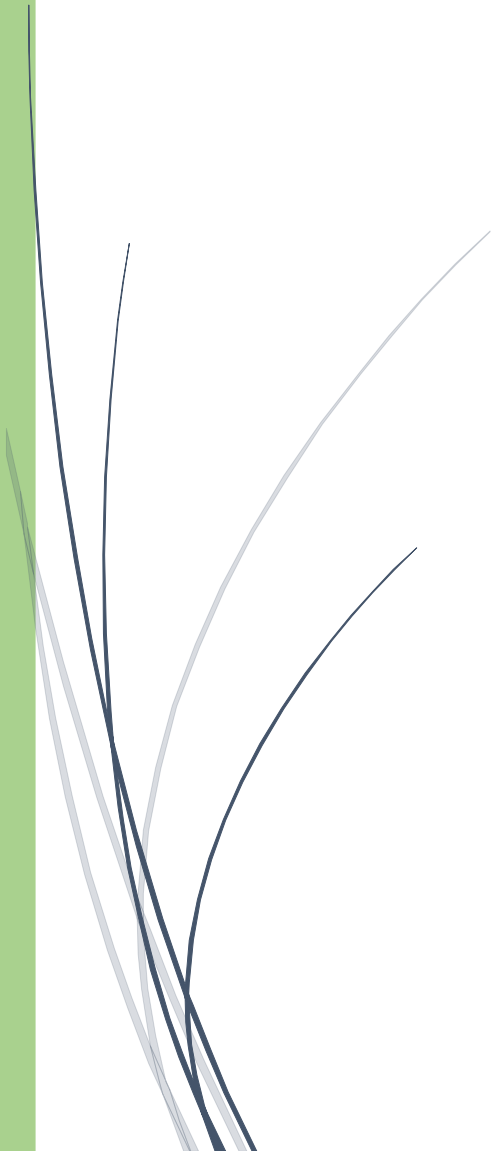




2018-2019

# Manual Honours Program Biology



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## Contents manual Honours Program

This manual contains information about the program and organisation of the honours program (HP) of the bachelor study Biology of Utrecht University (UU).

The target readers are:

- Honours students,
- First year Biology students thinking about participating in the HP,
- Teachers involved in the HP.

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## I. General outline of the program and goals

### General goals HP

Utrecht University (UU) offers honours programmes at different faculties and departments. The goal of the UU is to, from 2016 and onward, have at least 12% of the student population enrolled in an honours program. The following goals of the Utrecht honours education were mentioned in the policy notes “*Honours Colleges aan de UU*” (16<sup>th</sup> of May 2012, M. Bok, A. Koster & R. van der Vaart):

- Providing extra challenges for the best students,
- Helping students to a better starting position for a future (master) study or on the job market,
- Creating an environment where excellent teachers, researchers and academic professionals can meet and thrive,
- Providing room to experiment with teaching methods and new ideas, eventually resulting in implementing these ideas in the current educational program,
- Further establishing and strengthening the position of the UU as a leading research facility, appealing to talents (students and teachers) from The Netherlands and abroad.

### General outline HP Biology

The regular Biology bachelor’s degree encompasses 180 ECTS (points confirm the European Credit Transfer System). 1 ECTS equals 28 hours of studying, including contact hours. One study year is divided in 4 periods of 10 weeks, with generally 2 courses of 7.5 ECTS per period.

The HP Biology encompasses 45 ECTS (15 ECTS extracurricular and 30 ECTS within the bachelor’s degree):

- 15 ECTS is added to the existing regular 180 ECTS. These points will be awarded after successfully participating in multiple honours activities, including the Science Honours Academy (course code BETA-B3DHB), participating in activities and evening meetings in the first, second & third year (course code BETA-B2HRI), and writing an honours thesis instead of the regular bachelor thesis (regular course code).
- During one regular course of 7.5 ECTS the honours students will finish extra assignments without earning ECTS (by increasing the workload or doing an external honours course). As a result, the 7.5 ECTS of the regular program are now executed on an honours level. The extra assignment encompasses 40 hours in total (4 hours per week). For examples of courses, see pages 5 and 6. Alternatively, students complete an honours course outside the Biology curriculum (see table p5 )
- In year 2 a special honours course (of 7.5 ECTS) will be taught during which the focus will be on developing complementary skills (‘21<sup>st</sup> century skills’) and the broadening of knowledge.
- The students keep track of their progress by composing a portfolio containing proof of completed assignments and activities and reflective essays. After finalising the HP, the honours coordinators must be able to grant the student his/her honours certificate based upon the contents of the portfolio.

When finishing the HP, a separate honours certificate will be granted to the student. Furthermore, it will be noted on the International Certificate Supplement (*Internationaal Diploma Supplement, IDS*) which courses were completed at honours level.

## II. Entering and participating in the HP

The rules for the HP are documented in the *Opleidings Examen Reglement* (OER – lid 3.9). Admittance to the HP will only be granted in the first year of study; after period two and at the end of the first year. Who is selected and allowed to further participate in the HP during their second and third year will be decided by the honours coordinators.

### Admittance to the HP

- Students who achieve good grades during the first and second period of the first year (an average grade of 7.5 or higher) will be automatically invited to apply for the HP. Tutors can also nominate students who will be invited to sign up for the program. To apply, students must write a short motivation letter, hand in a curriculum vitae (CV) and a short essay on a present-day Biology-related topic. After a short interview by the honours coordinators students will be selected.
- At the end of the first year of study, students who qualify will be invited to apply for the HP. This includes all the students with an average grade of 7.5 or higher, or those who are put forward by their tutor (meaning students who have shown to be capable of extraordinary achievements). These students will have to hand in their CV, a motivation letter and an essay, and are afterwards invited for an interview with the honours coordinators.

### Following the HP in year 2 and 3

Selected students who after the first year of study still meet the requirements to participate in the HP are automatically invited to continue partaking in the HP during their second year of study.

Students can be removed from the HP after the end of a year of study if they:

- Haven't passed more than one regular course during that year, or
- Do not have an average grade of at least 7.0, or
- Haven't participated actively in the (extra)curricular activities.

The program director decides whether to remove a student from the HP. The director will take exceptional personal circumstances into account, if the student notifies him/her as soon as possible.

### Individual meetings

Students will meet one or both the honours coordinators every half year to reflect on their progress, discuss reflection-essays and talk over what the student will pay special attention to the coming half year to further stimulate personal development.

### III. Science Honours Academy (SHA)

All honours students of the Beta faculty participate in the Science Honours Academy (SHA). This interdisciplinary community of honours students is composed of students from the departments Biology, Chemistry, Computing Science, Information Science, Mathematics, Molecular Life Sciences, Pharmaceutical Sciences and Physics and Astronomy. The main language is English.

The Science Honours Academy brings together the most motivated students of the science faculty and engages them in a broad range of challenging experiences. The aim of these activities is for the students to deepen and broaden their knowledge, stimulate communication and team work across disciplinary borders and develop essential skills to excel in their future pursuit. To achieve these goals the SHA offers an interdisciplinary module which is mandatory for science honours students. Although these activities often carry a scientific and educational context, there are also informal gatherings where students can meet and connect with honours students from different disciplines. For further information, please visit: <https://sciencehonours.sites.uu.nl/>

At the beginning of the year the agenda of the Science Honours Academy is mostly unknown. Committees composed of honours students will organise the activities. Any updates or upcoming events will be posted on the SHA website (<https://sciencehonours.sites.uu.nl/>) or can be found in the monthly newsletter.

Examples of activities organised by the SHA are interdisciplinary symposia, masterclasses and excursions. The subjects discussed during these events aren't part of the regular Biology curriculum. Furthermore, students will work together in small groups on an interdisciplinary project. The results of these collaboration will be presented during a poster presentation to all the students of the SHA.

Every year the SHA organises a trip abroad, usually in the first week of the second period. Participating in at least one trip or an alternative experience abroad is mandatory. The Science Honours Academy endows only one trip per student. It is the student responsibility to contact their teachers to discuss their absence during the first week of the course. If necessary, the dean will support the student's participation in the trip in a letter.

Generally speaking the agenda of 2018-2019 will also include: an information evening for new students, 3-4 symposia, multiple masterclasses to develop the 21<sup>st</sup> century skills, excursions to science faculties and companies and multiple meetings to work on the interdisciplinary research project. For information about upcoming events please visit: <https://sciencehonours.sites.uu.nl/category/agenda/id-events/>.

Outside of the HP there are more opportunities for those looking to broaden their knowledge or skills (i.e. Descartes program).

## IV. Honours assignments during the regular courses

From 2014-2015 honours assignments ('*verzwaringen*') are executed during regular courses. These assignments add a broadening aspect to the regular course, in a way that is challenging to the honours student. The teacher of the course will decide whether a student will work on an assignment on his/her own or collaborate with other honours students, which depends on the number of students wanting to do the assignment. Per course the honours assignment will take 40 hours (4 hours per week for 10 weeks) to finish.

It is expected of every second- or third-year honours student to at least finish one honours assignment. This can be done by adding an extra task to a regular course (described above) or participating in an interdisciplinary course (for a description see page 8 and the table on page 9).

The table below provides an overview of courses in the major during which students can, after consulting with the course coordinator, work on their additional assignments. Doing an honours assignment during a course not mentioned in the table below, is only possible with the consent of the honours coordinators.

Period	Level 2	Level 3
1	- Marine sciences 2 ( <i>Mariene wetenschappen 2</i> )	- Genome biology ( <i>Genoombiologie</i> ) - Bio-ethics ( <i>Bioethiek</i> )
2	- Continued statistics and R ( <i>Voortgezette statistiek en R</i> )	- Didactics ( <i>Didaktiek</i> ) - Marine sciences 3 ( <i>Mariene wetenschappen 3</i> ) - Molecular Prokaryote Microbiology ( <i>Moleculaire prokaryote microbiologie</i> ) - Genterapy, Cancer and AIDS ( <i>Genterapie, Kanker en AIDS</i> )
3	- Evolution 2 ( <i>Evolutie 2</i> )	- Plant development and environment - Eukaryote microbiology ( <i>Eukaryote microbiologie</i> ) - Developmentbiology and genetics ( <i>Ontwikkelingsbiologie en genetica</i> )
4	- The cell ( <i>De cel</i> ) - NDP: Nature conservation, sustainability and plant diversity ( <i>Natuurbehoud, duurzaamheid en plantendiversiteit</i> )	- Immunobiology ( <i>Immunobiologie</i> ) - Evolution 3 ( <i>Evolutie 3</i> )

### Procedure

If the student wants to do an honours assignment during one of the courses he/she is enrolled in, he/she must contact the teacher as soon as possible (preferably before the start of the course). The student takes the initiative and proposes a possible assignment he/she would like to execute. The coordinator might also have a certain view on what the assignment should encompass and how to carry out the task. Together student and teacher will come to an agreement on the content of the honours assignment. After reaching the agreement, the student will start working on the task and won't hand in the final product later than the final day of the course (unless otherwise agreed).

The grade of the course will be determined in the same way as applies to regular students. If the honours assignment isn't to the satisfaction of the teacher, the course won't be registered as completed at honours level.

## Description honours assignment

The teacher will be asked, after deliberating with the student, to mention in their description of the honours assignment the following elements:

Content:	Description:
Teacher(s):	
Course, semester, course level (2 or 3):	
Content of the assignment:	
Fashion of the assignment (self-study, individual or group work, preliminary discussion, opportunity to have interim feedback, written report, etc.):	
Learning goals:	
Criteria on which the student will be graded:	<i>The student can propose additional criteria concerning specific academic or personal skills she/he would like to develop or practice.</i>
Name(s) of the student(s) and student number(s):	

## Extra directions for the teachers:

- The assignment contains extra study material and information not given to regular students. This includes teaching material the honour student must process in his/her own time (self-study). To complete the assignment the student must show to have insight in and comprehension of the matter which goes beyond the scope of regular students. Furthermore, the subject of the task isn't discussed at all or isn't approached in a way that is part of the regular curriculum.
- The student must approach the teacher with an idea for the assignment. It could, for example, be an assignment which results can be discussed during the current course (for example during a workgroup or debate session led by the student).
- Considering the capabilities of the honour students the assignment could, for example, encompass a more difficult mathematics problem or challenge the student to take multiple subjects and bring them together in one assignment.
- It is also possible to give the student an open assignment challenging him/her to structure his/her work and use a creative angle of approach to complete the task.
- For further information, see also the notes "*Verdiepende honours opdrachten bij een cursus*", by Hanne ten Berge (18<sup>th</sup> of June 2013) or the report "*Bouwstenen voor een vernieuwd Honoursprogramma*" by Nora Assendorp *et al.* (2013).

## V. First year of study

As well as taking part in the Science Honours Academy, the following activities are part of the HP during the first year study:

- Reading, discussing and writing an 'reflective essay' about a popular scientific book (for example 'The Selfish Gene' by Richard Dawkins).
- During multiple (evening) meetings several assignments about a system-transcending Biology-related subject (such as superorganisms, sustainability, biomimicry, etc.) will be completed and discussed.
- At the end of the fourth period, the subject of the group project (which starts in the second year) will be discussed and decided upon. During this meeting all the honours students (also the ones who join the program later in the year) must be present. During summer break the students will study several aspects of the subject of choice.
- The newly joined students (period 4) will complete several assignments out of the module on the subject mentioned in point 2. (During the spring of 2018 the subject was biomimicry).
- Lastly, the students will keep track of their development in their (reflective) portfolio during the HP. In the first half year the importance of a portfolio will be discussed.

### Portfolio

*The portfolio is a (digital) folder which will be used to keep track of the student's development of their (academic) skills during their study. The goals of the portfolio are to be able to monitor and grade the students as well as allowing the student to reflect on his/her own development and progress.*

Setting up a portfolio is advised to every biology student at the beginning of their first study year. However, it isn't mandatory for regular students. Honours students must make extra choices compared to the regular students, adding importance to keeping a portfolio. During the HP, the students are regularly asked to complete a reflection assignment, resulting in composing a portfolio as a default. These assignments allow the student to reflect on their own participation and development as well as being able to reflect on the contents of the HP.

For example, the following components can be included in the portfolio:

- A motivation paper composed at the beginning of the bachelor,
- The honours essay written as part of the application process for the HP,
- The motivation letter written as part of the application process for the HP,
- A reflection on the different aspects of the Honours Booklet,
- Reflections on the student's progress in the HP at the end of the first and second year as well as a final reflection on their whole participation in the HP,
- Products, gradings and reflections which are part of the HP,
- An essay at the end of each study year which discusses a student's personal development, goals and possible points of improvement and motivation.

Students are free to decide what the content or the form of their portfolio will be.



## VI. Second year of study

Besides participating in the Science Honours Academy and completing honours assignments during regular courses the second year (this may also be done in the third year) of the HP contains the following elements:

- Evening meetings in period 1 and 2 during which popular scientific books will be discussed. The focus, however, will be on the group project and the preparation of the honours course which will take place during period 3.
- The honours course in period 3 (either AD or BC depending on the decision of the students) during which the focus will be on the following elements:
  - The main element is the group project (for example writing a book) which will be completed during the course. This includes writing the first draft, giving peer-feedback, processing peer-feedback as well as feedback from experts and finally finishing the final draft.
  - Practicing and developing academic and honours skills ('21<sup>st</sup> century skills') which aren't (directly) focussed on during the regular Biology bachelor. Examples of these skills are; ethics and ethical reflections (module of 6 meetings), creativity and innovativeness (workshop), writing workshop, collaboration skills (during the group project the students will learn how to work together intensively), peer-feedback and leadership.
  - Organising an excursion to a scientific institution, a bio-related or biotechnical company or, for example, a museum. These excursions will be organised by multiple group members during the first two periods of the second year. It is also possible to invite interesting guest speakers.
- Evening meetings in period 4 during which, beside reading and discussing a popular scientific book, the focus will be on finishing the group project by organising and hosting a symposium, usually in September. Furthermore, the students will choose a subject for their individual project which will be completed during the third year. This project can be used to broaden or deepen knowledge or can have an interdisciplinary component, but it must always be challenging and fit the personal development of the honours student.

### Goals of the disciplinary honours course

1. Expanding and broadening knowledge within Biology concerning the chosen subject of the group project.
2. Practicing and developing the so called 21<sup>st</sup> century and academic skills which aren't (directly) focussed on during the regular Biology bachelor. These include but aren't limited to: creativity and innovativeness, leadership, ethics and ethical reflections, taking initiative and working intensively together in a group.
3. Intensively practicing skills also addressed during the regular bachelor, such as interpreting and processing literature, writing reports, presenting and practicing with the research cycle.

The honours course (7.5 ECTS) counts as a level 2 course within the *profielingsruimte*. Alternatively, it may be integrated in the Academic writing course (B-B2AS17) and count in the major.

### Interdisciplinary honours course

It is the intend of the Beta faculty to set up an interdisciplinary honours course. Furthermore, it is possible for students to take part in interdisciplinary honours courses at different faculties or the Descartes College. Students can participate in one of these interdisciplinary courses instead of completing the disciplinary assignment ('*verzwaring*') during a regular course.

## VII. Third year of study

Besides participating in the Science Honours Academy, attending evening meetings, completing an honours assignment during a regular course and working on the individual project students will write an honours thesis (15 ECTS) in their third year.

### Step by step plan honours thesis

1. At the end of the second year or at the beginning of the third year the student chooses a research group to join and carry out their bachelor thesis at. It is also possible to go abroad or collaborate with a company. In these cases, the main accompanist must be a Biology teacher working at the UU.
2. Together with the main accompanist a contract will be drawn up containing agreements on activities the student will execute and information on the second accompanist. This accompanist doesn't have to be directly involved in the accompaniment of the student (and is preferably not working at the same research group as the main accompanist). Both the main and second accompanist are either in permanent service of the UU, or the second accompanist is an employee (above PhD-level or higher) of a company directly involved in the thesis. The contract must be sent to the thesis-coordinator ([a.j.m.peeters@uu.nl](mailto:a.j.m.peeters@uu.nl)).
3. The result of the research will be presented in a detailed report as well as a scientific publication (it isn't mandatory to send it to a scientific journal).
4. The final grade of the honours thesis will be signed by both accompanists and send to the thesis coordinator.

### Allocation of the ECTS in the HP Biology

Part of the HP	Description	ECTS	Course code
Interdisciplinary activities Science Honours Academy	For example, symposia, masterclasses and 1 trip abroad within 3 years plus an interdisciplinary project	7.5	Extra-curricular, BETA-B3DHB
Evening meetings during year 1-3	Active participation, organising evening meetings and completing the individual project	7.5	Extra-curricular, BETA-B2HRI
Disciplinary course	Honours course (mandatory)	7.5	<i>Profileringsruimte</i> , B-B2HRPR/B-B2AS17
1 individual assignment during a regular course (' <i>verzwinging</i> '), or 1 interdisciplinary course	1 regular course of 7.5 ECTS which will be marked "honours worthy", or 1 interdisciplinary course at Beta, Descartes, One Health, etc.	7.5	Major, regular course code
Honours thesis	Regular thesis and research project replaced by the honours thesis	15	Major, regular course code
		<b>Total:</b> <b>45</b>	

## VIII. Contact information

- Honours director of the Beta Sciences Faculty
  - Dr. Arjen Vredenberg, [a.m.vredenberg@uu.nl](mailto:a.m.vredenberg@uu.nl)
  - Address: Buys Ballot building, room 775
  
- Biology Honours program coordinators
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- Program manager Biology and coordinator Research project
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