: Endocrine System and Digestive and Respiratory Tract	WBFA039-05	5	1 from this group
MG: Infectious diseases and Oncology	WBFA041-05	5	1 from this group
Farmacoepidemiologie	WBFA028-05	5	X
Farmacokinetiek	WBFA018-05	5	X
Bachelor project	WBFA902-15	15	X

The assessment method of the courses can be found in the assessment plan of the degree programme and in the Ocasys database. For entry requirements, check the TER appendix of the relevant bachelor programme and the Ocasys database.



Electives and bachelor project in Chemistry

These electives can also be used to create a minor in Chemistry.

Course unit name	Course code	ECTS	Specialisation Chemistry
Artificial Intelligence and Machine Learning in Chemistry	WBCH060-05	5	
(Bio)Catalysis	WBCH019-05	5	X
Bioenergy, Metabolism and Bioresources	WBCH009-05	5	
Carbohydrates	WBCH010-05	5	
Electrochemical Technology	WBCE021-05	5	X
Nuclear and Radiochemistry	WBCH052-05	5	
Organic Synthesis	WBCH051-05	5	
Physical Chemistry 2	WBCH015-05	5	X
Physical Organic and Photochemistry	WBCH027-05	5	X
Research Practical	WBCH070-05	5	X
Soft Molecular Materials	WBCH017-05	5	X
Synthesis 2 Lab Course	WBCH008-05	5	X
Bachelor Research Project in Chemistry	WBCH901-15	15	X

The assessment method of the courses can be found in the assessment plan of the degree programme and in the Ocasys database. For entry requirements, check the TER appendix of the relevant bachelor programme and the Ocasys database.

Electives and bachelor project in Physics

These electives can also be used to create a minor in Physics.

Course unit name	Course code	ECTS	Specialisation Physics
Calculus 2 (for Physics)	WBPH058-05	5	X
Differential Equations	WBPH089-05	5	X
Electricity and Magnetism	WBPH033-10	10	X
Experimental Particle Physics	WBPH040-05	5	1 from this group
From Atoms to Solids	WBPH085-10	10	X
Ionizing Radiation in Medicine	WBPH007-05	5	
Mechanics for IEM	WBIE024-05	5	X
Nuclear Energy	WBPH010-05	5	
Quantum Physics 2	WBPH052-05	5	1 from this group
Relativity Theory	WBPH061-05	5	
Solid state physics	WBPH068-05	5	
Statistics for Modern Physics	WBPH080-05	5	
Symmetry in Physics	WBPH047-05	5	
Waves and Optics	WBPH032-05	5	X
Bachelor Research Project Physics for LST *	WBPH904-15	15	X

The assessment method of the courses can be found in the assessment plan of the degree programme and in the Ocasys database. For entry requirements, check the TER appendix of the relevant bachelor programme and the Ocasys database.

* Entry requirements for LST students are 120 ECTS within the LST programme, including completion of the first year programme.



Electives, research project and bachelor thesis in Biology

These electives can also be used to create a minor in Biology.

Course unit name	Course code	ECTS	Specialisation
Behavioural Biology	WBBY013-05	5	
Big Data in Human Disease	WBBY027-05	5	
Bioanalytical and Omics Techniques	WBBY073-05	5	
Bioinformatics	WBBY002-05	5	X – Biomedical Sciences
Biology of Cancer	WBBY030-05	5	X – Biomedical Sciences
Biology of Human Behaviour	WBBY031-05	5	
Biostatistics II	WBBY032-05	5	
Chronobiology	WBBY003-05	5	
Competences and Professionalization in Biology	WBBY076-05	5	
Conservation Biology	WBBY016-05	5	
Endocrinology	WBBY035-05	5	
Evolution and Development	WBBY037-05	5	
Evolutionary and Ecological Genomics	WBBY054-05	5	
Evolutionary Medicine	WBBY039-05	5	
Evolutionary Processes	WBBY040-05	5	
Food and Metabolism	WBBY041-05	5	
Genes & Behaviour	WBBY018-05	5	
Human Genetics and Genomics	WBBY042-05	5	
Immunology	WBBY020-05	5	X – Biomedical Sciences
Integrative Biology	WBBY056-05	5	
Integrative Neuroscience	WBBY006-05	5	X – Biomedical Sciences
International Genetically Engineered Machine competition	WBEX001-20	20	
Machine Learning in Ecology and Evolution	WBBY091-05	5	
Medical Cell Biology	WBBY045-05	5	X – Biomedical Sciences
Medical Structural Biology	WBBY007-05	5	
Microbiome	WBBY060-05	5	
Modelling Life	WBBY024-05	5	X – Biomedical Sciences
Molecular Genetics	WBBY008-05	5	X – Biomedical Sciences
Practical Carrousel	WBBY048-05	5	X – Biomolecular Sciences X – Biomedical Sciences
Psychobiology	WBBY063-05	5	
Research project (in discipline of interest)	Varies	10	
Bachelor thesis (in discipline of interest)	WBBY901-05	5	X – Biomedical Sciences
Research Project Biomedical Sciences	WBBY902-10	10	X – Biomedical Sciences
Research Project Molecular Life Sciences	WBBY901-15	15	X – Biomolecular Sciences

The assessment method of the courses can be found in the assessment plan of the degree programme and in the Ocasys database. Check for entry requirements the TER of the relevant bachelor programme.



Miscellaneous electives from FSE bachelor programmes

These are elective courses that do not go with a specific specialization.

Course unit name	Course code	ECTS
Biochemical Engineering	WBCE029-05	5
Calculus 2	WBMA029-05	5
Introduction to Graph Theory	WBMA052-05	5
Introduction to Science Communication	WBEC001-05	5
Introduction to Science Education	WBEC002-05	5
Product Technology	WBCE019-05	5
Polymer Engineering	WBCE030-05	5
Statistics	WBAI049-05	5
Statistics and Probability	WBCS049-05	5
Statistics for Astronomy	WBAS004-05	5
Teach Like A Scientist	WBEC004-05	5

The assessment method of the courses can be found in the assessment plan of the degree programme and in the Ocasys database. Check for entry requirements the TER of the relevant bachelor programme.



Appendix V. Contact hours (Art. 3.6.1)

Degree programme year 1	
Structure contact hours	Contact hours per year
Lectures	+/- 210
Tutorials	+/- 136
Practicals	+/- 236
Supervision during an internship	N/A
Examinations	+/- 30
Career services/Mentorate	+/- 6

Degree programme year 2	
Structure contact hours	Contact hours per year
Lectures	+/- 186
Tutorials	+/- 123
Practicals	+/- 198
Supervision during an internship	N/A
Examinations	+/- 30
Career services/Mentorate	+/- 5

Degree programme year 3	
Structure contact hours	Contact hours per year
Lectures	Depends on minor/specialisation/electives
Tutorial	Depends on minor/specialisation/electives
Tutoring	Depends on minor/specialisation/electives
Supervision during an internship	Depends on minor/specialisation/electives
Examinations	Depends on minor/specialisation/electives



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Appendix VI. Additional requirements Open Degree programmes (Art. 7.3)

Students wishing to pursue an open degree should file a request with the Board of Examiners.



Appendix VII. Transitional provisions (Art. 12.1)

There is one changes within the LST part of the programme.

As of academic year 2026/2027, the course Pharmaceutical Analysis A (WBFA035-05) will change its name to Pharmaceutical Analysis with the course code WBFA067-05. LST students have to pass either WBFA035-05 or WBFA067-05.

There are some changes in the electives offered by other programmes. Applicable transitional agreements can be found in the TER appendix of that programme.