ASIIN Seal

Accreditation Report

Bachelor's Degree Programmes
Geography and Environmental Sciences
Cartography and Remote Sensing
Regional Developlment

Provided by
Gadjah Mada University

Version: 29.03.2019

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation	Involved Technical Committees (TC)[2]
Geografi dan Ilmu Lingkungan (Geografi Lingkungan)	Geography and Environmental Science (Environmental Geography)	ASIIN	--	TC 11
Pembangunan Wilayah	Regional Development	ASIIN	--	TC 11
Kartografi dan Penginderaan Jauh (KPJ)	Cartography and Remote Sensing (CRSSP)	ASIIN	--	TC 03, 11
Date of the contract: 28.08.2018 **Submission of the final version of the self-assessment report:** 14.11.2018 **Date of the onsite visit:** 14.11.2018 **at: Yogyakarta**				
Peer panel: Prof. Dr. Andreas Dittmann, University of Giessen Prof. Dr. Christoph Eipper, Envi Experts GmbH Prof. Dr. Wolfgang Reinhardt, University of the Bundeswehr, Munich Prof. Dr. Gabi Troeger-Weiss, Technical University of Kaiserslautern Muhammad Rizki Rayani Ramadani (student) Institute of Technology Bandung				
Representative of the ASIIN headquarter: Dr. Michael Meyer				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				

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[1] ASIIN Seal for degree programmes

[2] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Physical Technologies, Materials and Processes; TC 06 - Industrial Engineering; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Nutritional Sciences and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics.

Criteria used: European Standards and Guidelines as of 15.05.2015 ASIIN General Criteria, as of 10.12.2015 Subject-Specific Criteria of Technical Committee 03 – Civil Engineering, Geodesy, Architecture as of 28.09.2012 and of Technical Committee 11 – Geosciences as of 23.09.2011.	

B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Kartografi dan Penginderaan Jauh (KPJ) -Sarjana Sains	Cartography and Remote Sensing (CRSSP) -Bachelor of Science	--	Level 6	Full time	--	8 Semester	144 to 155 SKS 210-230 ECTS	Once a year each August; 2002
Pembangunan Wilayah -Sarjana Sains	Regional Development -Bachelor of Science		Level 6	Full time	--	8 Semester	144 to 160 SKS, 210-230 ECTS	Once a year each August;
Geografi dan Ilmu Lingkungan (Geografi Lingkungan), Sarjana Sains	Geography and Environmental Science (Environmental Geography) -Bachelor of Science		Level 6	Full time	--	8 Semester	144 SKS, 210 ECTS	Once a year each August; 1963

For the Bachelor's degree programme Cartography and Remote Sensing the institution has presented the following profile in the academic handbook:

The learning objectives in the Cartography and Remote Sensing Study Program are:

Able to produce graduates of survey and mapping with geographic knowledge base that have extensive knowledge about the importance and benefits of spatial information (spatial) as a basis for planning the development of the region;

Able to and skilled in performing spatial analysis incorporating ecological and regional analysis in solving development problems and handling of the environment, in particular by means of maps, remote sensing imagery, and geographic information systems (GIS).

The purpose of establishing the Cartography and Remote Sensing Study Program is to educate students and produce superior graduates who meet the following competency criteria;

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[3] EQF = The European Qualifications Framework for lifelong learning

Main Competences

    a.   Understanding of the concept of geography as a foundation in the study of spatial phenomena;

    b.   Understanding of the concept of geographic information science as a science and tools the main way to redefine various spatial problems in geography and handling or how to solve the problem;

    c.   Understanding of the concept and systematics of the preparation, management, and use of base data for regional development;

    d.   Mastering several methods and techniques for obtaining, managing, analysing and modelling spatial data for various geosphere phenomena and their visualization in the form of maps;

    e.   Mastering various methods and techniques for spatial data visualization and information dissemination;

    f.   Able to operate various software and hardware for mapping, image processing and geographic information systems.

Supporting Competences

    a.   Able to work together in teams with a diversity of scientific disciplines;

    b.   Able to handle and integrate various spatial data for regional management;

    c.   Able to manage survey and mapping technicians with qualifications below, both in the field and in the laboratory, to achieve their intended goals.

Other Competences

    a.   Having the ability to innovate in the field of geographic information science;

    b.   Having an entrepreneurial spirit by creating business opportunities in the field of geographic information science;

    c.   Having high social and national sensitivity to participate in developing the nation and state in the field of geographic information.

For the <u>Bachelor's degree programme Regional Development</u> the institution has presented the following profile in the academic handbook:

Knowledge and understanding-based competency (A)

    a.   Recognize the approach and scope of geography studies.

    b.   Identify the fundamental concepts of regional development and its implementation.

Intellectual skill-based competency (B)

    a.   Identify and analyze regional development related problems and formulate decent alternative solutions.

Practical skill-based competency (C)

a. Use and manage regional data for supporting the decision making process by the use of technology.

Managerial skill and attitude-oriented competency (D)

a. Formulate regional development plan in a teamwork (collaboratively) in multi-disciplinary approaches.
b. Present substantive ideas, issues and problems related to regional development towards colleagues, other professionals, government and public.

For the Bachelor's degree programme Geography and Environmental Science (Environmental Geography) the institution has presented the following profile in the academic handbook:

GESP goals in education is to prepare influential alumni or graduates who are:

a. Mastering theory, knowledge, and skills of physical geography, human geography, and environmental science
b. Mastering geospatial related technologies to analyze natural and human resources and address their challenges
c. Having a capacity and creativity to continuously develop knowledge for further study either formally or informally
d. Having a capability to communicate ideas, to initiate appropriate actions, and to lead a team

Competences of the graduates

The learning outcomes of the curriculum of GESP are classified into knowledge and understanding-based competencies, intellectual skill, practical skill, and managerial skill and attitude. The learning outcomes are developed according to Bloom taxonomy (1956) and based on references from various stakeholders including faculty members, students, alumni, labour market, and the Association Indonesian Geographers. The learning outcomes of GESP are as follow:

Knowledge and Understanding

a. A1: to demonstrate knowledge of physical geography, human geography, ecological and environmental sciences to broader interdisciplinary problems
b. A2: to implement knowledge on the principles of the spatial variation of geographical phenomena to broader interdisciplinary problems

    c.   A3: to apply theories of interrelation, interaction, and interdependence between environmental components to broader interdisciplinary problems

Intellectual Skills

    a.   B1: to identify physical and human resources-related issues by applying geographical and environmental methods and techniques
    b.   B2: to analyze physical and human resources-related problems by applying the methods of spatial, ecological, and regional complex analysis

Practical Skills

    a.   C1: to design and conduct research in physical geography, human geography and environmental sciences or related areas using geospatial technologies
    b.   C2: to acquire, analyze, and interpret geographic as well as regional and environmental resources data

Managerial skills and attitudes

    a.   D1: to show awareness of environmental and social problems and behave according to moral and ethical values as well as local content in the community context and in the work place
    b.   D2: to develop lifelong learning skills and improve knowledge formally or informally at the global level
    c.   D3: to work professionally both individually and in a team

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content & implementation

> **Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)**

Evidence:

- Academic Handbook

- Self-Assessment Report

- Discussions with programme coordinators and representatives of the labour market

Preliminary assessment and analysis of the peers:

The study aims and intended learning outcomes of <u>all the programmes</u> defined by the university correspond to learning outcomes relevant to level 6 of the European Qualifications Framework. Learning outcomes are accessible to students, staff members, and all the other stakeholders on the faculty web site. These objectives were discussed in staff meetings with the faculty team. The department consults private companies and governmental institutions in the further development of the programmes by individual contacts. Additionally, alumni and individual professionals are involved in the further development of the programmes as well as the geographic association of Indonesia.

The peers examined the objectives and the learning outcomes of <u>all programmes</u> in the light of the Subject-Specific Criteria (SSC) of the Technical Committee for Geosciences and for Geodesy of ASIIN. They assessed if the objectives reflect the level of academic qualification aimed at and are equivalent to the learning outcome examples described in the respective ASIIN Subject-Specific Criteria as far as it is reasonable for the specified programmes. The peers came to the following assessment:

The peers asserted that <u>Bachelor's degree programme Geography and Environmental Sciences</u> aims for student's basic knowledge and understanding of the natural sciences (Physics, Chemistry and Mathematics). Additionally, students should get knowledge of the essential features, processes, materials, history and the development of the earth and life and of the key aspects and concepts of geology, including some at the forefront of that

discipline as well as knowledge of the common terminology and nomenclature and the use of bibliography in Geosciences.

In the bachelor`s degree programme Cartography and Remote Sensing the peers asserted that students shall have knowledge and understanding in the fields of mathematics and physics and thorough knowledge of subject-specific fundamentals of surveying and geo-informatics like photogrammetry and remote sensing, adjustment, cartography, computer science, geographic information systems (GIS) and spatial data infrastructure. Students should have applied their skills in the fields of land management, land surveying, cadastre, information systems for geodata or by updating topographic maps and plans. Students should also know technical handbooks, periodicals and information systems for purposes of availability and verification of current measurement and evaluation procedures.

For the bachelor`s degree programme Regional Development the peers assessed that the specific areas of competences as set forth by the Subject-Specific Criteria of the Technical Committees Geosciences are met as far as it is meaningful for a programme in Regional Development as defined by the university.

Regarding analysis, design and implementation the peers saw in all programmes that the students should get an understanding of the complexity of field specific problems. They should get basic ability in the formalisation and specification of problems and the description of solutions. The students should be able to integrate field and laboratory evidence and to appreciate issues concerning sample selection, accuracy, precision and uncertainty during collection. They should get adequate technological, methodological and transferable skills and additional professional skills to be aware of economic, ecologic, social and legal aspects expected in professional practice.

In summary, the auditors came to the conclusion that the objectives and intended learning outcomes of all three Bachelor degree programmes under review are reasonable and well founded. Based on the Self-Assessment Report and the discussions during the on-site-visit, the peers observe that the graduates of all three Bachelor degree programmes acquire the necessary subject-related competences. They are convinced that the intended qualification profiles of all three Bachelor degree programmes allow the students to take up an occupation, which corresponds to their qualification.

Statistical data about the employment of the graduates confirm the conclusion. Nearly all graduates found jobs immediately after finishing their studies (national government 22%, local government 11%, private sectors (services) 40%, private sectors (manufactures) 9%, Entrepreneurship 6%, others 9%)

Criterion 1.2 Name of the degree programme

Evidence:

- Websites of the degree programmes

- Self-Assessment Report

Preliminary assessment and analysis of the peers:

The titles of <u>all programmes</u> are published on the subject specific webpages. The information about the programmes are published in Indonesian and English language. The panel confirmed that the names of all programmes reflect the intended aims and learning outcomes.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report

- Study plans of the degree programmes

- Academic Handbooks

- Module descriptions

- Discussions with programme coordinators, teaching staff, students, representatives of the labour market

Preliminary assessment and analysis of the peers:

The peers based their assessment as to whether the curricula of the programmes are designed in a way to achieve the intended learning outcomes according to the module descriptions and the Objectives-Module-Matrix.

All <u>three Bachelor degree programmes</u> under review are designed for eight semesters; each semester consists of fourteen weeks of lectures and two weeks of exams. In all programmes, students must complete a Community Service during the seventh and eights´ semester. In the absence of a module description, it is explained that Community Service is compulsory for all Indonesian students. It has a minimum length of six weeks and takes place in villages or rural areas where students stay and live together with the local people. The course is designed "to allow students to apply their knowledge ... in order to empower society." Since the Community Service usually takes place in remote areas, the students cannot attend any classes during this time. The students work in interdisciplinary teams during the Community Service in order to advance the causes of society and to support further development, a noble purpose in the experts view.

Additionally, all students have to get through a religious module. The peers welcomed that there are religious modules for all Indonesian religions. Students are free to choose one of those modules even if they follow another religion. The panel marked that the descriptions of the religious modules are missing yet in English language. Students confirm that those descriptions are reachable for them in national language. Nevertheless, the peers asked for all module descriptions in English language, especially with regard to foreign students.

The peers were wondering whether students have sufficient knowledge of fundamentals in mathematics. The peers understood that in all programmes besides of the two hours per week/semester are complemented by additional mathematical aspects taught applied oriented in the single modules. Nevertheless, the auditors found it reasonable to increase the students' knowledge about mathematical and statistical basics in order to get a better understanding of the mathematical applications.

Regarding personal skills of the students like communication and presentation abilities, the peers found offers in different modules. Nevertheless, they learned from the discussion with the representatives of the labour market that communication is the most important ability besides the field specific competences. Therefore the peers followed the wish of the representatives of industry and recommend to strengthen these competences of the students.

Regarding the Bachelor programme Cartography and remote sensing the peers found a lack of information in the module description regarding the content and the aims of the modules. Therefore, they learned out of the discussion with the teaching staff that the programme starts with analogue cartography for the basics in the first two semesters and then switch completely too digital cartography. The courses about databases and data infrastructure includes the relevant topics, for example web services like mapping services. In the module Spatial data mining students train programming in different languages and modern methods like vector support machines and other classification methods are also taught. From the point of view of the peers the curriculum of the programme is up to date and oriented to the actual subject specific international requirements. But they mentioned that the module descriptions do not give these information and that they have to be rewrite.

The curriculum of the Bachelor programme geography and environmental science implement the defined study objectives very well from the point of view of the peers. They welcomed especially the intensive fieldwork and practical experiences of the students. The representatives of the labour market, who only saw in ocean observation one aspect, which could be add to the programme, confirmed this impression.

Regarding the Bachelor programme Regional Development, the peers discussed several aspects with the programme coordinators and the teaching staff. The peers wondered that several actual aspects influencing regional development are taught in a more traditional way. For example, sustainable development and climate change in the programme as well as individual mobility and population development are treated but the peers could not find any instruments to use digital data about these fields. In addition, methods for data collecting or actual methods for developing rural areas are not implemented in the curriculum. And the peers could follow the marks of the representatives of the labour market that the project management abilities of the graduates are satisfying but still could be improved.

Therefore, the peers recommended to offer students more opportunities to get additional knowledge about aspects of sustainable development, climate change, individual mobility and population development by using digital tools. They also recommended that students should get more intensified knowledge about regional development methods and instruments.

In general the peers confirmed that the overall objectives and intended learning outcomes for the degree programmes are systematically substantiated in the modules and that the curricula enable students to achieve the intended learning outcomes in order to obtain the degree.

Criterion 1.4 Admission requirements

Evidence:

- Self-Assessment Report

- Academic Guidance Book

- Decree of Minister of Education No. 126, 2016

Preliminary assessment and analysis of the peers:
According to the Self-Assessment Report, the admission procedures and policies for new students follow the National Regulation No.126. The requirements, schedule, registration venue, and selection test are announced on UGM's webpage and are thus accessible for all stakeholders.

There are three different venues by which students can get admitted to UGM. First of all, there is the national admission system which is based on academic performance at high school. 40 % of the students at UGM are admitted through this selection system. Secondly, a national selection test is held every year for university candidates. It is a nationwide written test and it accounts for 30 % of the admitted students at UGM. Finally, 30 % of the students are selected based on a written test, specifically designed by UGM.

In the last years, the number of applicants has steadily increased for all three programmes under review. It exceeds the number of available places by far. Therefore, faculty implemented a ranking system based on the GPA, grades in specific subjects and the region of Indonesia applicants come from.

The peers inquire of the programme coordinators why there are so many students applying for studying at UGM. They learn these are very popular degree programmes because the job perspectives are very good. In addition, UGM is one of the most prestigious universities in the country. Therefore, UGM is able to accept only the very best candidates.

From their discussion with the students the peers gain the impression that the admission system is effective and mostly very motivated and high-performing candidates get admitted and, the dropout rate is very low. The peers consider the dedicated students to be one of the strong points of all three Bachelor degree programmes.

In summary, the auditors find the terms of admission to be binding and transparent. They confirm that the admission requirements support the students in achieving the intended learning outcomes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

The peers appreciated the announcement of the faculty to follow the remarks of the peers strengthening mathematical and statistical competences of the students as well as their communication and presentation skills in all programmes. They also appreciated that the faculty will implement regionals development methods and instruments in the curriculum of the Planning Programme. They also appreciated that the university want to intensify the use of digital tools regarding aspects of sustainable development, climate change, individual mobility and population development. As these announcements are not realised yet the peers still suggested corresponding recommendations.

In general, the peers assessed the criterion as completely fulfilled.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:
- Self-Assessment Report

- Study plans of the degree programmes

- Academic handbooks

- Module descriptions

- Webpages of the three programs

- Discussions with programme coordinators, teaching staff and students

Preliminary assessment and analysis of the peers:

The <u>Bachelor degree programmes</u> under review are designed for 8 semesters with a minimum of 144 Indonesian credit points, including mandatory and elective courses.

The peers acknowledged that the degree programme under review is divided into modules and their structure is clearly outlined on the subject specific website. Each module is a summation of teaching and learning. With its choice of modules, the structure ensures that the learning outcomes can be reached.

The peers learned that in the <u>Bachelor`s degree programmes Cartography</u> and <u>Regional Development</u> the faculty resigned implementing specialisations to give students more freedom regarding elective course. To ensure a reasonable selection of the students the chosen elective courses must be confirmed by the academic advisor.

What the peers mentioned as an area of concern, is the lack of academic mobility provided by the faculty. This is certainly true against the background that an overwhelming majority of students present during the interviews were looking forward to such an international study experience. The ways to give students more support to study abroad are manifold: inviting more visiting lecturers, initiating more international exchange programmes, offering more places for summer courses as well as provide more and better endowed scholarships for outgoing students.

Criterion 2.2 Work load and credits

Evidence:
- Self-Assessment Report

- Study plans of the degree programmes

- Module descriptions

- Academic Guidance Book

- Decree of Minister of Education No. 49, 2014

- Discussions with programme coordinators, teaching staff and students

Preliminary assessment and analysis of the peers:

The university has in use the national Indonesian credit point system based on student workload. One national credit point is awarded for:

- Lecture activity of 50 minutes per week per semester;

- Learning activities by structured assignments of 50 minutes per week per semester;

- Seminar work or equivalent learning activities of 100 minutes per week per semester

- Self-study activities of 60 minutes per week per semester.

- Practical Learning activities, thesis, community service of 160 minutes per week per semester

The standard workload for students is eight hours per day or 48 hours per week, the semester takes 14 weeks. In total, students are required to complete the workload of 6912 hours for 8 semesters, or 1728 hours a year. The workload sums up to 144 Indonesian credits, usually divided into 18 credits per semester.

This workload is equivalent to 60 ECTS credits per year, assuming one ECTS credit equal to 28.8 hours.

Out of the evaluation of the workload, the defined credit points correspond with the real workload done by the students. Therefore, the peers were astonished that only half of the students finish the programmes in time. They learned that reasons for this are manifold. The main reason for the extension of study time is the regulation in case of missed exams not to allow students to do the complete workload of the following semester. As most of the students could not make up for the lost time one failed exam could extend the duration of study. From the point of view of the peers, it could reduce the study time, if students would have the responsibility to decide whether they try to do all modules in the following semester. Other factors for the extension of the duration of study like weather conditions, which delay fieldwork or private reasons, are not manageable by the university.

Regarding the transparency of the workload, the peers noticed that in most of the module descriptions the defined credit points do not match the foreseen workload. Either the workload does not include time for self-studies or the defined total workload do not correspond with the detailed listed hours. Therefore, the panel found it necessary to rewrite the module descriptions to include transparent information about the complete workload of the single module.

Criterion 2.3 Teaching methodology

Evidence:

- Self-Assessment Report

- Study plans of the degree programmes

- Module descriptions

Preliminary assessment and analysis of the peers:

The Bachelor degree programmes under review make use of several different educational methods for each course such as: practical laboratory work with presentations, lectures, community service, internship, and undergraduate thesis.

During the classes active and interactive teaching methods (e.g. lectures, discussions, reports, presentations, and group work) are applied. UGM wants to encourage the students to gain knowledge from different scientific areas and wants to introduce them to research activities. This should ultimately contribute to the transition from a teacher centered to a student centered learning approach.

To help the students to achieve the intended learning outcome and to facilitate adequate learning and teaching methods, UGM has developed e-Lisa (eLearning System for Academic Community). A learning management system is designed as a digital platform where students and teachers can interact.

The panel learned that the faculty decided for a very close guidance of the students during their studies and not for a more open didactical concept with more responsibility of the students for their self-studies due to the experiences with former students.

In all three programmes there up to 10 minor and three longer excursions ore fieldwork done by students in order to get practical experiences regarding geological formations or mapping. The Bachelor`s degree programme Regional Planning includes a field practicum done in rural areas in order to train analysing skills für development projects.

In summary, the panel judges the teaching methods and instruments to be suitable to support the students in achieving the intended learning outcomes.

Criterion 2.4 Support and assistance

Evidence:

- Self-Assessment Report

- Academic Guidance Book

Preliminary assessment and analysis of the peers:

UGM has implemented a comprehensive advisory system for all undergraduate students. At the start of the first semester every freshman is assigned academic advisors who will

advise students throughout their academic career on academic or personal matters. Each academic advisor is a member of the academic staff and responsible for up to 20 students which on the one hand consumes considerable time resources but on the other hand contributes to an excellent working atmosphere on campus.

The role of the academic advisors is to help the students with the process of orientation during the first semesters, the introduction to academic life and the university's community, and to respond promptly to any questions. They also offer general academic advice, make suggestions regarding relevant careers and skills development and help if there are problems with other teachers. The students confirm during the discussion with the peers that they all have an academic advisor, that they meet regularly, and that they can always contact their advisor personally and ask for help or advice.

In addition, each student is assigned to an undergraduate thesis supervisor; he supervises four to eight students every semester and helps them to find a suitable topic for the Bachelor's thesis, to prepare the research proposal, and ensures successful completion of the thesis. The students confirm that they are supervised in the working/research group during their work on the Bachelor's thesis. There are regular lab meetings where they present their results and receive feedback from the other lab members.

All students at UGM have access to the digital academic portal (PALAWA) which is integrated with the Registration Information System, the Academic Information System, the Library Information System, and the Scholarship Information System. The students' profiles (student history, study plan, academic transcript and grade point average/GPA, lecturer evaluation, course list) are available via PALAWA.

There is also medical, social, and psychological support for students at UGM (Gadjah Mada Medical Center/GMC and UGM Hospital).

Finally, there are several student organizations at UGM; they include Student's Activity Clubs which are divided into arts, sports, religious and other non-curricular activities.

The peers noticed the good and trustful relationship between students and teaching staff; there are enough resources available to provide individual assistance, advice and support for all students. The support system helps the students to achieve the intended learning outcomes and to complete their studies successfully. The students are well informed about the services available to them.

The peers judged the extensive advisory system to be one of the strong points of UGM.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

Regarding the mobility of students the peers noticed the comment of the university that the number of outgoing students increased constantly since 2013. The number of international universities students of the faculty were studying abroad impressed the peers. Nevertheless, the named number of 48 outgoing students of the complete faculty in the last year is not as big as it could not be increased further on. Therefore, the peers confirmed a recommendation to give students a better support to study abroad.

In general the peers assessed the criterion as completely fulfilled.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Self-Assessment Report
- Module descriptions
- Academic Guidance Book
- Academic Calendar

Preliminary assessment and analysis of the peers:

According to the Self-Assessment Report, the students' academic performance is evaluated by a multitude of different types of exams, such as individual and group assignment, quizzes, pre- and post-test, laboratory work as well as midterm and final exams. Lecturers have the right to hold additional midterm exams if they wish. The form and length of each exam is mentioned in the course/module descriptions that are available to the students via UGM's homepage and the digital platform e-Lisa. The exams are designed to measure the different targeted learning outcomes of a specific course or module. The peers concluded that there is a good mix of written and oral examination during the course of the studies.

The students are informed about mid-term and final exams via the Academic Calendar. The final grade is the result of the different activities in the course (e.g. laboratory work, mid-term exam, the final exam, quizzes or other given assignments).

If a student fails a final exam, she/he has to repeat the entire course. The details are described in the Academic Guidance Book. In case of a failed exam the supervisor can decide

that the student is not allowed to do all modules or the complete workload of the following semester, in order to be able to concentrate more intensively on the failed subject.

A considerable number of students are retaking exams in order to improve their Grade Point Average. The peers learned that the GPA score usually needs to be bigger than 3 upon graduation. The reducing of workload by the supervisor and the retaking of exams are the main reasons, which leads to a prolongation of the average study time.

In the discussion with the peers, the students had no complaints concerning the organization of the exam system. They appreciate that there are a several short exams instead of one big exam and confirm that they are well informed about the examination schedule, the examination form and the rules for grading. The schedule avoid overlapping exams.

The peers confirmed that there is a form of assessment for each course and that all students are well informed about the form of assessment and the details of what is required to pass the module. The rules for re-sits, disability compensation, illness and other circumstances are written down in the Academic Guidance Book and therefore transparent to all stakeholders. An appeal system is also in place.

As stipulated in the Academic Guidance Book, every student is required to do a final thesis, credited with 6 (2 + 4) credit points. Prior to the actual research work, the student will need to sign up for the thesis course to prepare a research proposal/literature review (2 credits) which is submitted to the Thesis Advisory Committee. This committee will verify the students' administrative fulfilment for thesis requirements, then assign the student to an appropriate thesis advisor. This committee also acts as mediator between student and thesis advisors if there is a dispute. The thesis is usually done parallel to the Community Service in the seventh and eighth semester.

After completing the Bachelor thesis, the student has to defend the thesis in front of the Thesis Defence Committee; it will determine whether or not the thesis qualifies for graduation.

The peers also inspect a sample of examination papers and final theses and are overall satisfied with the general quality of the samples. They confirm a satisfactory standard of the Bachelor's thesis, presented for inspection.

The peers came to the conclusion that the criteria regarding the examination system, concept, and organization are fulfilled in general and that the examinations are suitable to verify whether the intended learning outcomes are achieved or not.

The only critical point mentioned by the students in the discussion with the peers was the feedback about the results of the exams. Students only get the grades of the exams. But,

they wished that there should be a more detailed feedback given by the lecturer especially with regard to mistakes. The peers could follow this wish of the students and suggested a corresponding recommendation.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

The panel appreciated the announcement of the university to find processes to give students a more detailed feedback about their examination results. As the announcement is not realised yet, the peers suggested a corresponding recommendation.

In general, the peers assessed the criterion as completely fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

- Self Assessment Report
- Staff handbook
- Discussions with programme coordinators and teaching staff

Preliminary assessment and analysis of the peers:

There were 11 full professors, 22 associated professors and 21 lecturers involved in the programmes und review with 70% of them having a Doctor Degree from Indonesian universities and 30% from universities abroad (i.e. Germany, France, Netherlands, Japan, Australia, US). Those lecturers are supported by associated lectors and tutors as well as by administrative and technical staff of the faculty. The government regulates the number of students as well as the number of lecturers in a study programme. At least there must be 6 lecturers teaching in one programme and there are not more than 30 students per lecturer allowed.

The scientific orientation and qualification of the teaching staff are suitable for sustaining the specific fields of the three programmes under review. Only the field of GIS is less represented in the teaching staff. Therefore, the peers welcomed the plan of the faculty to increase the teaching staff in this field.

The peers reviewed various research activities carried out in the last years. Either the government or private companies finance most of the national projects. The panel welcomed

that students were partly involved in these research projects. Additionally, the faculty is involved in international projects with foreign universities as well.

Summarising, the peers noticed that the composition, scientific orientation and qualification of the teaching staff are suitable for sustaining the degree programme and that the quantity of the staff ensured a good professor student ratio with regard to the supervision of the students during their studies and final theses.

Criterion 4.2 Staff development

Evidence:
- Self-Assessment Report
- Discussions with programme coordinators and teaching staff

Preliminary assessment and analysis of the peers:
UGM and the faculty also focuses on improving the teaching and learning process by providing courses and workshops on student centred learning, e-learning technologies, modern form of student assessment as well as a workshop on curriculum improvement. An incentive system provides grants for publications of research articles, textbooks or lecture notes, encourages membership in professional organizations, supports staff to participate in scientific meetings and conferences, encourages staff to apply for research grants, organizing colloquia and international conferences on a regular basis etc. Also support is provided for staff to be involved in community services. There are financial resources available for staff members to engage in these activities.

In summary, the peers confirm that the university offers sufficient support mechanisms and opportunities for members of the teaching staff who wish to further develop their professional and teaching skills.

Criterion 4.3 Funds and equipment

Evidence:
- Self-Assessment Report
- Discussions with programme coordinators and teaching staff
- On-site visit of the laboratories, lecture rooms, and the library

Preliminary assessment and analysis of the peers:
The government pays 30 % of the financial sources for UGM. The rest is originated by student fees, cooperation with industry, research activities and sponsors. For the faculty a finance plan is defined for the next 5 years and each year a fund planning meeting is hold.

The peers were convinced that the financial sources were sufficient and secured for the timeframe of the accreditation.

The peers inspected classrooms, the library and laboratories in order to assess the quality of the infrastructure and the technical equipment. They found the laboratories well equipped and a good infrastructure regarding classrooms. Only for the self-studies of students especially for group-work there could be more rooms available.

The peers were impressed about the quality of the library staff. On the other side, the library offers only comparing small access to international literature. Several fundamental journals for all three programmes under review are not available at the library. The peers recommended to buy more licences for the access to international journals.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

The peers appreciated the construction of a new building with up to 11 rooms for student activities. With the planned completion of the building in the next year, there will be sufficient rooms for student self-studies.

Regarding the access to international literature the peers noticed the list submitted by the University. They marked that still several journals obviously are not accessible to the teaching staff and students. Therefore, they suggested a recommendation to increase the access to international literature.

In general, the peers assessed the criterion as completely fulfilled.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:
- Self-Assessment Report
- Module descriptions
- UGM's webpage: www.ugm.ac.id

Preliminary assessment and analysis of the peers:
The module descriptions of all three study programs are available as appendices to the Self-Assessment Report. The students and all other stakeholders have access to the module descriptions via UGM's homepage.

After studying the module descriptions the peers confirmed that these include information about the persons responsible for each module, the teaching methods and work load, the awarded credit points, the intended learning outcomes, the content, the applicability, the admission and examination requirements, and the forms of assessment. As mentioned before, in the most descriptions the workload is defined in an in transparent or wrong way. Additionally the peers noticed remarkable differences in the descriptions of the objectives of the modules in the three programmes. While the descriptions of the aims and contents are very detailed and informative for the modules of the <u>Bachelor`s degree programme Geography</u> they are more generic for the other <u>two programmes</u>. From the view of the peers, these descriptions give only rudimentary information to students about content and aims. Therefore, the panel found it necessary to rewrite the descriptions for the <u>Cartography programme</u> und the <u>Bachelor Regional development</u>.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Report

- Sample Transcript of Records for each degree programme

- Sample Diploma certificate for each degree programme

- Sample Diploma for each degree programme

Preliminary assessment and analysis of the peers:
The peers confirm that the students of both degree programmes are awarded a Diploma and a Diploma Supplement after graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Diploma Supplement contains all necessary information about the degree programme including acquired soft skills and awards (extracurricular, co-curricular, and intra-curricular activities). The Transcript of Records lists all the courses that the graduate has completed, the achieved credits, grades, cumulative GPA, and mentions the seminar and thesis title.

The auditors point out that a Diploma Supplement should also include statistical data about the distribution of final grade according to the ECTS-Users' guide. This allows the reader to categorise the individual result. For this reason, the peers ask UGM to include this additional information in the Diploma Supplement.

Criterion 5.3 Relevant rules

Evidence:
- Self-Assessment Report

- All relevant regulations as published on the university's webpage: www.ugm.ac.id

Preliminary assessment and analysis of the peers:

The auditors confirmed that the rights and duties of both UGM and the students are clearly defined and binding. All rules and regulations are published on the university's website and hence available to all relevant stakeholders. In addition, the students receive all relevant course material in the language of the degree programme at the beginning of each semester.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

With the comment, the university submitted a new example of a diploma supplement, which include statistical data about the distribution of final grades. The peers assessed the criterion as completely fulfilled.

Additionally, the faculty send new module descriptions for all programmes, which now include all asked information about the single modules. The peers assessed the descriptions as an adequate information base for the students.

The peers assessed the criterion as completely fulfilled.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report

- Quality procedure, Analysis of students performance and evaluation of lecturing implementation, May 27th 2014
- Discussions with programme coordinators, teaching staff and students

Preliminary assessment and analysis of the peers:

The peers note that quality management at UQU is understood as a continuous process for improving the quality of the degree programmes achieved through internal and external evaluation.

Internal evaluation of the quality of the degree programmes is mainly provided through student and alumni surveys. The students give their feedback on the courses by filling out the questionnaire online. Giving feedback on the classes is compulsory for the students;

otherwise they cannot access their account on the digital platform PALAWA. There are 12 categories in the questionnaire (e.g. schedule, course materials, work load, motivation). The course evaluations are held during the final exam week. A compilation of the students' feedback is sent to the respective lecturers. Every module is evaluated each semester.

If there is negative feedback, the Dean talks to the respective teacher, analyses the problem, and offers guidance. Furthermore, there is a complain box for the students that can be used for suggestions or criticism. The auditors gain the impression that the faculties takes the students' feedback seriously and changes are made if there is negative feedback.

The students doing the evaluation do not get any feedback of the results. As the evaluation is done during the final exam week there is no time to give any oral feedback to the students. But the evaluation results are presented by the lecturers at the beginning of the new semester. Therefore, students indeed do not get any feedback on their own evaluation but they can compare their study reality in the single course with the evaluation results of the last semester. From the point of view of the peers, this kind of feedback could be even more reasonable as students are able to assess those measures implemented to improve critical points out of the evaluation.

In summary, the peer group confirmed that the quality management system is suitable to identify weaknesses and to improve the degree programmes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

The peers appreciated that the faculty implemented additional processes to inform students about the evaluation results. The faculty make the results available in the intranet and additional implemented discussion rounds about the results in a forum "sharing with the dean".

The peers assessed the criterion as completely fulfilled.

D Additional Documents

No additional documents needed

E Comment of the Higher Education Institution

The university submitted a detailed comment on the report. Additionally, the university send new examples of diploma Supplements and module descriptions.

F Summary: Peer recommendations

The peers recommend the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Geography and Environmental Sciences	With requirements for one year	--	30.09.2024
Ba Cartography and Remote Sensing	With requirements for one year	--	30.09.2024
Ba Regional Development	With requirements for one year	--	30.09.2024

Recommendations

E 1. (ASIIN 1.3) It is recommended to strengthen the mathematical/statistical competences of the students.

E 2. (ASIIN 1.3) It is recommended to strengthen the communication and presentation skills of the students.

E 3.   (ASIIN 2.1) It is recommended to give students a better support to study abroad.

E 4.   (ASIIN 3) It is recommended to inform students in a more detailed way about their specific results of the exams.

E 5.   (ASIIN 4.3) It is recommended to offer more rooms for student self-studies.

E 6.   (ASIIN 4.3) It is recommended to increase the access to international literature for students and teaching staff.

For regional Development

E 7. (ASIIN 1.3) It is recommended that students could get more intensified knowledge about regional development methods and instruments.

E 8.　(ASIIN 1.3) It is recommended to offer students more opportunities to get additional knowledge about aspects of sustainable development, climate change, individual mobility and population development by using digital tools.

G Comment of the Technical Committee 11- Geoscience

The Technical Committee discussed the procedure and followed the assessment of the peers without any changes.

The Technical Committee recommend the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Geography and Environmental Sciences	With requirements for one year	--	30.09.2024
Ba Cartography and Remote Sensing	With requirements for one year	--	30.09.2024
Ba Regional Development	With requirements for one year	--	30.09.2024

H Decision of the Accreditation Commission

The Accreditation Commission for Degree Programmes discussed the procedure and followed the assessment of the peers and the Technical Committee without any changes.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Geography and Environmental Sciences	Without requirements	--	30.09.2024

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditaiton
Ba Cartography and Remote Sensing	Without requirements	--	30.09.2024
Ba Regional Development	Without requirements	--	30.09.2024

Recommendations

E 1. (ASIIN 1.3) It is recommended to strengthen the mathematical/statistical competences of the students.

E 2. (ASIIN 1.3) It is recommended to strengthen the communication and presentation skills of the students.

E 3. (ASIIN 2.1) It is recommended to give students a better support to study abroad.

E 4. (ASIIN 3) It is recommended to inform students in a more detailed way about their specific results of the exams.

E 5. (ASIIN 4.3) It is recommended to offer more rooms for student self-studies.

E 6. (ASIIN 4.3) It is recommended to increase the access to international literature for students and teaching staff.

For regional Development

E 7. (ASIIN 1.3) It is recommended that students could get more intensified knowledge about regional development methods and instruments.

E 8. (ASIIN 1.3) It is recommended to offer students more opportunities to get additional knowledge about aspects of sustainable development, climate change, individual mobility and population development by using digital tools.

Appendix: Programme Learning Outcomes and Curricula

For the <u>Bachelor`s degree programme Cartography and Remote sensing</u> the following **curriculum** is presented:

Appendix 2.6 List of courses offered each semester for curriculum 2017.

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
1	MPB	GKP 1001	Geographic Information Science Profession and Industry	1	1.49	C	**L**: pass, **A**: taken, **S**: taking the course
2	MKK	GKP 1101	Cartography	2	2.98	C	
3	MKB	GKP 0101	Cartography (practicum)	1	1.49	C	
4	MPK	GEO 2002	Civic Education	2	2.98	C	
5	MKK	GEO 1003	Introduction to Geography	2	2.98	C	
6	MKK	GKP 1201	Physics of Waves and Optics	2	2.98	C	
7	MPK	GEO 1005	Pancasila Education	2	2.98	C	
8	MKK	GEL 1101	Geology	2	2.98	C	
9	MKK	GEL 1301	Human Geography	3	4.47	C	
10	MKK	GEO 1010	Biogeography	2	2.98	C	
11	MKK	GEL 1201	Meteorology and Climatology	2	2.98	C	
			TOTAL COMPULSORY COURSES	**21**	**31.29**	**TOTAL:**	**21 SKS or 31.29 ECTS**
No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
1	MKK	GKP 1202	Remote Sensing	2	2.98	C	
2	MKB	GKP 0202	Remote Sensing (practicum)	1	1.49	C	GKP 1202 (A/S)
3	MKK	GEL 1102	Geomorphology	2	2.98	C	GEL 1101 (A)
4	MKB	GEL 0102	Geomorphology (practicum)	1	1.49	C	GEL 1102 (A/S)
5	MKK	GPW 1103	Regional Science	2	2.98	C	

(Left margin: 1ST SEMESTER)

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
6	MKK	GEO 1007	Mathematics	2	2.98	C	
7	MKK	GEO 1008	Statistics	2	2.98	C	
8	MKK	GEL 1202	Hydrology	2	2.98	C	
9	MKB	GEO 1003	Field Work 1: Introduction to Landscape	2	2.98	C	
			TOTAL COMPULSORY COURSES	**16**	**23.84**		
10	MKK	GKP 1102	Map Projection	2	2.98	E	GKP 1101 (A)
11	MKB	GKP 0102	Map Projection (practicum)	1	1.49	E	GKP 1102 (A/S), GKP 1101 (A)
12	MKK	GEL 1401	Ecology and Environmental Science	2	2.98	E	
13	MKK	GEL 2108	Oceanography	2	2.98	E	GEL 1102 (A/S)
			TOTAL ELECTIVE COURSES	**7**	**10.43**	**TOTAL:**	**23 SKS or 34.27 ECTS**

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
1	MKK	GKP 2103	Land Surveying	2	2.98	C	GKP 1101 (L)
2	MKB	GKP 0103	Land Surveying (practicum)	1	1.49	C	GKP 2103 (A/S), GKP 1101 (L)
3	MKK	GKP 2203	Photogrammetry	2	2.98	C	GKP 1202 (A)
4	MKB	GKP 0203	Photogrammetry (practicum)	1	1.49	C	GKP 2203 (A/S), GKP 1202 (A)
5	MKK	GKP 2204	Photographic Remote Sensing System	2	2.98	C	GKP 1202 (A)
6	MKB	GKP 0204	Photographic Remote Sensing System (practicum)	1	1.49	C	GKP 2204 (A/S), GKP 1202 (A)
7	MKK	GKP 2301	Geographic Information System	2	2.98	C	
8	MKB	GKP 0301	Geographic Information System (practicum)	1	1.49	C	GKP 2301 (A/S)
9	MPK	GEO 2001	Religion Study	2	2.98	C	
10	MKK	GEL 2104	Soil Science	2	2.98	C	GEL 1102 (A)
11	MKB	GEL 0104	Soil Science (practicum)	1	1.49	C	GEL 1102 (A), GEL 2104 (A/S)
12	MKK	GPW 2101	Regional Geography of Indonesia	2	2.98	C	
13	MKB	GPW 0101	Regional Geography of Indonesia (practicum)	1	1.49	C	GPW 2101 (A/S)
			TOTAL COMPULSORY COURSES	**20**	**29.8**		
12	MKK	GKP 2104	Topographic Mapping and Toponimic Survey	2	2.98	E	GKP 1101 (A)

(Left margin label: 3RD SE-)

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
13	MKB	GKP 0104	Topographic Mapping and Toponimic Survey (practicum)	1	1.49	E	GKP 2104 (A/S), GKP 1101 (A)
14	MKK	GPW 1201	Spatial Theories	2	2.98	E	
			TOTAL ELECTIVE COURSES	**5**	**7.45**	**TOTAL:**	**25 SKS or 37.25 ECTS**

4TH SEMESTER

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
1	MPB	GKP 2001	Fieldwork 2: Geospatial Data Acquisition for Building Regional Database	3	4.47	C	GEO 1003 (L)
2	MKK	GKP 2105	Thematic Cartographic	3	4.47	C	GKP 1101 (L)
3	MKB	GKP 0105	Thematic Cartographic (practicum)	1	1.49	C	GKP 2105 (A/S), GKP 1101 (L)
4	MKK	GKP 2205	Passive Non-Photographic Remote Sensing System	2	2.98	C	GKP 1202 (A)
5	MKB	GKP 0205	Passive Non-Photographic Remote Sensing System (practicum)	1	1.49	C	GKP 2205 (A/S), GKP 1202 (A)
6	MKK	GKP 2206	Remote Sensing Digital Image Processing	2	2.98	C	GKP 1202 (L)
7	MKB	GKP 0206	Remote Sensing Digital Image Processing (practicum)	1	1.49	C	GKP 2206 (A/S), GKP 1202 (L)
8	MKK	GKP 2302	Spatial Database and Data Infrastructure	2	2.98	C	GKP 2301 (A)
9	MKB	GKP 0302	Spatial Database and Data Infrastructure (practicum)	1	1.49	C	GKP 2302 (A/S), GKP 2301 (A)
10	MKK	GKP 2303	Algorithm and Programming	2	2.98	C	
11	MKB	GKP 0303	Algorithm and Programming (practicum)	1	1.49	C	GKP 2303 (A/S)

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
			TOTAL COMPULSORY COURSES	**19**	**28.31**		
12	MKK	GKP 2207	Active Remote Sensing System	2	2.98	E	GKP 1202 (A)
13	MKB	GKP 0207	Active Remote Sensing System (practicum)	1	1.49	E	GKP 2207 (A/S), GKP 1202 (A)
14	MKK	GEL 2208	Tropical Climate	2	2.98	E	GEL 1201 (A)
15	MKK	GEL 2106	Geomorphological Survey and Mapping	2	2.98	E	GEL 1102 (A), GKP 1101 (A)
16	MKB	GEL 0106	Geomorphological Survey and Mapping (practicum)	1	1.49	E	GEL 2105 (A/S), GEL 1102 (A), GKP 1101 (A)
			TOTAL ELECTIVE COURSES	**8**	**11.92**	**TOTAL:**	**27 SKS or 40.23 ECTS**

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
1	MKB	GKP 3001	Applied Statistics for Geospatial Data	2	2.98	C	GKP 1202 (A), GKP 2301 (A), GEO 1008 (A)
2	MKB	GKP 0001	Applied Statistics for Geospatial Data (practicum)	1	1.49	C	GKP 3001 (A/S), GKP 1202 (A), GKP 2301 (A), GEO 1008 (A)
3	MKK	GEO 3002	Indonesian Language	2	2.98	C	

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
			TOTAL COMPULSORY COURSES	**5**	**7.45**		
4	MKK	GKP 3106	Digital Cartography	2	2.98	E	GKP 1101 (L), GKP 1102 (L), GKP 2105 (A)
5	MKB	GKP 0106	Digital Cartography (practicum)	1	1.49	E	GKP 3106 (A/S), GKP 1101 (L), GKP 1102 (L), GKP 2105 (A)
6	MKB	GKP 3208	Remote Sensing of Landscape Ecology	2	2.98	E	GKP 2206 (L), GEO 1010 (A)
7	MKB	GKP 0208	Remote Sensing of Landscape Ecology (practicum)	1	1.49	E	GKP 3208 (A/S), GKP 2206 (L), GEO 1010 (A)
8	MKB	GKP 3209	Remote Sensing of Lithosphere	2	2.98	E	GKP 2206 (L), GEL 1101 (A), GEL 1102 (A)
9	MKB	GKP 0209	Remote Sensing of Lithosphere (practicum)	1	1.49	E	GKP 3209 (A/S), GKP 2206 (L), GEL 1101 (A), GEL 1102 (A)
10	MKB	GKP 3304	Spatial Analysis and Modelling	2	2.98	E	GKP 2302 (L)
11	MKB	GKP 0304	Spatial Analysis and Modelling (practicum)	1	1.49	E	GKP 3304 (A/S), GKP 2302 (L)
12	MKB	GKP 3305	Spatial Programming	2	2.98	E	GKP 2303 (A)
13	MKB	GKP 0305	Spatial Programming (practicum)	1	1.49	E	GKP 3305 (A/S), GKP 2303 (A)
14	MKB	GPW 4201	Spatial and Regional Planning	2	2.98	E	GPW 1103 (A), GPW 1201 (A)
15	MKB	GPW 0201	Spatial and Regional Planning (practicum)	1	1.49	E	GPW 4201 (A/S), GPW 1103 (A), GPW 1201 (A)
16	MKB	GEL 3109	Disaster Management	2	2.98	E	GEL 1102 (A), GEL 1202 (A)
17	MKB	GEL 0109	Disaster Management (practicum)	1	1.49	E	GEL 3107 (A/S), GEL 1102 (A), GEL 1202 (A)
			TOTAL ELECTIVE COURSES	**21**	**31.29**	**TOTAL:**	**26 SKS or 38.74 ECTS**

No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
1	MKB	GKP 3002	Research Methods in Geographic Information Science	2	2.98	C	
2	MKB	GKP 3107	Management of Surveying and Mapping	2	2.98	C	GKP 2105 (L)
3	MKB	GKP 0107	Management of Surveying and Mapping (practicum)	1	1.49	C	GKP 3107 (A/S), GKP 2105 (L)
4	MPB	GKP 3003	Fieldwork 3: Geospatial Analysis and Modelling	3	4.47	C	GKP 2001 (L)
5	MBB	GEO 4001	Community Service	3	4.47	C	>100 SKS
			TOTAL COMPULSORY COURSES	**11**	**16.39**		
6	MKB	GKP 3108	Analytical Cartography	2	2.98	E	GKP 2105 (L)
7	MKB	GKP 0108	Analytical Cartography (practicum)	1	1.49	E	GKP 3108 (A/S), GKP 2105 (L)

	No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
	8	MKB	GKP 3210	Remote Sensing of Hydrology and Watershed Management	2	2.98	E	GKP 2206 (L), GEL 1202 (A)
	9	MKB	GKP 0210	Remote Sensing of Hydrology and Watershed Management (practicum)	1	1.49	E	GKP 3210 (A/S), GKP 2206 (L)
	10	MKB	GKP 3211	Remote Sensing for Urban Survey	2	2.98	E	GKP 2206 (L)
	11	MKB	GKP 0211	Remote Sensing for Urban Survey (practicum)	1	1.49	E	GKP 3211 (A/S), GKP 2206 (L)
	12	MKB	GKP 3306	Spatial Data Mining	2	2.98	E	GKP 2206 (A), GKP 3304 (A)
	13	MKB	GKP 0306	Spatial Data Mining (practicum)	1	1.49	E	GKP 3306 (A/S), GKP 2206 (A), GKP 3304 (A)
	14	MKK	GEL 2107	Soil, Erosion Survey, and Conservation Planning	2	2.98	E	GEL 2104 (A)
	15	MKK	GEL 0107	Soil, Erosion Survey, and Conservation Planning (practicum)	1	1.49	E	GEL 0107 (A/S), GEL 2104 (A)
				TOTAL ELECTIVE COURSES	**15**	**22.35**	**TOTAL:**	**26 SKS or 38.74 ECTS**
7TH SEMESTER	**No**	**Type**	**Code**	**Courses**	**SKS**	**ECTS**	**Status**	**Pre-requisite**
	1	MKK	GKP 4001	Research Proposal	2	2.98	C	
	2	MKK	GKP 4002	Research Proposal Seminar	1	1.49	C	>100 SKS
				TOTAL COMPULSORY COURSES	**3**	**4.47**		
	3	MKB	GKP 4110	Visualization of Geospatial Information	3	4.47	E	GKP 2105 (L), GKP 3106 (A), GKP 3108 (A), GKP 1202 (A), GKP 2301 (A)
	4	MKB	GKP 0110	Visualization of Geospatial Information (practicum)	1	1.49	E	GKP 4110 (A/S), GKP 2105 (L), GKP 3106 (A), GKP 3108 (A), GKP 1202 (A), GKP 2301 (A)
	5	MKB	GKP 4212	Image-Based Terrain Analysis and Evaluation	2	2.98	E	GKP 3209 (A), GKP 3304 (A)
	6	MKB	GKP 0212	Image-Based Terrain Analysis and Evaluation (practicum)	1	1.49	E	GKP 4212 (A/S), GKP 3209 (A), GKP 3304 (A)
	7	MKB	GKP 4213	Coastal and Ocean Remote Sensing	2	2.98	E	GKP 2206 (L), GEL 2108 (A)
	8	MKB	GKP 0213	Coastal and Ocean Remote Sensing (practicum)	1	1.49	E	GKP 4213 (A/S), GKP 2206 (L), GEL 2108 (A)
	9	MKB	GKP 4214	Remote Sensing of Atmosphere and Climate Change	2	2.98	E	GKP 2206 (L), GEL 1201 (A)
	10	MKB	GKP 4215	Geoinformation of Health	2	2.98	E	GKP 3304 (A), GKP 2206 (A), GKP 2105 (A)
	11	MKB	GKP 4216	Remote Sensing and GIS for Regional Development	2	2.98	E	GKP 3208 (A), GKP 3209 (A), GKP 3210 (A), GKP 2301 (L)
	12	MKB	GKP 4307	Geospatial Information Technology	2	2.98	E	GKP 1202 (L), GKP 2105 (L), GKP 3304 (A)
	13	MKB	GKP 0307	Geospatial Information Technology (practicum)	1	1.49	E	GKP 4307 (A/S), GKP 1202 (L), GKP 2105 (L), GKP 3304 (A)

	No	Type	Code	Courses	SKS	ECTS	Status	Pre-requisite
	14	MPB	GEO 3001	Entrepreneurship	2	2.98	E	
	15	MPK	GEO 4003	Contextual Religion Study	2	2.98	E	
				TOTAL ELECTIVE COURSES	**23**	**34.27**	**TOTAL:**	**26 SKS or 38.74 ECTS**
8TH SMSTR	**No**	**Type**	**Code**	**Courses**	**SKS**	**ECTS**	**Status**	**Pre-requisite**
	1	MPB	GKP 4004	Undergraduate Thesis	6	8.94	C	
				TOTAL COMPULSORY COURSES	**6**	**8.94**		
	2	MBB	GKP 4003	Internship	3	4.47	E	
				TOTAL ELECTIVE COURSES	**3**	**4.47**	**TOTAL**	**9 SKS or 13.41 ECTS**

For the <u>Bachelor`s degree programme Geography and Environmental Sciences</u> the following **curriculum** is presented:

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
1st Year													
SEMESTER I													
GEO 1001	Success Skill	1	C									X	X
GEO 1005	Pancasila Education	2	C									X	
GEO 2002	Civic Education	2	C								X	X	X
GEO 1003	Introduction to Geography	2	C	X	X	X							
GEO 1002	Fundamental of Social Science	2	C	X									
GKP 1101	Fundamental of Cartography	2	C	X		X							

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GKP 0101	Fundamental of Cartography (Practicum)	1	C						X	X			
GEO 1004	Physics	2	C	X									
GEO 0004	Physics (Practicum)	1	C						X	X			
GEO 1010	Biogeography	2	C	X									
GEL 1101	General Geology	2	C	X	X	X							
GEL 1201	Meteorology and Climatology	2	C	X	X	X							
GEL 1301	Human Geography	2	C	X	X								

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
1st Year													
SEMESTER II													
GEO 1007	Mathematics	2	C	X									
GEO 1006	Chemistry	2	C	X									
GEL 1302	Population Geography	2	C	X			X						
GEL 0101	Population Geography (Practicum)	1	C						X	X			
GEL 1401	Ecology and Environmental Science	2	C	X	X	X							
GEL 1202	Fundamental of Hydrology	2	C	X	X	X							

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 1103	Fundamental of Geomorphology	2	C	X	X	X							
GEL 0103	Fundamental of Geomorphology (Practicum)	1	C						X	X			
GPW 1102	Regional Science	2	C	X	X	X							
GEL 2106	Oceanography	2	C	X	X	X							
GKP 1202	Fundamental of Remote Sensing	2	C	X	X	X							
GKP 0202	Fundamental of Remote Sensing (Practicum)	1	C						X	X			
GEO 1009	Fieldwork 1: Introduction to Landscape	2	C				X		X				

2nd Year

SEMESTER III

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEO 2001	Religion Study	2	C								X		X
GPW 2101	Regional Geography of Indonesia	2	C	X	X	X	X	X					
GPW 0101	Regional Geography of Indonesia (Practicum)	1	C						X	X			
GKP 2301	Geographic Information System I	2	C	X	X	X	X	X					
GKP 0301	Geographic Information System I (Practicum)	1	C						X	X			
GEL 2501	Soil Science	2	C	X	X	X							

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 0205	Soil Science (Practicum)	1	C						X	X			
GEL 2203	Hydrometeorology	2	C	X	X	X							
GEL 0204	Hydrometeorology (Practicum)	1	C						X	X			
GEL 1102	Mineralogy-Petrography	2	C	X	X	X							
GEL 0102	Mineralogy-Petrography (Practicum)	1	C						X	X			
GEL 2204	Water Quality	2	E	X	X	X							
GEL 0206	Water Quality (Practicum)	1	E						X	X			
GEL 3209	Hydrometry	2	E	X	X	X							
GEL 0314	Hydrometry (Practicum)	1	E						X	X			
GEL 2104	Environmental Geomorphology	2	E	X	X	X	X	X					
GEL 2303	Population Planning	2	E	X	X	X	X	X					
GEL 0208	Population Planning (Practicum)	1	E						X	X			

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 2304	Urban Geography	2	E	X		X	X	X					
GEL 2305	Labor Study	2	E	X	X	X							
GKP 2104	Land Surveying	2	E	X	X	X							
GKP 0104	Land Surveying (Practicum)	1	E						X	X			
GEL 2306	Resources Geography	2	E	X	X	X	X	X					
2nd Year													
SEMESTER IV													

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GE0 1008	Statistics	2	C	X									
GEL 2205	Drainage Basin Hydrological System	2	E	X	X	X	X	X					
GEL 0209	Drainage Basin Hydrological System (Practicum)	1	E						X	X			
GEL 2001	Fieldwork II : Process Measurement and Process Result of Geosphere	2	C				X	X	X	X	X	X	X
GEL 2206	Geohydrology	2	E	X	X	X	X	X					
GEL 0210	Geohydrology (Practicum)	1	E				X	X	X	X			
GEL 2207	Tropical Climate	2	E	X	X	X	X	X			X		
GEL 2105	Geomorphological Survey and Mapping	2	E				X	X					
GEL 0207	Geomorphological Survey and Mapping (Practicum)	1	E				X	X	X	X			
GEL 2502	Soil Survey, Erosion, and Conservation Planning	2	E				X	X					

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 0212	Soil Survey, Erosion, and Conservation Planning (Practicum)	1	E				X	X	X	X			
GEL 2307	Environmental Economics	2	E	X	X	X	X	X					
GEL 0211	Environmental Economics (Practicum)	1	E				X	X	X	X			
GEL 2308	Population Mobility	2	E	X	X								

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 2309	Human Resources Development	2	E	X	X		X	X					
GEL 2310	Agriculture Geography	2	E	X	X	X	X						
GEL 2311	Settlement Geography	2	E	X	X	X							
GEL 0213	Settlement Geography (Practicum)	1	E						X	X			
GEL 2312	Economic Geography	2	E	X	X	X							
GEL 2313	Social Planning	2	E	X	X	X			X	X			
GKP 2303	Geographic Information System II	2	E				X	X					
GKP 0303	Geographic Information System II : Advance (Practicum)	1	E						X	X			
GEO 0006	Fundamental of Chemistry (Practicum)	1	C						X	X			

3rd Year

SEMESTER V

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEO 3001	Entrepreneurship	2	E								X	X	X
GEL 3107	Disaster Management	2	E		X		X	X					

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 0313	Disaster Management (Practicum)	1	E						X	X			
GEL 3402	Environmental Degradation	2	E		X	X	X	X					
GEL 3108	Tropical Landscape Ecology	2	E		X		X	X					

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
GEL 3109	Geomorphology of Indonesia and Southeast Asia	2	E	X	X		X	X					
GEL 3208	Lymnology	2	E	X	X	X	X	X					
GEL 3210	Watershed Management	2	E	X	X	X	X	X					
GEL 3314	Geography of Asia Pacific	2	E	X	X	X							
GEL 3315	Population Policy	2	E	X			X	X					
GEL 3316	Geography of Industry and Trade	2	E	X	X	X							
GEL 3317	Transportation Geography	2	E	X		X		X					
GEO 3002	Bahasa (Indonesian Language)	2	C	X	X	X							
3rd Year													
SEMESTER VI													
GEL 3002	Land and Water Resources Analysis (Block)	3/2	C				X	X	X	X	X	X	X
GEL 3003	Human and Economic Resources Analysis (Block)	3/2	C				X	X	X	X	X	X	X
GEL 4005	Environmental Management (Block)	3/2	C				X	X	X	X	X	X	X

Code	Course Subject	Credit	C/E	A1	A2	A3	B1	B2	C1	C2	D1	D2	D3
4th Year													
SEMESTER VII													

GEL 4006	Research Methodology of Environmental Geography (Block)	3/2	C	X			X	X	X	X	X	X	X
GEL 3004	Techniques and Analysis of Geographic Data (Block)	2/2	C				X	X	X	X	X	X	X
GEL 4007	Fieldwork III : Analysis of Regional Resources and Environment	2	C				X	X	X	X	X	X	X
GEO 4001	KKN-PPM (Community Service)	3	C				X	X	X	X	X	X	X
4th Year													
SEMESTER VIII													
GEL 4008	Thesis	6	C	X	X	X	X	X	X	X	X	X	X

For the <u>Bachelor`s degree programme Regional Development</u> the following **curriculum** is presented:

Semester	Code	Courses	Compulsory / Optional	Credits	A1	A2	B1	C1	D1	D2
1	2	3	4	5	6	7	8	9	10	11
I	GEO 1005	PANCASILA EDUCATION	C	2					X	X
	GEO 1001	SUCCESS SKILL	C	1				X	X	X
	GEL 1101	GENERAL GEOLOGY	C	2	X					
	GEO 1003	INTRODUCTION TO GEOGRAPHY	C	2	X	X				
	GKP 1101	BASIC OF CARTOGRAPHY	C	2	X			X		
	GKP 0101	BASIC OF CARTOGRAPHY (PRACTICE)	C	1			X	X		
	GEO 1002	BASIC KNOWLEDGE OF SOCIAL SCIENCE	C	2	X	X				
	GEL 1301	HUMAN GEOGRAPHY	C	2	X	X				
	GEL 1201	METEROLOGY AND CLIMATOLOGI	C	2	X	X				

Semester	Code	Courses	Compulsory / Optional	Credits	A1	A2	B1	C1	D1	D2
	GEL 1010	BIOGEOGRAPHY	C	2	X	X				
	GPW 1201	SPATIAL THEORY	C	2		X	X	X		
	GPW 1102	DEVELOPMENT THEORY	C	2	X	X	X			X
		TOTAL	**22**	**22**						
II	GEO 2002	CIVIC EDUCATION	C	2					X	X
	GEL 1202	BASIC OF HIDROLOGY	C	2	X					
	GPW 1103	REGIONAL SCIENCE	C	2	X	X	X	X		
	GKP 1202	BASIC OF REMOTE SENSING	C	2			X	X		
	GKP 0202	BASIC OF REMOTE SENSING (PRACTICE)	C	1			X	X		
	GEL 1103	BASIC OF GEOMORPHOLOGY	C	2	X		X	X		
	GEL 0104	BASIC OF GEOMORPHOLOGY (PRACTICE)	C	1			X	X	X	
	GEO 1009	FIELD WORK 1: LANDSCAPE INTRODUCTION	C	2	X		X		X	X
	GPW 1104	INTRODUCTION TO REGIONAL DEVELOPMENT PLANNING	C	2		X	X			
	GEO 1007	MATHEMATICS	C	2				X		
	GEO 1008	STATISTICS	C	2				X		
		TOTAL	**20**	**20**						
III	GEL 2501	SOIL SCIENCE	C	2	X					
	GEL 0205	SOIL SCIENCE (PRACTICE)	C	1	X			X		
	GKP 2301	GEOGRAPHIC INFORMATION SYSTEM 1 (BASIC)	C	2	X			X		
	GKP 0301	GEOGRAPHIC INFORMATION SYSTEM 1	C	1				X		X

Semester	Code	Courses	Compulsory / Optional	Credits	A1	A2	B1	C1	D1	D2
1	2	3	4	5	6	7	8	9	10	11
		(PRACTICE)								
	GPW 2101	REGIONAL GEOGRAPHY OF INDONESIA	C	2	X	X				
	GPW 0101	REGIONAL GEOGRAPHY OF INDONESIA (PRACTICE)	C	1				X		
	GPW 2102	METHODS AND TECHNIQUE OF SOCIAL AND ECONOMIC ANALYSIS	C	2	X	X	X			

Semester	Code	Courses	Compulsory / Optional	Credits	A1	A2	B1	C1	D1	D2
	GPW 0102	METHODS AND TECHNIQUE OF SOCIAL AND ECONOMIC ANALYSIS (PRACTICE)	C	1				X		
	GPW 2103	REGIONAL DEVELOPMENT POLICY	C	2		X	X			
	GPW 2112	DEVELOPMENT ADMINISTRATION AND FINANCE	C	2		X				X
	GPW 2104	URBAN STUDIES	C	2		X	X	X		
	GPW 2205	COASTAL AND SMALL ISLANDS DEVELOPMENT	O	2	X	X	X			
	GEL 2303	DEMOGRAPHICAL PLANNING	O	2	X	X	X			
	GEL 0206	DEMOGRAPHICAL PLANNING (PRACTICE)	O	1				X		
		TOTAL	**18**	**23**						
IV	GEO 2001	RELIGION STUDY	C	2					X	X
	GPW 2107	FIELD WORK 2 : GEOSPATIAL ANALYSIS STUDIO	C	4			X	X	X	X
	GPW 2108	RURAL GEOGRAPHY	C	2	X	X	X			
	GPW 2109	METHODS AND TECHNIQUE OF SPATIAL AND REGIONAL ANALYSIS	C	2			X	X		
	GPW 0109	METHODS AND TECHNIQUE OF SPATIAL AND REGIONAL ANALYSIS (PRACTICE)	C	1			X	X	X	X
	GPW 2110	DATA MANAGEMENT AND ANALYSIS	C	2			X	X		
	GPW 0110	DATA MANAGEMENT AND ANALYSIS (PRACTICE)	C	1			X	X	X	X
	GPW 2211	ENVIRONMENTAL AND LAND LAW	O	2		X	X			
	GKP 2303	GEOGRAPHIC INFORMATION SYSTEM (ADVANCE)	C	2		X		X		
	GKP 0303	GEOGRAPHIC INFORMATION SYSTEM 2 (PRACTICE)	C	1				X	X	X
	GKP 2304	INFORMATION TECHNOLOGY	O	2			X	X		
	GKP 0304	INFORMATION TECHNOLOGY (PRACTICE)	O	1				X		
	GEL 2311	SETTLEMENT GEOGRAPHY	O	2	X	X	X			
		TOTAL	**17**	**24**						

Semester	Code	Courses	Compulsory / Optional	Credits	A1	A2	B1	C1	D1	D2
1	2	3	4	5	6	7	8	9	10	11

V	GPW 3001	RESEARCH METHODS OF REGIONAL DEVELOPMENT	C	2	X	X	X	X		
	GPW 3202	LAND USE PLANNING	C	2		X	X	X		
	GPW 0202	LAND USE PLANNING (PRACTICE)	C	1				X	X	X
	GKP 2105	TEMATIC CARTOGRAHPY	C	2	X			X		
	GKP 0105	TEMATIC CARTOGRAPHY (PRACTICE)	C	1				X		X
	GPW 3103	REGIONAL ECONOMICS	C	2	X	X	X			
	GPW 3108	APPLIED STATISTICS	C	2			X	X		
	GPW 0108	APPLIED STATISTICS (PRACTICE)	C	1				X	X	X
	GPW 3204	SERVICES AND SERVICE CENTER PLANNING	O	2		X	X	X		
	GPW 3205	SMALL AND SECONDARY CITY DEVELOPMENT	O	2		X	X	X		
	GPW 3206	INDUSTRIAL AREA DEVELOPMENT	O	2		X	X	X		
	GPW 3207	REGIONAL AGRICULTURAL DEVELOPMENT	O	2		X	X	X		
	GEL 3317	TRANSPORTATION GEOGRAPHY	O	2	X	X	X			
	GKP 3209	REMOTE SENSING FOR URBAN STUDIES	O	2		X	X	X		
	GKP 0209	REMOTE SENSING FOR URBAN STUDIES (PRACTICE)	O	1				X	X	X
		TOTAL	**13**	**26**						
VI	GPW 3109	RESEARCH PROPOSAL FOR REGIONAL DEVELOPMENT	C	2	X	X	X	X	X	X
	GPW 3310	STRATEGIC PLANNING	C	2		X	X	X		
	GPW 3311	PROJECT PLANNING	C	2		X	X	X		
	GPW 0311	PROJECT PLANNING (PRACTICE)	C	1				X	X	X
	GPW 3112	FIELD WORK 3: REGIONAL PLANNING AND DEVELOPMENT STUDIO	C	4			X	X	X	X
	GPW 3113	POLITICAL GEOGRAPHY	O	2	X	X	X			
	GPW 3314	DEVELOPMENT OF LOCAL ECONOMIC RESOURCES	O	2		X	X	X		
	GPW 3115	DECISION SUPPORT SYSTEMS FOR REGIONAL DEVELOPMENT	O	2		X	X	X		
	GPW 0115	DECISION SUPPORT SYSTEMS FOR REGIONAL DEVELOPMENT (PRACTICE)	O	1				X	X	X
	GPW 3316	EMPOWERMENT OF COMMUNITY LIVELIHOOD	O	2		X	X	X		
	GKP 3110	NATURAL DISASTER MAPPING	O	2		X	X	X		
	GKP 0110	NATURAL DISASTER MAPPING	O	1				X	X	X

Semester	Code	Courses	Compulsory / Optional	Credits	A1	A2	B1	C1	D1	D2
1	2	3	4	5	6	7	8	9	10	11
		(PRACTICE)								
		BAHASA INDONESIA	C	2					X	X
		TOTAL	**11**	**23**						
VII	GEO 3001	ENTERPRENEURSHIP	C	2					X	X
	GPW 4201	REGIONAL AND SPATIAL PLANNING	C	2	X	X	X			
	GPW 0201	REGIONAL AND SPATIAL PLANNING (PRACTICE)	C	1				X	X	X
	GPW 4302	COMMUNITY DEVELOPMENT	C	2		X	X			
	GPW 0302	COMMUNITY DEVELOPMENT (PRACTICE)	C	1				X	X	X
	GPW 3103	RESEARCH PROPOSAL (SEMINAR)	C	1	X	X	X	X		X
	GPW 4204	TOURISM GEOGRAPHY	O	2	X	X	X			
	GPW 4205	REGIONAL INFRASTRUCTURE DEVELOPMENT	O	2		X	X	X		
	GPW 4206	RURAL PLANNING	O	2		X	X	X		
	GPW 4207	URBAN MANAGEMENT	O	2		X	X	X		
	GEO 4003	STUDY OF CONTEXTUAL RELIGION	O	2					X	X
	GPW 4108	REGIONAL GEOGRAPHY OF ASIA	O	2	X	X				
	GKP 4213	REMOTE SENSING FOR REGIONAL DEVELOPMENT	O	2				X	X	
	GKP 0213	REMOTE SENSING FOR REGIONAL DEVELOPMENT (PRACTICE)	O	1				X	X	X
		TOTAL	**9**	**24**						
VIII	GPW 4010	THESIS	C	6	X	X	X	X	X	X
	GEO 4001	COMMUNITY SERVICE	C	3			X		X	X
	GPW 4109	INTERNSHIP	O	3			X	X	X	X
		TOTAL	**9**	**12**						