rijksuniversiteit groningen / FMNS / Exchange Office

Exchange Guide Incoming Exchange Students

Faculty of Mathematics & Natural Sciences

University of Groningen

2015/2016

Dear exchange student,

Welcome to the Faculty of Mathematics and Natural Sciences (FMNS) of the University of Groningen! I hope you will have an unforgettable exchange experience during your exchange period in Groningen, which will meet your expectations or even exceed them. Our faculty receives international students and exchange students from all over the world, no doubt this will be an enrichment to your international experience.

The University of Groningen will celebrate its 401st birthday this year; for more than four centuries the RUG has experience in teaching and researching excellence in all kinds of areas.

Have a glance at the facts of the University of Groningen:

- 30,041 students (1 September 2014) - of total amount of 200,000 inhibiters
- 6,254 students enrolled for the first time (1 September 2014)
- 45 Bachelor's programmes, 146 Master's programmes ,107 English-taught Master's degree programmes
- 14 Research Masters
- 10 faculties
- 3,750 international students and Ph.D. students
- 1,055 outbound exchange students
- 3,286 of 27,511 Bachelor and Master students are international students
- 35.7 % of the academic staff is international
- More than 120 nationalities currently study or work at the University
- 21 English-taught Bachelor's degree programmes

Specified on the Faculty of FMNS facts & figures:

- 1,350 staff and 93 professors, 580 PhD's (65% foreign)
- 4,000 students, yearly 1,000 new students (20 % foreign)
- 1,500 publications a year
- 12 research institutes
- 12 Bachelor's degree programmes
- 29 master's degree programmes

To get you started in composing your study plan at our faculty, this guide will provide you with all the information about the English courses we offer for you as an exchange students. We offer courses in the following disciplines on bachelor level:

- Chemistry
- Chemical Engineering
- Physics
- Applied Physics
- Astronomy
- Mathematics
- Applied Mathematics
- Computing Science
- Artificial Intelligence
- Industrial Engineering and Management

We expect our students to have relevant educational background in their own specific field of study.

We offer courses on master level from the following disciplines:

- Applied Mathematics
- Applied Physics
- Artificial Intelligence
- Astronomy
- Biology
- Biomedical Engineering
- Biomolecular Sciences
- Biomolecular Biology and Biotechnology
- Chemical Engineering
- Chemistry
- Computing Science
- Ecology and Evolution
- Energy and Environmental Sciences
- Human-Machine Communication
- Industrial Engineering and Management
- Marine Biology
- Mathematics
- Medical Pharmaceutical Sciences
- Physics

In addition to the separate courses, our exchange students can conduct research during their exchange in one of the research groups of Faculty of Mathematics and Natural Sciences. The links to the courses and research groups are specified by field of study in this guide.

I hope that you will enjoy Groningen in all of its aspects, besides the educational offer Groningen will not fall short in its social aspects for (exchange) students.

Kind regards,

Arlette van Berkel

Exchange Officer
Exchange Office FMNS

Check this video about the Faculty of Mathematics & Natural Sciences:
https://youtu.be/G6FVqFOswXo

Other videos in the guide are indicated with this icon:

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Contact information

- **Practical issues**

The Exchange Office of FMNS is the main contact point for all incoming exchange students. From your application till your certificate of Attendance at the end of your Exchange period, you can consult us with your questions, problems or other matters which are on your mind. If you have any questions during your stay in Groningen, please contact the faculty's Exchange Office:

- By email: exchange.science@rug.nl
- Walk in during our open office hours, every Tuesday and Thursday from 10.00 am till 12.00 AM in room 0050 in Nijenborgh 9 (Bernouliborg, Building V on page 6)
- Call us on +31503632171 (Arlette van Berkel)
- +31503633972 (Henriette Mulder)
- +31503634943 (Hero Goldhoorn)

The Exchange Office is your main contact point for all your (practical) issues regarding your exchange.

Advise on your academic program will be given by the Academic advisors of the different studies. They will give you feedback and advice on your study plan/learning agreement.

- **Study plan/learning agreement**

Learning agreement (EU) or *Study Programme* (page 3 of the application form).
To fill out your study programme, you will find links to (and descriptions of) the courses available for exchange students in your discipline in this guide. Once you have sent us your study programme or Learning Agreement (previously signed by you and your home university), our appointed Study Advisor will contact you to give you feedback on it. **The list of study advisors can be found on the next page.**

- **International Service Desk**

The staff of the International Service Desk (ISD) is specialized in Dutch immigration law. Hence, it is responsible for the visa and residence permit applications of all prospective and current international students, PhD students, guest researchers and staff of the University of Groningen. The ISD is located at the Academy Building, the university's main building.

Moreover, the ISD assists and informs all international guests of the university on matters relating to studying and working at the University of Groningen. The ISD provides practical information about insurances, medical care, housing, university facilities, or any other aspect of daily life.

Contact details -Visiting address

Broerstraat 5
Academy Building, 1st floor, room 133a
Route to the Academy Building
Opening hours
Monday to Friday, from 2 to 4 p.m.
Tel: +31 50 363 8181 isd@rug.nl

http://www.rug.nl/education/international-students/international-service-desk?lang=en

The following study advisors are in charge of the disciplines below.

Field of study	**Academic advisor**	**Email /appointment**	**Room**	**Open office hours**
(Applied) Mathematics (Bsc & Msc)/ master IEM	M. Nederveen	m.nederveen@rug.nl	5161.0077	Tuesday and Thursday 10.30-12.00h)
(Applied) Physics, Astronomy (Bsc & Msc)	G.J. Zondervan	g.j.zondervan@rug.nl make an appointment by yourself: gjzondervan.youcanbook.me	5161.0049	
Artificial Intelligence (Bsc & Msc)	R. Kaaj	r.m.van.der.kaaij@rug.nl	5161-0079	
Biology (Bsc) Life Science & Technology (bsc)	G.A. Sanders	g.a.sanders@rug.nl	5161.0039	
Computer Sciences (bsc & Msc)	H. Niessink	j.h.niessink@rug.nl	5161.0075	
IEM (Bsc) Msc Energy & Environmental Sciences	S. van Duin	s.van.duin@rug.nl	5161-00.85	
Chemistry & Chemical Engineering (Bsc & Msc)	W.Hof	w.g.hof@rug.nl book an appointment via: https://wghof.youcanbook.me/	5161.0083	Tuesday and Thursday 10:30 t/m 12:00

"Groningen is a very student city with many young people and an attractive city with many cultural and social offers." (exchange student USA)

Map of the Zernike Campus:

Below you can find the whole Zernike Campus. The three buildings below belong to the Faculty of Mathematics and Natural Sciences:

-Bernoulliborg (Building V)
-Linnaeusborg (Building U)
-Physics & Chemistry (Building X)

Gebouwenindex

- A Tentamenhal / Collegezaal
- C Facilitair Bedrijf RUG
- D Boekenmagazijn
- E Sportcentrum
- F Ruimtelijke Wetenschappen / UOCG
- G Centrum voor Informatie Technologie (CIT)
- H Duisenberg Gebouw
- J Kapteynborg
- K Brugsmaborg
- L Van Olst Toren
- M Van Dooren Veste
- O Transfer en Liaison Groep (TLG)
- S Willem-Alexander Sportcentrum
- T Marie Kamphuisborg
- U Linnaeusborg
- V Bernoulliborg
- X Natuur- en scheikundecomplex

Practical information

- **Academic year 2015-2016**

The course programmes start in September for the first semester and in February for the second semester. Ideally, students wishing to attend the exchange program should arrive in August or January so that they have sufficient time to register as exchange student, which gives them the student ID-number necessary to enrol in courses and to use the electronic study support and library services.

Prior to the first lecture week, the Faculty & University Introduction will take place. Keep this in mind, when booking your ticket to Groningen!

Although academic year 2014/2015 officially has a two-semester setup, the year is in fact divided into four teaching periods. The first two periods, **Ia** and**Ib ,** together make up semester **I** and the second two periods, **IIa** and **IIb** , form semester **II** . We use the term 'period' to avoid confusion with the 'quarters' in a calendar year. Each period consists of about 8 teaching weeks and about 3 examination weeks. The week numbers in the timetable match the calendar week numbers.

OLW Academic Year
Degree programmes: Biology, Pharmacy and Life Science & Technology

Date	**Week**	**Aim**	**Period**	
31 Aug. - 30 Oct.	36-44	Lecture period	Ia	
2 Nov. - 6 Nov.	45	Resit week		
9 Nov. - 18 Dec.	46-51	Lecture period	Ib	'Sinterklaasavond'
21 Dec. - 1 Jan.	52-1	Kerstvakantie		
4Jan. - 22 Jan.	1-3	Lecture period	Ib	
25 Jan. - 29 Jan.	4	Resit week		
1 Feb. - 5 Apr.	5-13	Lecture period	IIa	Good Friday, Easter Monday
6 Apr. - 11 Apr.	14	Resit week		
12 Apr. - 20 Jun.	15-24	Lecture period	IIb	Kings's Day, Liberation Day, Ascension Day, Whit Monday
27 Jun. - 1 Jul.	27	Resit week		
13 Jul. - 28 Aug.	29-35	Holidays		

ONT/OIC Academic Year
Degree programmes: Computing Science, Physics, Chemistry, Astronomy, Industrial Engineering & Management and Mathematics.
Artificial Intelligence follows its own timetable, which is a combination of those of GMW and FWN.

Date	**Week**	**Aim**	**Period**	
31 Aug. - 23 Oct.	36-43	Lecture period	Ia	
26 Oct. - 6 Nov.	44, 45	Exam period		
9 Nov. - 18 Dec.	46-51	Lecture period	Ib	'Sinterklaasavond'
21 Dec. - 1 Jan.	52-53	Kerstvakantie		
4 Jan. - 15 Jan.	1,2	Lecture period	Ib	
18 Jan. - 29 Jan.	3, 4	Exam period		
1 Feb. - 25 Mar.	5-12	Lecture period	IIa	Good Friday
28 mar. - 8 Apr.	13, 14	Exam period		Easter Monday
11 Apr. - 10 Jun.	15-23	Lecture period	IIb	Liberation Day, Kings's Day, Ascension Day, Whit Monday
13 Jun. - 17 Jun.	24	Exam period		
20 Jun. - 24 Jun.	25	Resit week		
4 Jul. - 8 Jul.	27	Resit week		
11 Jul. - 2 Sept.	28-35	Holidays		

The buildings will be closed on the following days:

- (Saturday 5 December 2015 from 4 p.m.: Sinterklaas)
- Thursday 24 December 2015 from 4 p.m. until Friday 1 January 2016: Christmas and New Year's Day
- Friday 25 March 2016: Good Friday
- Monday 28 March 2016: Easter Monday
- Wednesday 27 April 2016: Kings's Day
- Thursday 5 May 2016: Liberation Day
- Thursday 5 May 2016: Ascension Day
- Monday 25 May 2016: Whit Monday

- We recommend you to arrive at **the beginning of week 4 (25-29 January)** as the semester already starts at **Monday February 1**. Introduction events will take place in week 4. During week 4 we will organize the **Faculty Introduction** event: You will be introduced to the Faculty and its buildings or rooms, get a tour on the Zernike campus, have an opportunity to have your paperwork dealt with and meet your fellow exchange students! Additional information about this introduction, will be announced later. Please keep these dates in mind as you book your tickets to Groningen! Find your way to travel to Groningen on the following site: http://www.rug.nl/prospectiveStudents/information/travelInformation

- Retrieve your personal schedule form the following page with RUG schedule generator: http://rooster.rug.nl/#LayoutMode=Wide&Header=true

- **Courses from different years (year 1, 2 or three) of the bachelor programme can conflict with each other in the schedule. This also applies to courses from different disciplines, these are likely to conflict in the schedule. Please take this into account when you choosing your courses and check the available schedule beforehand. In case of a conflicting course: choose one of the conflicting courses and try to find a replaceable course for the other. Discuss your changed study programme with your academic adviser. (page 6)**

ESN Mentoring BLOG: Days are getting colder and darker. But of course the Mentor & Integration Committee organized some fun integration activities. In November, with a big group of international and Dutch students, we went to Kardinge to do one of the most Dutchie things there is: ice-skating! We started with a drink and a sweet and after that it was time to show our skills to each other. From very beginners to nearly professionals, everything was there. We had lots of fun and we laughed a lot. And fortunately, no-one broke a leg. Another Dutch tradition was going on in November. Sinterklaas had arrived in The Netherlands, together with his Zwarte Pieten. Of course we had to do something with this Dutch tradition. That's why we organized a Sinterklaas activity on the 7th of December. When the internationals arrived, we first told them the story about Sinterklaas. After that we practiced one of the famous Sinterklaas-songs, because without songs, Sinterklaas wouldn't visit us. After we practiced the song for a few times, he was suddenly there! Apparently all the internationals behaved nice, because Sinterklaas decided to visit our Sinterklaas activity. The internationals could sit on Sinterklaas' lap and Sinterklaas announced the winner of the poem competition we'd organized. When all of this was done, we started with a game with presents. There were three groups and on every table there were lots of presents. By playing a game with a dice, the presents were divided among the students. Of course there was a huge competition for some very wanted presents. In the end, every one ended up with some nice presents. Of course, the Sinterklaas activity was held with lots of Sinterklaas cookies and candy: pepernoten, frogs and mice, chocolate money, chocolate letters and lots more. We think it was a great and cozy night! - See more at: http://www.groningenlife.nl/en/blogs/mic/the-time-of-dutch-traditions-ice-skating-sinterklaas#sthash.MNXkV3Lc.dpuf

- **Credits**

The study load of each course is expressed in EC (European Credit Transfer Protocol). One EC is equivalent to 28 hours of study. A full academic year consists of 60 EC. We would like to stress that it is unwise to take on a workload of more than 27-32 EC per semester. Some professors/lecturers like to speak with students before confirming their course registration in order to assess prior knowledge of the subject. Others prefer students to contact them by e-mail beforehand. In most cases, explicit course requirements are stated in the course description.

- **The ECTS Grading Table**

The Dutch grading system is used from elementary through to university education. The scale runs from 1 to 10. The passing grades range from 6 (pass) to 10 (outstanding). The grades 1 to 3 are hardly used; the grade 10 is rarely awarded.

10 = outstanding
9 = excellent
8 = very good
7 = satisfactory/good pass
6 = minimum pass/sufficient
5-1 = fail

Different study programmes tend to award grades in various ways. For instance: it may be easier for a student in study programme A to obtain an 8 than it is for a student in study programme B. In order to make the grades that are awarded in a specific degree programme more transparent, to better determine their actual value, and for mobile students to enable a fair conversion into local grades, the ECTS Grading Table has been introduced.

The grading table provides a statistical distribution of grades for a specific degree programme, calculated over the past three years. It indicates the percentage of students who gained the grades mentioned in the transcript of records and gives a clear indication of the student's performance in relation to the current and the previous cohorts.
For additional information about ECTS: http://ec.europa.eu/education/tools/docs/ects-guide_en.pdf

Application process

- **The application process for exchange students – courses**

The application process starts with a nomination from your homes institution to the university of Groningen (your host institution).

After your nomination, we will contact you directly. Before we can confirm that you are accepted for an exchange programme at our Faculty of Mathematics & Natural Sciences (FMNS), we request you to send us your application documents (see below):

- *Copy Passport*
- *Application form* (download the form at http://www.rug.nl/fwn/fmns-programme/exchanges-and-short-stay/application) . Note: please fill this form in DIGITALLY! We will not accept handwritten application forms.
- *Transcript of Records (in English)*
- *Certificate of English proficiency *further information on the next page*
  For more details on our language requirements, see: http://www.rug.nl/fwn/fmns-programme/exchanges-and-short-stay/english-language-proficiency.
  Note: Your language certificate may be a language test from your university or a document from your university stating your English level.

- *Learning agreement* (EU) or *Study Programme* (page 3 of the application form).
  To fill out your study programme, you will find links to (and descriptions of) the courses available for exchange students in your discipline in this guide. Once you sent us your study programme or Learning Agreement (previously signed by you and your home university), our appointed Study Advisor will contact you to give you feedback on it.
  Notes:
  - Terms: In the Netherlands, the academic years are not only divided into semesters, but also in 'terms'. Each semester consists of 2 terms. Term 2a (or IIa) stands for the 1st half of the 2nd semester and 2b (or IIb) for the 2nd half of the 2nd semester.
  - Workload: The strongly recommended annual study load per year consists of 60 ECTS. That is why we suggest that you took a maximum of 6 courses per semester (30 ECTS), which amounts to 3 courses (15 ECTS) per term. Attending more is very/ too demanding for most students.

As we receive the complete set of documents, we will assess your application. If the requirements mentioned above are met, you will:

- receive a Letter of Acceptance from us
- Students who need a visa will receive information about the requirements and the procedure from the International Student Desk. You will be informed about the procedure in due time
- get a student number and student account at the University of Groningen
- receive feedback about your study programme from the appointed Study Advisor
- get information about the welcoming days organized for you, etc…

Deadlines to send in your application documents are June 15 (1st semester) and November 15 (2nd semester)

***English proficiency**

Candidates whose native language is not English must provide adequate evidence of proficiency in English. We accept the following tests/ documents:

1. computer TOEFL: score of at least 237, all sections sufficient (so at least 21 on each section), and a TWE of at least 4.5; or,
2. paper TOEFL:score of at least 580, all sections sufficient (so at least 55 on each section), and a TWE of at least 4.5; or,
3. internet TOEFL: score of at least 92, all sections sufficient (so at least 21 on each section); or,
4. IELTS Academic (British Council's English Language Test), original only: score of at least 6.5, all sections sufficient (so at least 6.0 on each section); or,
5. CPE, Cambridge Certificate of Proficiency in English; or,
6. CAE, Cambridge Certificate of Advanced English.

Only those whose native language is English are exempted from evidence of proficiency in English.

- **Registration at University of Groningen**

Acceptance letter
First, you will or already have received an acceptance letter. If you didn't receive the acceptance letter within a month after sending in your application documents, please contact the Exchange Office.

Student card and student number
After processing your application documents, you will be registered at our Faculty. As soon as your data is entered, **you receive an automatically generated message,** mentioning **your student number**. Please keep an eye on your spam inbox (as this email will be generated from an unknown email and, yet, contains very important information). Should you not have received this message / your student number by December, then please let us know.

In this email, you also get a link to *upload your picture so your student card can be issued*. Please do that as soon as you can as it may take a four weeks for your student card to be ready. If ready upon your arrival, we will hand out the student cards in week 5. The steps to take to upload your photo are described on the following pages, follow the instructions to upload your photo.

In the same email, you will receive a *provisional password to access our IT facilities*. Make sure you change this password immediately as the temporary one is only valid for 24 hours. In case you haven't done so, then please contact the CIT Service Desk of the University (citservicedesk@rug.nl or + 31 50 363 3232. The Exchange Office cannot help you with these matters.

- **The application process for exchange students – Traineeships/Research**

The application process for exchange students who will conduct research or an internship, will receive a confirmation/acceptance letter from their supervisor of the University of Groningen.

How to upload your photo for your student card/download a proof of enrolment:

☐ **Via Facebook.....Page 1 - 2**
☐ **Via MyUniversity.....Page 3 - 5**

Via Facebook – *only if you have a Facebook account yourself!*

Log in on your own Facebook account.

Browse to https://www.facebook.com/universitystudentdesk and click on **Like.** Click on **More** and then on **Enrolment (photo).**

Click on **Approve Access**

Select **I agree...**fill in **1 day** and click on **Send**

To upload a photo **click on the empty space** to upload your photo. If you want to download a proof of enrolment click on **Download** and you will get a pdf file.

Via MyUniversity:

Browse to http://myuniversity.rug.nl and log in with your S-number (s1234567) and password.

Click on **Options** in the right corner and then on **Widget Store.**

Type **Enrolment** in the search field and click on **Search**

Click on **Add to Page**

The widget is added on your dashboard. Please return to your dashboard by clicking on **Dashboard.**

Scroll down the page and look on the left side for the widget **Enrolments.** Click on **Approval link** to start the module.

Select **I agree...**fill in **1 day** and click on **Send**`

You will be redirected to your dashboard. Scroll down and look for the enrolment widget. **Click on the empty space** to upload your photo. If you want to download a proof of enrolment click on **Download** and you will get a pdf file.

IT Facilities at the RUG

The University of Groningen uses different IT facilities, all platforms are used by students and employees and are important means of communication within the University. The main used platforms are listed below, for all facilities it is necessary to log in with your student number and password.

- **Nestor**: www.nestor.rug.nl

Nestor is the online platform for your courses. You can see all the courses you are enrolled for under "my Courses". Announcements about the courses and from other organizations you are enrolled for can be found on this online platform. Always check Nestor for the most recent information about courses.

- **ProgressWWW**: go through Nestor or to https://progresswww.nl/rug

Enrolments for courses and exams takes place in progress. You can see your marks within 10 working days after the exam.

- **Mailbox**: go through Nestor or to http://googleapps.rug.nl

Your student email is hosted on the above mentioned page, you will receive your personal email address, after registration at the University. (After receiving your student number, you will also receive your email address)

- **Schedules**: go through Nestor or to http://www.rug.nl/gmw/education/schedules

- **My University: http://myuniversity.rug.nl/**

My University contains all the information for staff and students of the University of Groningen. Log in to My University with your P-or S-number. In addition, internal information for staff and students is also available within My University, under the Infonet tab, which is where staff and students will also find the intranet of their own faculty or service.

Enrollment courses & exams

- **Course enrollment**

If you wish to attend a course, note that registration in Progress (https://progresswww.nl/rug/) is compulsory for each course!

Deadline: at least one month before the course starts.

- **Exam enrollment**

If you wish to sit for an exam or re-exam, you have to register separately in Progress.

Deadline: at the latest, one week before the exam.

Attending courses at other faculties is not allowed for FMNS Exchange Students as these other faculties may have different enrolment or acceptance requirements. Therefore, you cannot enroll for courses at other faculties through Progress-www.

Exceptions will only be made for students whose curriculum has to be partly fulfilled at another faculty. In such a case, a preliminary approval from your Academic Advisor or from the Exchange Office is required.

- Retrieve your personal schedule form the following page with RUG schedule generator: http://rooster.rug.nl/#LayoutMode=Wide&Header=true

- **Courses from different years (year 1, 2 or three) of the bachelor programme can conflict with each other in the schedule. This also applies to courses from different disciplines, these are likely to conflict in the schedule. Please take this into account when you choosing your courses and check the available schedule beforehand. In case of a conflicting course: choose one of the conflicting courses and try to find a replaceable course for the other. Discuss your changed study programme with your academic adviser. (page 6)**

Housing

Housing can be arranged through the website of the Housing Office: http://sshxl.nl/en. Please make sure you select **Henriette Mulder** as the contact person and that you will be an **exchange student** at the Faculty of Mathematics and Natural Sciences. We need to approve your request before you can continue in the reservation process for housing.

- Below the regulations of the SSH are listed, so you will be aware of all the rules and conditions of the SSH.

Regulations of the SSH

Conditions of intermediary services for the temporary housing of Exchange Students at University of Groningen
(RUG) and Hanze University of Applied Sciences (HG)

General – Definitions of terms

0.1 Exchange Students are international (non-Dutch) students who temporarily take courses at University of Groningen (RUG) and Hanze University of Applied Sciences (HG) with the intention of having their results recognised by their home universities, and who do not yet live in the Netherlands. Exchange Students, hereinafter will be called students.
0.2 SSH Groningen: the department of SSH in Groningen who perform the Intermediary services for temporary housing.
0.3 Contact person: the representative of the faculty where the student will be enrolled.
0.4 Application: the on-line request for housing by one student for the prescribed fixed period of time.
0.5 Term of residence: the period between arrival and departure.
0.6 Accommodation: a fully fitted and furnished room or apartment.
0.7 Rental period: the period during which student and lessor have agreed to rent (out) accommodation.

Basic principles

1.1 SSH aims at maintaining a good price-quality ration of their furnished accommodation.
1.2 SSH acts as intermediary in finding temporary accommodation for Exchange students.
The reservation fee for this service is 275 euros per reservation and needs to be paid to SSH (see article 2.5)
1.3 The brokered tenancy agreements are for a fixed period of time only. Cancellation after commencement of the rental period is not permitted, except for cases provided for by Article 2.8. The fixed rental periods Exchange students can apply for are:

semester I 24-08-2015 31-01-2016
semester II 01-02-2016 – 30-06-2016
semester I+II 24-08-2015 – 30-06-2016

1.4 A request for early arrival in August or extension of the rental period until end July, however within the maximum of 12 months, needs to be made through groningen@sshxl.nl. Each request is assessed on a case by case basis.
1.5 In accordance with these conditions, SSH acts as intermediary only for Exchange Students. For more information about the practical details look at www.rug.nl, www.hanze.nl/eng or www.sshxl.nl/en

Conditions for students

2.1 Students have to register on-line via www.sshxl.nl/en. Correct registration is always the student's responsibility.
2.2 Applications may only be submitted for a prescribed fixed period of time (see article 1.3).

2.3 The contact person will review the on-line application as soon as possible after the student's application and approve it if correct.
2.4 Reservations only become definite once a Confirmation Accommodation has been sent by e-mail by SSH. This email will be send after the non-refundable down payment has been made and the student has agreed to the terms & conditions of the rental agreement and the rental agreement itself.
2.5 The non-refundable down payment consists of the first and the last (full) month's rent plus the reservation fee of 275 euros. The complete down payment must be paid by Visa or Mastercard within 24hours after making the online reservation .
2.6 If a student cancels their reservation or fails to show, the rental agreement will be terminated and the student will not be refunded the deposit nor the reservation fee, irrespective of the reason(s) for cancellation.
2.7 Cancellation after commencement of the rental period is not permitted, except for cases provided for by article 2.8.
2.8 It is not possible to cancel a rental contract after commencement of the rental period, except in the following circumstances, and subject to approval by University of Groningen (RUG) or Hanze University of Applied Sciences (HG), depending on the individual students educational institution: (i) death, sudden serious illness or a serious accident of the student or first/second degree family members, or (ii) the unforeseen withdrawal of the student's residence permit (if required) by the proper authorities. Moreover, cancellation of the contract is only allowed if the abovementioned circumstance leads to a termination of enrolment.
2.9 A claim for cancellation must be made through the contact person at the student's Faculty. A claim must be supported by documented proof. Each claim is assessed individually. In case of proven circumstances as described in 2.8, and if approved by University of Groningen (RUG) or Hanze University of Applied Sciences (HG), cancellation is permitted as per the first day of the month and with one month's notice.
2.10 Once students have moved into their accommodation they may request to be moved to another SSH accommodation within the reserved offerings for Exchange or Bachelor and Master students of RUG and HG. The moving fee is 195 euros when moving from accommodation with shared facilities (room) and 225 euros when moving from independent accommodation (studio or apartment).
A written request must be sent to SSH.

The following House Regulations apply once the rental agreement between the Student and SSH is established

3.1 Students are responsible for cleaning their own room/apartment. If you wish, SSH can arrange a cleaning company to take care of the cleaning for you. SSH or the cleaning company will bill you for this service.
3.2 It is not allowed to keep pets.
3.3 Smoking is not allowed in any of the accommodations that are dedicated SSH units. This applies both for individual rooms as communal areas.
3.4 The maximum period a guest can stay over is 3 nights. After this period the guest needs to find his/her own place to stay.
3.5 It is not allowed to sublet the accommodation to a third party.
3.6 According to the Dutch fire regulations the hallway and passages must be kept clear at all times. Therefore bicycles or any other objects that obstruct entrances or exits will be removed instantly (you will be billed for all costs made).
3.7 It is not allowed to make (mechanical) noise after 22.00 h.
3.8 Unless otherwise indicated, it is not permitted to make any holes in the walls of your room/apartment. The application of stickers or wall painting is also strictly forbidden.

Other useful information for student life

Besides the academic offer, Groningen has lots to offer for its exchange students. Do you want to see it yourself? Check this Youtube channel for some real life experiences of student life:

- https://youtu.be/LlhGIs1li4I

- General information on practical matters for incoming students can be found at: http://www.rug.nl/education/international-students/

- Additional links that may be of interest:
- http://www.rug.nl/education/international-students/getting-started/welcome-to-groningen.pdf

- http://www.rug.nl/education/find-out-more/extracurricular-activities-associations/ - information about student life in Groningen.

- Other study specific videos can be found at the different chapters of study.

ESN
http://www.esn-groningen.nl/
- Erasmus Student Network for international exchange students. The ESN organizes a variety of activities for international students, from cultural outings to pub quizzes. Sign up for the ESN Buddy programme, to have a great start in Groningen!

ESN Groningen is a student organisation that ensures you will feel at home in Groningen by organising all kinds of activities. In addition to activities, there is the Buddy Program where you will be linked to a Dutch student from your faculty. Your buddy can pick you up from the railway station, help you get through the first few days after your arrival and can help you with practical things. Please fill out the application form if you want to have a buddy.
http://www.esn-groningen.nl/esn-buddy-program

Check the after movie introduction of the ESN September 2015:
https://www.facebook.com/groningen.esn/videos/897184287018699/?fref=nf

ACLO

The ACLO is the overarching student sports organization of the University of Groningen and the Hanze university of applied sciences and for the 49 sports clubs of the ACLO. For the students of both organizations the ACLO offer sports in many different ways. Sports are an important part of student life in Groningen, where, as a student, you have the good fortune to be able to play sports at the best and biggest student sports organization in the Netherlands: the ACLO.

Students of the University of Groningen or Hanze University Groningen are entitled to purchase an ACLO sports pass. **For a small sum you can make unlimited use of the ACLO facilities for a whole year.** Every year 18,000 students in Groningen buy one of these ACLO sports passes. Once you have your ACLO pass, you can choose from over 85 different sports! You can play these sports in the form of courses or during general time slots, by reserving courts or halls, or by joining one of the over 50 student sport clubs at the ACLO.

Check the website at: **http://www.aclosport.nl/en/**

➢ An indication of financial matters for students:

Study costs	Textbooks, readers, photocopies	**around € 650 per year**
Housing	Rent (incl. energy and other costs, for example ISP bills, excl. administration costs and security deposit of approximately 1 month rent)	**€ 350 to € 500 per month**
Food and drinks	Meals, drinks, etc.	**€ 150 to € 250 per month**
Bikes	Price based on a decent second-hand bike	**€ 45 to € 110**
Travel expenses	For students who do not have a dutch OV-travelcard	**€ 50 per month on average**
Insurance	Health care, third-party, fire and theft insurance	**€ 100 to € 120 per month**
Language courses	Summary of language courses	**On average between € 160 - € 310 per course**
Additional costs	Clothes, hairdresser, cinema	**€ 75 per month**

➢ Opening a Dutch Bank account

When you live in the Netherlands for a period over 6 months, you will need a current Dutch bank account to manage your day-to-day finances. Non-EU/EER guests of the university will be informed by the International Service Desk about opening a Dutch bank account.

When you have a EU/EER nationality, you probably already have a bank account with an IBAN. The SEPA (Single Euro Payments Area) system enables you to make international financial transfers within the EU/EER countries. If you do not have an IBAN, you can open a bank account at one of the banks below.

Required documents for opening a bank account are a valid passport and an address in the Netherlands (i.e. a rental agreement).

Find more information on the following page: http://www.rug.nl/education/international-students/financial-matters/bank-affairs

Industrial Engineering & Management

Please, find below our courses available for exchange students from IEM. IEM consists of a variety of courses from different disciplines, in the last column you will find an abbreviation that refers to the specific discipline:

LE = Logistic Engineering
BS = Business Science
ChE = Chemical Engineering
BT = Biotechnology
SE = System Engineering
CoE = Control Engineering
EE = Electric Engineering
ME = Mechanical Engineering
G = General

Make sure you pay attention to the study cycle and the period in which the course will be given. For specific details on the courses check: http://www.rug.nl/ocasys
Below, you can find the link to specific research groups.

Check out the students experience of the study IEM: https://youtu.be/4smWHsppos4

Courses Faculty of Mathematics and Natural Sciences for IEM exchange students:

Course code	Course name	BSc/ MSc	EC	Period	Discipline
WPMA14007	Calculus for IEM	BSc	5	1a	G
TBOTBK1-08	Orientation IEM	BSc	5	1a	G
WBIE14001	Business Law for IEM	BSc	5	1a	BS
CHEFR-10	Single-Phase Reactors	BSc	5	1a	ChE
CHPCH-12	Polymer Chemistry	BSc	5	1a	ChE / BT
NAMATK-09	Materials Science and Engineering	BSc	5	1a	ME
NAMECH05E	Mechanics for TBK	BSc	5	1a	ME
CHTGPE05E	General Process Equipment	BSc	5	1a	ChE
TBOBS-11	Business System Design	BSc	5	1a	BS
CHPPT-10	Practical Course (Bio-)process Technology	BSc	5	1a	ChE / BT
TBKRT05E	Control Engineering	BSc	5	1a	CoE
WINMTBK-09	Numerical Methods	BSc	5	1a	G
CHBBP-09	Bio-based Products	MSc	5	1a	BT
WMIE14001	Entrepeneurship	MSc	5	1a	BS
CHTCIE05E	Interfacial Engineering	MSc	5	1a	ChE
TBROB-12	Robotics	MSc	5	1a	CoE
WIMOD-08	Mathematical Modelling	MSc	5	1a	SE / CoE
TBPDFEM-10	Product Design by the Finite Element Method (MSc)	MSc	5	1a	ME
NASI-08	Surfaces and Interfaces	MSc	5	1a	ME

CHTMFR105E	Multiphase Process Equipment (only in combination with General Process Equipment)	BSc	5	1b	ChE
WPIE14001	Fundamentals of Process and Product Technology	BSc	5	1b	ChE / BT
WPMA14006	Linear Algebra & Multivariable Calculus for IEM	BSc	5	1b	G
WISS-08	Signals and Systems for IEM and BMT	BSc	5	1b	CoE
CHTT-09	Technical Thermodynamics	BSc	5	1b	ChE
TBPRTE-12	Production Techniques	BSc	5	1b	ME
TBCC05E	Computer Aided Design & Manufacturing	BSc	5	1b	ME
TBMETR-12	Mechatronics	BSc	5	1b	CoE / EE
WBIE13003	Mol. Biotechn. for IEM	BSc	5	1b	BT
CHOC1-10	Organic Chemistry 1	BSc	5	1b	ChE
NAPMS-12	Principles of Measurement Systems (BSc)	BSc	5	1b	CoE / EE
CHTPP05E	Polymer Products	MSc	5	1b	ChE
TBSLS-12	Simulation of Logistic Systems	MSc	5	1b	LE
WMIE14005	Food Pharma Products	MSc	5	1b	BT
CHPP-10	Particulate Products	MSc	5	1b	ChE
NAPMS-12	Principles of Measurement Systems (BSc)	MSc	5	1b	EE / CoE
WIVOB-09	Calculus of Variations and Optimal Control	MSc	5	1b	CoE
INALGTBK09	Algoritmics	BSc	5	2a	G
TBMOTBK-11	IEM Methods and Design	BSc	5	2a	G
NAFSYS05E	Physical Systems for IEM	BSc	5	2a	G
TBOIIS-10	Outlining and implementing innovation strategy	BSc	5	2a	G
CHSP-11	Separation Processes	BSc	5	2a	ChE
TBMACN-11	Modelling and analysis of complex networks	BSc	5	2a	CoE
CHTPT05E	Product Technology	BSc	5	2a	ChE
WBIE13001	Digital and Hybrid Control Systems	BSc	5	2a	CoE
TBOC05E	Design and Construction for IEM/TM (only in combination with Production Techniques)	BSc	5	2a	BS
CHTFTV205E	Physical Transport Phenomena 2	MSc	5	2a	G
TBACSS-11	Analysis and Control of Smart Systems	MSc	5	2a	CoE
CHPD-10	Process Design	MSc	10	2a+2b	ChE
WMIE14003	Applied Biocatalysis	MSc	5	2a	BT
WMPH13005	Characterisation of Materials	MSc	5	2a	ME
NADP-12	Device Physics	MSc	5	2a	CoE / EE
WIMCCNES12	Modeling and Control of Complex Nonlinear Engineer	MSc	5	2a	CoE
WMIE14006	Multiscale Contact Mechanics & Tribology	MSc	5	2a	ME
WISTATBK12	Statistics and Stochastics (IEM)	BSc	5	2b	G
TBBSY-12	Biological Systems	BSc	5	2b	BT
CHTFTV105E	Physical Transport Phenomena 1	BSc	5	2b	G
CHSFE05E	Sustainability for Engineers	MSc	5	2b	G
TBSE05E	Systems Engineering	MSc	5	2b	SE
WMIE14002	Surface Engineering	MSc	5	2b	ME
WMIE14004	Bioprocess Technology	MSc	5	2b	BT
TBAFPE-11	Fitting Dynamical Models to Data	MSc	5	2b	CoE

Courses Faculty of Economics and Business
Max 20% of your courses can be chosen from this list.

Course code	Course name	BSc/ MSc	EC	Period	Discipline
EBB632A05	Information Systems Management	BSc	5	1a	BS
EBB742B05	Purchasing & Supply Chain Management	BSc	5	1a	LE
EBM049A05	Organization Design (MSc)	MSc	5	1a	BS
EBM634A05	Service Operations	MSc	5	1a	LE
EBB632A05	Introduction to Operations Research	BSc	5	1b	LE
EBB068A05	Operations and Logistics Management	BSc	5	1b	LE
EBM034A05	Healthcare Operations	MSc	5	1b	LE
EBM725C05	Operations Management in Proc. Industry	MSc	5	1b	LE
EBM051A05	Strategic Management & Technology	MSc	5	1b	BS
EBP661C05	International Marketing for IB	BSc	5	2a	BS
EBM026A05	Inventory Management	MSc	5	2a	LE
EBM117A05	Supply Chain Optimization	MSc	5	2a	LE
EBB652B05	Management of Product Innovation	BSc	5	2b	BS
EBB058A05	Production Planning & Quality Control	BSc	5	2b	LE
EBM621A05	Innovation & Entrepeneurship	MSc	5	2b	BS

Research projects 20-30 ECTS

For orientation on the scientific areas of our staff, please check: http://www.rug.nl/research/itm/research/

Contact a member of staff in the area you prefer as subject for your research project, discuss what could be an interesting subject for you to work on, and make sure that a member of staff will be available as your supervisor.

Include in the course list the Research Project and mention the following information:

- ☐ Subject of the project
- ☐ Home and Host supervisor
- ☐ the number of ECTS you agreed upon with the host supervisor

Computer Science & Artificial Intelligence

Bachelor courses

All English course units are open to exchange students.
For course details check our on-line course catalogue Ocasys for **Computer Science:**
http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3256

-Software Engineering 1 & 2 (Computing Science) are considered as one course. For this course you need to have sufficient programming knowledge. Its considered as time consuming and demanding, please consider this beforehand.

For course details check our on-line course catalogue Ocasys for **Artificial Intelligence:**

http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=3680

Please check the course specific requirements on Ocasys, specific background knowledge might be required.

Check out the student experience of the study Computer Science: https://youtu.be/unSPYJGFZxc

Check out the student experience of the study Art. Intelligence: https://youtu.be/IoxD1KIIQdI

Master courses

All master degree programmes are taught in English.
For course details on the master program in **Computing Science**, please check
http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3255 (Computing Science)
-Some Master courses are only given once in two years, check the academic year in Ocasys.
-Keep in mind that many Master courses have a different field of study from origin (Mathematics, Physics)

Master students in **Artificial Intelligence** can choose from **two master programmes**.
For course details, please check
http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=2682 (Human Machine Communication)
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=3681 (Artificial Intelligence)

Mind that you may not select courses starting with the codes EB(B)!

Master research project or thesis

For orientation on the scientific areas of our staff, please check:
http://www.rug.nl/research/fmns/group/computing-science-oriented
http://www.rug.nl/research/fmns/group/artificial-intelligence-oriented

Contact a research group in the area you prefer as subject for your project, discuss what could be an interesting subject for you to work on, and make sure a member of staff will be available as your supervisor.

Biology

Bachelor

The Bachelor degree in Biology is almost entirely taught in Dutch.

Although few courses are in English, they are **not open** for exchange students in 2015-2016. Over the last few years we had an unexpected increase of freshmen enrolling, which caused capacity problems in our lecture rooms. As soon as our teaching facilities have improved accordingly, the English course units in our bachelor degree program will again be open for exchange students in later years.

Master

Our Master degree program is entirely taught in English.

Nevertheless, just as in our Bachelor programme, we cannot guarantee a place in our Master courses due to high internal demands. **Only** exchange students coming to Groningen to do a **research project** in Biology with a minimum duration of **5** months, may enrol in certain courses, provided there are sufficient places left. Please note that enrolment in Master courses can only be discussed after arrival in Groningen!

Students interested in a research project should first select the research area they would like to work in: please, make a list of 3 groups of interest from the right menu on the following webpage:

Molecular Biology and Biotechnology: www.rug.nl/gbb http://www.rug.nl/fmns-research/gbb/groups/index

Plant/Animal Ecology & Behavioural and Cognitive Neurosciences: http://www.rug.nl/research/institute-evolutionary-life-sciences/?lang=en

Note: do **not contact** group leaders yourself. We will contact them after we received your application. Once you have been assigned a place in a research group, you may directly discuss project details, arrival times, etcetera with your host superviso

Prerequisites:

- substantial lab skills as well as being able to work relatively independently

Learning Agreement:

- **Mention** in the course list only 'Research Project', and sign the LA. At this stage the signature from the home institution is not yet required!
- **Attach** a separate sheet (.doc or .pdf) mentioning the 3 specialist research groups of your interest (chosen from the websites mentioned above), adding a short motivation regarding the selected research groups in relation to your personal and educational background and with reference to the prerequisites mentioned above.
- This LA with attachment has to be included in the application package. **After** you have been assigned a specific research project, **we shall complete** the Learning Agreement with the following information:
  - Subject name
  - Host supervisor
  - Number of credits (ECTS)
  - Signature on behalf of our university as host institution.
  - We shall send you a digital copy, which then has to be signed on behalf of the home university as well!

At the end of this procedure, please send a digital copy of the fully signed document

to: exchange.science@rug.nl

Bachelor courses Chemistry

The bachelor of Chemistry is entirely offered in English. Below, you can find the courses offered for our exchange students. Select the courses for your learning agreement/study programme from this list.

Check out the video about the student experience of Chemistry:
https://youtu.be/3oev9ok9bjo

sem	Course name	Course code	ECTS	Language
Ia	Organic Chemistry 2	CHOC2-11	5	Eng
Ia	Single-Phase Reactors	CHEFR-10	5	Eng
Ia	Control Engineering	TBKRT05E	5	Eng
Ia	General Process Equipment	CHTGPE05E	5	Eng
Ia	Materials Science and Engineering	NAMATK-09	5	Eng
Ia	Medicinal Chemistry I	CHMC1-12	5	Eng
Ia	Physical Properties of Materials 1	CHEVM1-11	5	Eng
Ia	Programming in C/C++ (part I)	RC-C++1	5	Eng
Ia	Statistics	WISTAT-07	5	Eng
Ia	Structural probes for solid materials	CHSPSM-12	5	Eng
Ib	Introduction to Process and Product Technology	CHIPPT-10	5	Eng
Ib	Organic Chemistry 1	CHOC1-10	5	Eng
Ib	Linear Algebra & Multivariable Calculus for Chem	WBMA14001	5	Eng
Ib	Technical Thermodynamics	CHTT-09	5	Eng
Ib	Bioenergy and Bioresources	CHBE-11	5	Eng
Ib	Bioenergy and Metabolism	CHBC2-11	5	Eng
Ib	Geo-Energy	NAGE-10	5	Eng
Ib	Medicinal chemistry II	CHMC2-12	5	Eng
Ib	Molecular Biophysics	NAMB-11	5	Eng
Ib	Multiphase Reactors	CHTMFR105E	5	Eng
Ib	Organic and Molecular Electronics	CHME-12	5	Eng
Ib	Programming in C/C++ (part II)	RC-C++2	5	Eng
Ib	Soft molecular Materials	CHSMM-11	5	Eng
Ib	Solar Cells	CHPHV-08	5	Eng
Ib	Special Process Equipment	CHSPETM-09	5	Eng
IIa	Biochemistry	CHBC-10	5	Eng
IIa	Physical Chemistry 1	CHFC1-10	5	Eng
IIa	Product Technology	CHTPT05E	5	Eng
IIa	Science, Ethics, Technology, and Society	CHBBSCSO	5	Eng
IIa	Separation Processes	CHSP-11	5	Eng

IIa	(Bio)catalysis	CHBC-12	5	Eng
IIa	Cellular Chemistry	CHCC-12	5	Eng
IIa	Electrochemistry and Energy	CHEE-11	5	Eng
IIa	Materials Design: Theoretical Methods	CHMDTM-08	5	Eng
IIa	Modelling and analysis of complex networks	TBMACN-11	5	Eng
IIa	Outlining and implementing innovation strategy	TBOIIS-10	5	Eng
IIa	Physical Organic and Photo- chemistry	CHPOPC-12	5	Eng
IIa	Physical Properties of Materials 2	CHEVM2-11	5	Eng
IIa	Physical Transport Phenomena 2	CHTFTV205E	5	Eng
IIa	Quantum Chemistry	CHQC-11	5	Eng
IIa	Recombinant DNA and Biotechnology	CHRDNAB-11	5	Eng
IIa	Trends in Polymer Science	CHPTPS05E	5	Eng
IIb	Inorganic Chemistry	CHAOC-10	5	Eng
IIb	Spectroscopy	CHAC-10	5	Eng
IIb	Macromolecular Chemistry	CHMMC-11	5	Eng
IIb	Physical Transport Phenomena 1	CHTFTV105E	5	Eng
Ia-b + IIa-b	traineeship/Research project in chemical engineering			Eng

Master courses Chemistry

sem	Course Name	Course code	ECTS	language
Ia	Bio-based products	CHBBP-09	5	Eng
Ia	Catalysis for engineers	CHCE-09	5	Eng
Ia	Interfacial engineering	CHTCIE05E	5	Eng
Ia-b + IIa-b	traineeship/Research project in chemical engineering			Eng
Ib	Biocatalysis & Green Chemistry	MLGBB04	5	Eng
Ib	Design of industrial catalysts	CHDIC-11	5	Eng
Ib	Functional Properties	WMPH13004	5	Eng
Ib	Particulate products	CHPP-10	5	Eng
Ib	Polymer products	CHTPP05E	5	Eng
Ib	Solar Cells	CHPHV-08	5	Eng
IIa	Advanced product engineering	CHTAPE05E	5	Eng
IIa	Biomaterials 2	CHBMAT05E	5	Eng
IIa	Organic synthesis: methods and strategy 1	CHOMS105E	5	Eng
IIa	Product focused process design	CHPFPD-10	5	Eng
IIa	Sustainability for Engineers	CHSFE05E	5	Eng
IIb	Chemical Catalysis	WMCH13010	5	Eng

Research project

Research projects with a duration of minimum 3 and maximum 6 months are also possible. For orientation on the scientific areas of our staff, please check:

http://www.rug.nl/research/fmns/group/chemistry-oriented

Contact a research group in the area you prefer for your project, discuss what could be an interesting subject for you to work on, and make sure that a member of the staff will be available as your supervisor.

Learning Agreement:

Include in the course list 'research project' and mention the following information:

- Subject of the project
- Home and Host supervisor
- Number of credits (ECTS), Dutch credit and grading system

Chemical Engineering

Bachelor courses Chemical Engineering

The bachelor of Chemical Engineering is entirely offered in English. Below you can find the courses offered for our incoming exchange students. Select the courses for your learning agreement/study programme from this list.

sem	Course name	Course code	ECTS	Lanuage
Ia	Organic Chemistry 2	CHOC2-11	5	Eng
Ia	Single-Phase Reactors	CHEFR-10	5	Eng
Ia	Control Engineering	TBKRT05E	5	Eng
Ia	General Process Equipment	CHTGPE05E	5	Eng
Ia	Materials Science and Engineering	NAMATK-09	5	Eng
Ia	Medicinal Chemistry I	CHMC1-12	5	Eng
Ia	Physical Properties of Materials 1	CHEVM1-11	5	Eng
Ia	Programming in C/C++ (part I)	RC-C++1	5	Eng
Ia	Statistics	WISTAT-07	5	Eng
Ia	Structural probes for solid materials	CHSPSM-12	5	Eng
Ib	Introduction to Process and Product Technology	CHIPPT-10	5	Eng
Ib	Organic Chemistry 1	CHOC1-10	5	Eng
Ib	Linear Algebra & Multivariable Calculus for Chem	WBMA14001	5	Eng
Ib	Technical Thermodynamics	CHTT-09	5	Eng
Ib	Bioenergy and Bioresources	CHBE-11	5	Eng
Ib	Bioenergy and Metabolism	CHBC2-11	5	Eng
Ib	Geo-Energy	NAGE-10	5	Eng
Ib	Medicinal chemistry II	CHMC2-12	5	Eng
Ib	Molecular Biophysics	NAMB-11	5	Eng
Ib	Multiphase Reactors	CHTMFR105E	5	Eng
Ib	Organic and Molecular Electronics	CHME-12	5	Eng
Ib	Programming in C/C++ (part II)	RC-C++2	5	Eng
Ib	Soft molecular Materials	CHSMM-11	5	Eng
Ib	Solar Cells	CHPHV-08	5	Eng
Ib	Special Process Equipment	CHSPETM-09	5	Eng
IIa	Biochemistry	CHBC-10	5	Eng
IIa	Physical Chemistry 1	CHFC1-10	5	Eng
IIa	Product Technology	CHTPT05E	5	Eng
IIa	Science, Ethics, Technology, and Society	CHBBSCSO	5	Eng
IIa	Separation Processes	CHSP-11	5	Eng
IIa	(Bio)catalysis	CHBC-12	5	Eng
IIa	Cellular Chemistry	CHCC-12	5	Eng
IIa	Electrochemistry and Energy	CHEE-11	5	Eng

IIa	Materials Design: Theoretical Methods	CHMDTM-08	5	Eng
IIa	Modelling and analysis of complex networks	TBMACN-11	5	Eng
IIa	Outlining and implementing innovation strategy	TBOIIS-10	5	Eng
IIa	Physical Organic and Photo- chemistry	CHPOPC-12	5	Eng
IIa	Physical Properties of Materials 2	CHEVM2-11	5	Eng
IIa	Physical Transport Phenomena 2	CHTFTV205E	5	Eng
IIa	Quantum Chemistry	CHQC-11	5	Eng
IIa	Recombinant DNA and Biotechnology	CHRDNAB-11	5	Eng
IIa	Trends in Polymer Science	CHPTPS05E	5	Eng
IIb	Inorganic Chemistry	CHAOC-10	5	Eng
IIb	Spectroscopy	CHAC-10	5	Eng
IIb	Macromolecular Chemistry	CHMMC-11	5	Eng
IIb	Physical Transport Phenomena 1	CHTFTV105E	5	Eng
Ia-b + IIa-b	traineeship/Research project in chemical engineering			Eng

Master courses Chemical Engineering

sem	Course name	Course code	ECTS	Language
Ia	Bio-based products	CHBBP-09	5	Eng
Ia	Catalysis for engineers	CHCE-09	5	Eng
Ia	Interfacial engineering	CHTCIE05E	5	Eng
Ia-b + IIa-b	traineeship/Research project in chemical engineering			Eng
Ib	Biocatalysis & Green Chemistry	MLGBB04	5	Eng
Ib	Design of industrial catalysts	CHDIC-11	5	Eng
Ib	Functional Properties	WMPH13004	5	Eng
Ib	Particulate products	CHPP-10	5	Eng
Ib	Polymer products	CHTPP05E	5	Eng
Ib	Solar Cells	CHPHV-08	5	Eng
IIa	Advanced product engineering	CHTAPE05E	5	Eng
IIa	Biomaterials 2	CHBMAT05E	5	Eng
IIa	Organic synthesis: methods and strategy 1	CHOMS105E	5	Eng
IIa	Product focused process design	CHPFPD-10	5	Eng
IIa	Sustainability for Engineers	CHSFE05E	5	Eng
IIb	Chemical Catalysis	WMCH13010	5	Eng

Research project

Research projects with a duration of minimum 3 and maximum 6 months are also possible. For orientation on the scientific areas of our staff, please check:

http://www.rug.nl/research/fmns/group/chemistry-oriented

Contact a research group in the area you prefer for your project, discuss what could be an interesting subject for you to work on, and make sure that a member of the staff will be available as your supervisor.

Learning Agreement:

Include in the course list 'research project' and mention the following information:

- Subject of the project
- Home and Host supervisor
- Number of credits (ECTS), Dutch credit and grading system

(Applied) Physics & Astronomy

Bachelor courses

All English **lecture courses** are **open** to exchange students. For course details check our on-line course catalogue Ocasys, at:

Physics, track Energy and Environment
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=5128

Physics, track Life and Health
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=5127

Physics, track Nano-, Experimental and Theoretical Physics
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=4966

Combined BSc Physics with Math
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=4569

Applied Physics
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=4967

Astronomy
http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=4968

Check out the video about the student experience of Physics:
https://youtu.be/uVTcM1jDhJw

Check out the video about the student experience of Astronomy:
https://youtu.be/fT1rvaJ3s7s

Master courses

All master degree programmes are taught in English. For course details, please check:

Physics: http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=5091

Applied Physics: http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3377

Astronomy: http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3314

The following courses are **not open for exchange:**

- lab courses, consisting of assignments only

Individual Master research projects

Research projects with a duration of minimum 3 and maximum 6 months are also possible. For orientation on the scientific areas of our staff, please check:

Physics: http://www.rug.nl/research/fmns/group/physics-oriented

Astronomy: http://www.rug.nl/research/fmns/group/astronomy-oriented

Contact a research group in the area you prefer for your project, discuss what could be an interesting subject for you to work on, and make sure that a member of the staff will be available as your supervisor.

Learning Agreement:

Include in the course list 'research project' and mention the following information:

- Subject of the project
- Home and Host supervisor
- Number of credits (ECTS), Dutch credit and grading system

(Applied) Mathematics

Bachelor Courses

All English course units are open to exchange students.

For course details check our on-line course catalogue Ocasys, at:

-Mathematics: http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=4991

-Applied Mathematics:

http://www.rug.nl/ocasys/rug/vak/showpos?opleiding=4992

Mind that you cannot select courses starting with the codes EB(B)

Check out the student experience of Mathematics: **https://youtu.be/LnwFjCbGCAU**

Master Courses

All Master's degree course units are taught in English and open to exchange students.

Part of the course units are offered by the Dutch Master Program; these courses are taught at other Dutch universities and therefore involve travelling to other cities in the Netherlands.

The Master's degree program in **Mathematics** in Groningen offers the following specializations:

- Algebra & Geometry
- Dynamical Systems and Analysis
- Probability and Statistics

For course details, please check:

http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3230

The Master's degree programme in **Applied Mathematics** in Groningen consists of two specializations:

Systems and Control

Computational Science & Numerical Mathematics

For course details, please check:
http://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3231

Individual Master research projects

Research Projects of minimal 15 ECTS are also possible.

For more information about the research groups in (Applied) Mathematics see

http://www.rug.nl/research/jbi/research/groups

Contact a member of staff in the area you selected for your research project, discuss what could be an interesting subject for you to work on, and make sure that a member of staff will be available as your supervisor.

Mind that you cannot participate in one of the Computer Science research groups.

Learning Agreement:

Include in the course list the Research Project and mention the following information:

- Subject of the project
- Home and Host supervisor
- the number of ECTS you agreed upon with the host supervisor

Energy & environmental sciences

Bachelor

There is no Bachelor degree program in Energy and Environmental Sciences.

Master

Students enrolling in this master degree program have a bachelor in mathematics or natural sciences. Individual study programmes are tailor made depending on background and career wishes. Students can choose for an interdisciplinary systems approach or a specialized experimental approach.

For course details, please check our on-line course catalogue Ocasys, at:

https://www.rug.nl/ocasys/rug/vak/showpos?opleiding=3576

Contact the program manager on forehand to discuss your options.

Drs. Michiel Berger, e-mail: m.r.berger@rug.nl

Individual Master research project

Research projects with a duration of 5-6 months are also possible.

Research topics are in the field of: Climate and atmosphere, Renewable energy, Geo-energy, Energy and land use scenario's and modeling, Combustion technology, Bio-fuels technology, land and ocean-based.

Research options depend on the background of the student!

For orientation on the scientific areas of our staff, please check:

http://www.rug.nl/research/fmns/group/environmental-sciences-oriented

Contact the program manager on forehand to discuss your options.

Drs. Michiel Berger, e-mail: m.r.berger@rug.nl

Learning Agreement:

Include in the course list 'research project' and mention the following information:

- Subject of the project
- Home and Host supervisor
- Number of credits (ECTS), Dutch credit and grading system

Pharmacy

Bachelor & Master

The Bachelor & Master degree in Pharmacy is almost entirely taught in Dutch. We can't offer any courses for our incoming exchange students. But it is possible to conduct research during your exchange. You can take the following steps to conduct research during your exchange:

-At the following website you can find all the information about the different Research groups of Pharmacy. http://www.rug.nl/research.grip

-At the website you can find the contact information of each research group. Did you find an interesting research topic? Contact the contact person of the research group and ask what the possibilities are. Please add relevant personal information together with your request, as a motivation letter, CV and study results.

-After receiving the conformation of your participation in the research group, from your supervisor, we can continue with the application process.

Biomedical Sciences

Bachelor

There is no Bachelor degree program in Biomedical Sciences.

Master

The master's degree programme Biomedical sciences focuses on the research area of life processes in health and in the course of disease development. It is an interdisciplinary research area at the interface between molecular and cellular biology, integral physiology and medical sciences. Within the master programme students may focus on various research areas, ranging from the molecular cellular biology underlying normal cell functioning to integrative physiology and behaviour underlying sustainable health, as well the molecular pathology of diseases (inflammation, autoimmunity, allergies and tumours, diseases of the brain and nervous system including Parkinson's, Alzheimer's, multiple sclerosis and amyotrophic lateral sclerosis), and the biological, physiological and molecular aspects of emotional and affective disorders such as depression and phobias, stress pathology, anorexia nervosa, obesity and related metabolic diseases.

- Check the following link for an overview of the courses offered during this Master programme: https://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=4551

Medical Pharmaceutical Sciences

Bachelor

There is no Bachelor degree program in Medical Pharmaceutical Sciences.

Master

The field of medical pharmaceutical sciences is multidisciplinary, focusing on the causes and pathophysiology of diseases and intervention with drugs. Within the programme, researchers from the life sciences (pharmacists, biologists, chemists) cooperate with medical scientists (both researchers and doctors) in training young medical pharmaceutical scientists. Various research institutes are involved in this degree programme. Students can focus on fundamental or applied research, or a combination of both. In consultation with a study mentor, students design their own study programme tailored to their interests.

The two-year degree programme (120 ECTS) has two profiles: the research profile and the policy & management profile. The research profile focuses entirely on research within the medical pharmaceutical sciences. The programme is tailored to the research interest of students. The may design their programme according to their interest or may specialize by choosing a track (available tracks are toxicology and drug disposition or pharmacoepidemiology).

- Check the following link for an overview of the courses offered during this Master programme: https://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=4550

Biomedical Engineering

Bachelor

There is no Bachelor degree program in Biomedical Engineering.

Master

If you are interested in health care and technology, the Master's programme Biomedical Engineering offers you the opportunity to gain in-depth information on a broad-range of topics. You will study topics in the fields of imaging techniques, physiological control engineering, rehabilitation engineering, implant engineering, cell and tissue engineering and infection prevention, as well as aspects of medical ethics and law. You also become well-versed in medical and biological basic knowledge.

In addition, the University of Groningen offers you state-of-the-art medical facilities and a unique professional cooperation with the University Medical Center Groningen (UMCG).

- Check the following link for an overview of the courses offered during this Master programme: https://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=3219

Behavioural and Cognitive Neurosciences

Bachelor

There is no Bachelor degree program in Behavioural and Cognitive Neurosciences.

Master

The Research Master BCN is is an interdisciplinary programme that offers three specialization tracks:

- **Animal and Human Behaviour** (B-track)
  The Behaviour track is designed for students who are familiar with the basic theoretical foundations of behavioral research. They follow the "four why's" of the evolution, function, causation and development of behavior.
- **Cognitive Neuroscience and Cognitive Modelling** (C-track)
  The Cognition track focuses on cognitive processing from psychological, neurological and modelling perspectives.
- **Molecular and Clinical Neuroscience** (N-track)
  The Neuroscience track is designed for students interested in molecular mechanisms of brain function and of the neuropathology of disease.

- Check the following link for an overview of the courses offered during this Master programme https://www.rug.nl/ocasys/fwn/vak/showpos?opleiding=4566

Research Institutes & Centre's FMNS

The Faculty of FMNS covers a number of research institutes, study specific research groups are mentioned at the chapters specified on field of study. Below, you can find an overview of the research institutes & Centre's.

Research institutes:

- **ALICE**- Artificial Intelligence and Cognitive Engineering: http://www.rug.nl/research/alice/
- **ENTEG-** ENgineering & TEGnology institute Groningen: http://www.rug.nl/research/enteg/
- **ESRIG**- Energy & Sustainable Research Institute Groningen: http://www.rug.nl/research/esrig/
- **GBB**- Groningen Biomolecular Sciences & Biotechnology Institute: http://www.rug.nl/research/gbb/
- **GELIFE**- Groningen Institute for Evolutionary Life Sciences: http://www.rug.nl/research/institute-evolutionary-life-sciences/
- **GRIP**- Groningen Research Institute of Pharmacy: http://www.rug.nl/research/grip/
- **IDO-** Department of Education (research on Science Education) http://www.rug.nl/research/didactiek-onderwijsontwikkeling/
- **JBI-** The Johann Bernoulli institute for Mathematics and Computer Science comprises: http://www.rug.nl/research/jbi/
- **Kapteyn** – Kapteyn Astronomical Institute : http://www.rug.nl/research/kapteyn/
- **Stratingh** – Stratingh Institute for Chemistry: http://www.rug.nl/research/stratingh/
- **Van Swinderen Institute** - Van Swinderen Institute for Particle Physics and Gravity: http://www.rug.nl/research/vsi/
- **The Zernike Institute for advanced Materials:** http://www.rug.nl/research/zernike/

Research Centre's:

- **Research Centre for Synthetic Biology:** http://www.rug.nl/research/centre-for-synthetic-biology/research
- **Centre for Systems Biology:** **http://www.rug.nl/research/centre-for-systems-biology/research**
- **Centre for Systems Chemistry:** http://www.rug.nl/research/centre-systems-chemistry/
- Information Technology for Healthy Aging & E-health lab (ITHAL): http://www.rug.nl/research/information-technology-healthy-aging-e-health/