



Decision of the Accreditation Commission of AQAS

on the study programme:

“Aircraft Mechanic: Engine Maintenance” (B.Sc.), School of Applied Sciences (Turkish programme)

offered by Istanbul Gelişim University, Turkey

Based on the report of the expert panel and the discussions of the Accreditation Commission in its 70th meeting on 19/20 February 2018, the Accreditation Commission decides:

1. The study programme “**Aircraft Mechanic: Engine Maintenance**” (**Bachelor of Science**, Turkish programme) offered by the School of Applied Sciences of **Istanbul Gelişim University** is accredited according to the AQAS criteria for Programme Accreditation.

The accreditation is conditional.

The study programme essentially complies with the requirements defined by the criteria and thus the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. The required adjustments can be implemented within a time period of nine months.

2. The conditions have to be fulfilled. The fulfilment of the conditions has to be documented and reported to AQAS no later than **30 November 2018**.
3. The accreditation is given for the period of **six years** and is valid until **30 September 2024**.

Conditions:

1. Course descriptions need to be revised to contain all relevant information on the learning outcomes, course content and assessment forms as used in class.
2. The development of English language skills has to be featured more prominently in the curriculum.
3. The university has to apply its English title, such as “Aircraft Mechanics and Engine Maintenance”, in a consistent and correct way.
4. A subject-specific diploma supplement has to be handed in.
5. The university has to hand in a hiring plan and timeline indicating the number and qualification of positions to be filled and the courses and subjects which shall be taught by each position.

<p>The conditions were fulfilled on time. The Accreditation Commission confirms this with its decision of 25.03.2019.</p>

The following **recommendations** are given for further improvement of the programmes:

1. Course evaluations should be used to collect a more precise feedback on the workload and assessment of courses; open questions should be included to provide students with more elaborate answering options.
2. The collection of feedback from the labour market should be formalized.
3. Recent developments within the field of aircraft mechanic should be included in the curriculum.
4. The number and range of courses applying practical skills should be increased.
5. Examinations forms should be more varied.
6. The university should increase its efforts in encouraging students to go abroad.
7. The university should expand the library by including internationally recognized publications, preferably those published in English.
8. The university should offer possibilities for the students to familiarize themselves with aerospace state-of-the-art CAD software like CATIA V5 or 3D Experience by Dassault Systems.
9. The university should increase its support for students in finding internships.

With regard to the reasons for this decision the Accreditation Commission refers to the attached assessment report.



Experts' Report

on the bachelor degree programme:

“Aircraft Mechanic – Engine Maintenance”

offered by Istanbul Gelişim University

Visit to the University: January 29 – February 1, 2018

Panel of Experts:

Dr.-Ing. Holger Friehmelt	FH Joanneum Graz, University of Applied Sciences, Institute of Aviation, Austria
Philipp Hemmers	Student at RWTH Aachen University (student representative)
Ralf Kraetzig	DC Aviation Al-Futtaim LLC, Dubai, United Arab Emirates (labour market representative)
Prof. Dr. Halit S. Turkmen	Istanbul Technical University, Faculty of Aeronautics and Astronautics, Turkey

Coordination:

Dr. Dorothee Groeger, Patrick Heinzer AQAS, Cologne, Germany

Preamble

AQAS – Agency for Quality Assurance through Accreditation of Study Programmes – is an independent non-profit organisation supported by more than 85 member institutions, both higher education institutions (HEIs) and academic associations. Since 2002, the agency has been accredited by the German Accreditation Council (GAC). It is therefore a notified body for accreditation of higher education institutions and programmes in Germany.

AQAS is a full member of ENQA and also listed in the European Quality Assurance Register for Higher Education (EQAR) which confirms that our procedures comply with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), which all Bologna countries agreed upon as a basis for internal and external quality assurance.

AQAS is an institution founded by and working for higher education institutions and academic associations. The agency is devoted to quality assurance and quality development of both academic studies and teaching in higher education institutions. The activities of AQAS in accreditation are neither restrained to specific academic disciplines or degrees nor to a certain type of higher education institution

I. Accreditation procedure

This report results from the external review of the Bachelor programmes in “Aircraft Mechanic: Engine Maintenance” offered by the School of Applied Sciences by Istanbul Gelişim University (IGU).

1. Criteria

The assessment of the programmes is in accordance with a set of criteria for programme accreditation developed by AQAS. The criteria are based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) 2015 and feature a set of indicators used to demonstrate the fulfilment of each criterion. However, criteria are met even if single indicators are not fulfilled. The indicators need to be discussed in the context of the programme as not all indicators are necessarily applicable to a programme.

2. Approach and methodology

Initialisation

Istanbul Gelişim University mandated AQAS to perform the accreditation procedure in June 2017.

The university prepared a Self Evaluation Report (SER). In September 2017, IGU handed in a draft of the SER together with the relevant documentation of the study programmes and an appendix.

The appendix included e.g. an overview over statistical data of the student body (e.g. number of applications, beginners, students, graduates, student drop outs), CVs of the teaching staff, information on student services, core information on the main library as well as undergraduate academic regulations.

AQAS checked the SER draft for completeness, comprehensibility and transparency. The final version of the SER was handed in in December 2017.

The accreditation procedure has been officially initialised by a decision of the AQAS Accreditation Commission on 04/05 December, 2017.

Nomination of the expert panel

Composing the expert panel follows the stakeholder principle. Involved are consequently representatives from the respective discipline/s, the labour market and students. Furthermore, AQAS follows the principles for the selection of experts by the European Consortium for Accreditation (ECA).

The Accreditation Commission nominated the expert panel in January 2018. AQAS informed the university thereafter about the members of the expert panel and IGU did not raise any concerns against the composition of the panel.

Preparation of the site visit

Prior to the site visit, the experts reviewed the SER and submitted a short preliminary statement including open questions and potential points in need of additional information. AQAS forwarded these preliminary statements to the university as well as the panel members to increase transparency in the process and upcoming discussions during the site visit.

Site visit

After review of the Self Evaluation Report, the site visit to the university took place 29 January – 01 February, 2018. On site, the experts interviewed in separate discussions different stakeholders, such as the management of the university, the programme management, teaching and other staff as well as students, and consulted additional documentation as well as examples of graded work from students' achievements. The visit concluded with presenting preliminary findings by the experts to the university's representatives.

Report writing

Following the site visit, the expert group drafted the following report assessing the fulfilment of the AQAS criteria for programme accreditation. The report included a recommendation to the Accreditation Commission. The report was sent to IGU for comments.

Decision

The experts' report together with the comments by IGU form the basis for the AQAS Accreditation Commission to make a decision regarding the accreditation of the programmes. Based on these documents, the Accreditation Commission decided on the accreditation on 19 - 20 February, 2018. AQAS forwarded the decision to IGU. The university had the right to appeal against the decision or any of the imposed conditions.

In March 2018, AQAS published the report and the accreditation result of the accreditation along with the names of the panel of experts.

II. General Information on the University

Istanbul Gelişim University (IGU) was founded in 2008 as a private vocational school by the Gelişim Foundation for Education, Culture, Health and Social Development. In 2011, the institution acquired university status and has since expanded its programmes and number of students. Today, the university is characterized by a student population of ca. 22.000 and a number of teaching staff of ca. 500.

The university is divided into 3 faculties, 3 institutes, 4 graduate schools and 2 vocational schools, which offer a wide range of graduate and postgraduate programmes in the fields of economics and social sciences, fine arts, engineering and health sciences.

The university pursues the goal of becoming an international education and learning institution by running joint projects with internationally recognized schools, by setting up a global research network and by providing high quality professional education in Turkish and English. A strategic plan

2016-2020 defines these objectives together with those of further developing and implementing graduate education and improving service processes as the main targets to be achieved by the university in the near future.

According to the university, its educational approach follows the principle of creative teaching and participatory learning. The university aims at educating civically engaged, self-reliant individuals by providing excellence and highest quality in its study programmes and by fostering critical intellectual development.

Istanbul Gelişim University offers continuous scholarships, free courses, internships and job opportunities to students. It supports international student exchange programmes. At the same time, it aims to support students' individual, social and academic development during university life. Students can receive consultation and help for their needs at the Psychological Counseling Guidance Unit. As outlined by the university, it supports its students in extra-curricular activities such as student clubs and student councils, summer schools and conferences.

IGU participates in the Erasmus+ programme and encourages student and staff mobility. As outlined by the university, the number of European partner institutions is currently 73 in over 20 countries. The International Relations Office takes responsible for the organization of mobility programmes.

The Bachelor programme in “Aircraft Mechanic – Engine Maintenance” has been an offer by the School of the Applied Sciences since 2015. The School itself has been established in 2013 and currently offers 13 study programmes in the fields of media, transportation, administrative and social sciences. According to the School, the programmes are characterized by a special focus on practical knowledge; all programmes include a compulsory internship. Students have the opportunity for a double major degree. According to the Turkish Constitution and the Higher Education Laws, all Bachelor programmes are supervised by the Turkish Council of Higher Education (YÖK).

III. Assessment of the study programmes

1. Policy and Procedures for Quality Assurance

The programme is subject to the Higher Education Institution’s policy and associated procedures for quality assurance, including procedures for the design, approval, monitoring, and revision of the programmes.

A quality-oriented culture, focusing on continuous quality enhancement, is in place. This includes regular feedback mechanisms involving both internal and external stakeholders.

The strategy, policies, and procedures have a formal status and are made available in published form to all those concerned. They also include roles for students and other stakeholders.

[ESG 1.1]

Description

As outlined by the university, one of Gelişim University’s main objectives in quality assurance lies in the effective participation of internal and external stakeholders in all activities in accordance with international quality standards.

The establishment of the quality assurance system of the university is based on ISO 9000 Quality Management System, TS EN ISO-9001: 2015, Higher Education Law No. 2547 and “Higher Education Quality Assurance Regulation”. The aims, mission and vision of the university are determined according to these criteria and their appropriateness is measured.

Feedback of internal and external stakeholders shall be collected within the framework of the University Quality Commission. It consists of the Rector, Vice-rector and 14 members from various faculties, institutes, vocational schools and colleges. The commission is supposed to define, implement and further develop factors necessary for the improvement of quality standards. It thus evaluates reports, surveys and suggestions by students and external stakeholders. Additionally, an Office of Strategic Planning and Quality Assurance has been implemented which is working in coordination with the commission. The main performance indicators set at Istanbul Gelişim University are: a) Number of Programmes, b) Number of Students, c) Number of Academic Personnel, d) Rate of fullness, e) Number of Programmes teaching in English, f) Erasmus Mobility, g) Student Activities, h) Number of Research Sources, and i) Scientific Publication Numbers of Staff.

A student council offers further opportunities for students to participate in the supervision of programmes, as presented by the university.

The incorporation of feedback of internal and external stakeholders forms the basis for the further development of study programmes. Evaluation reports have to be approved by the Rector, reviewed by Deans and Heads of study programmes and acknowledged by the Senate.

Furthermore, several measures are considered to be in place to monitor a programme's quality: regular course and teaching staff assessment questionnaires as well as student assessment and internship evaluation questionnaires. As mentioned above, the university obtains data covering various activities of its programmes. At the end of term, student's evaluations are taken into account in a success analysis.

Istanbul Gelişim University Graduates and Members Association was established in May 2017 to continue the university's relation with its graduates, to increase information sharing, to foster the graduates' solidarity and to follow-up on their career developments.

Experts' Evaluation

Istanbul Gelişim University has set itself ambitious and clearly defined goals in terms of university development. Teaching and research shall improve to entail, among others, a better position in national and international university rankings. The experts honour the motivation and ambitious commitment by the Board of Trustees and the management to further develop the university. It became clear during the discussions that this motivation is also vivid in the teaching and administration staff as well as students.

The quality assurance system of IGU is based on national and European regulations as well as internal criteria. The strategic goals of the university, which cover staff and student development, facility development and increase in administration proficiency, correspond to quantitative indicators. These indicators are followed by the management and the heads of department respectively and cover such important statistics as retention rate, graduation rate and student success. The experts gained a clear picture of the well-designed quality assurance structures and mechanisms in place.

Evaluations are carried out regularly. Course evaluations are mandatory for students in order to access their grades; general satisfaction surveys are conducted as well. In addition, the university assesses program-wide and general criteria, which is highly appreciated. Complaints about certain aspects of student life, such as the accessibility of the facilities, have been addressed immediately by the university as the experts have learned. Furthermore, student feedback is collected with the help of student representatives who are elected in every student cohort. These representatives meet regularly with the head of the department to provide feedback. They also attend the Department Board meetings, the organizational unit in which all programme related questions and issues are discussed and decided on first before they will be passed on to the Faculty Board and the Senate. One example stated to proof the effectiveness of these mechanisms is that students and staff reported on large classes in the beginning of the programme, which the students complained about. The university then split classes into groups in order to decrease the number

of participants in classes. The experts obtained the impression that student satisfaction is of high importance to the university.

Course evaluations cover questions concerning for example the instructor's performance and the course contexts. However, the questionnaire could be used to collect a more precise feedback from students. A detailed judgement by students on the workload and learning progression as well as on the assessment (form, scope, level) in courses would be useful to monitor the quality of teaching and learning more closely – especially since the programme contains theoretical and practical courses, which may have very different scopes. The experts further recommend using open questions in the course evaluation to provide students with more elaborate answering options (**Finding 1**).

The university and more precisely the head of department is in contact with the Turkish Aircraft Technician Association as one of the main labour market representatives. Additionally, guest speakers from the field such as pilots are invited to give lectures. A general career fair is conducted every year to allow students to get into contact with possible employers. The experts acknowledge these measures but would like to encourage the department to formalize ties with the labour market (**Finding 2**). This could be beneficial both for the employability of students and the further development of the programme. The experts are convinced that labour market representatives are motivated to contribute to the programme's development. Informal contact to Part 147 Schools has been reported. The university could consider working towards formal agreements with these schools as a further support for students.

Course descriptions document the curriculum. However, in the English course descriptions information is partly missing, and the content of courses is not always depicted correctly. Furthermore, examination forms which vary from the standard mid-term and final exam are not documented at all in the descriptions (see Chapter III.3). The course descriptions thus need revision to complete what is missing (**Finding 3**).

Conclusion

University-wide measures regarding quality assurance are extensive. On the programme-related level, the activities can be further improved to achieve an equally high standard. The criterion is partly fulfilled.

2. Quality of the Curricula

The intended learning outcomes of the programme are defined and available in published form. They reflect both academic and labour-market requirements and are up-to-date with relation to the relevant field. The design of the programme supports achievement of the intended learning outcomes.

The academic level of graduates corresponds to the requirements of the appropriate level of the European Qualifications Framework.

The curriculum's design is readily available and transparently formulated.

[ESG1.2]

Description

With the Bachelor programme in "Aircraft Mechanic – Engine Maintenance", IGU aims at educating active, qualified and competent technicians in the field who have sound communication skills and are open to research and learning. As laid out in the self-evaluation report (SER), the programme provides practical education for the sector alongside theoretical education.

The programme is structured along 8 semesters of 30 CP each and a total of 240 CP. The curriculum contains departmental, elective and complementary courses as well as compulsory courses as nationally prescribed by the Turkish Council of Higher Education YÖK (Turkish courses and classes on the “History of Atatürk’s Principles and Reforms”).

Furthermore, the curriculum is supposed to be in line with formal regulations such as the Aircraft Maintenance Personnel Licence regulation, the Regulation on Aircraft Maintenance Training Organization as well as the requirements for the technician licence. Students shall be familiarized with modern techniques and instruments required for the maintenance implementations; they shall be enabled to apply and scientifically examine concepts, opinions and mathematical expressions, as well as offer solutions based on evidence, research and different sources.

The first four semesters comprise theoretical and basic courses; professional courses are designed to start in the fifth semester. These courses include, among others, the revision of Aircraft Maintenance Manual, AMM and similar documents, Service Bulletin as well as Engineering Order; students are also supposed to be engaged in scientific research projects. Elective courses throughout semester 5 – 8 cover departmental courses such as Aircraft Fuels, Air Transportation Management or Electrical Machinery as well as non-departmental courses in the field of e. g. Entrepreneurship or Total Quality Management. A compulsory internship of 30 working days allows students to apply their theoretical knowledge in the business world, according to the university.

Modifications to the curriculum have been applied and the current course structure, as of 2017, is as follows:

Semester 1: Turkish Language I, Foreign Language I, Fundamentals of Aircraft, Mathematics I, Physics, Basic Electrical Knowledge

Semester 2: Turkish Language II, Foreign Language II, Knowledge of Basic Electronics, Mathematics II, Mechanics, Using Basic Information Technology

Semester 3: History of Atatürk’s Principles and Reforms I, Thermodynamics, Piston Engines I, Aircraft Material Information, Fluid Mechanics, Computer Aided Technical Drawing, Business English I

Semester 4: History of Atatürk’s Principles and Reforms II, Aerodynamics, Piston Engines II, Electronic Indicators and Systems, Flight Mechanics, Rules of the Air, Business English II

Semester 5: Gas Turbine Engines I, Aircraft hydraulic and Pneumatic Systems, Maintenance Practices I, Elective Courses I–III

Semester 6: Gas Turbine Engines II, Aircraft Manufacturing Technologies, Maintenance Practices II, Elective Courses I–III

Semester 7: Aircraft Systems, Propeller, Maintenance Practices III, Elective Courses I–III

Semester 8: Graduation Project, Aircraft Power Systems Applications, Maintenance Practices IV, Elective Courses I–III

Teaching and learning modes are partly defined by and recorded in the Aircraft Maintenance Log Book. Teaching is supposed to be student-centred with interactive education methods which take differences of students into account.

A Department Advisory Body supervises the curriculum with regard to the framework of issued regulations and guidelines of SHGM (General Directorate of Civil Aviation). The programme is led by a Head.

Module descriptions

The university provides a student handbook which is updated every year under the supervision of the Head of the study programme and the approval of the dean.

Experts' Evaluation

The Bachelor programme on "Aircraft Mechanic - Engine Maintenance" has been introduced in 2015. Currently, there are 146 students who roughly divide into equal numbers in the three cohorts. The experts welcome the introduction of a Bachelor programme by IGU in this field. As stated by the management and the labour market representatives, work force is needed in the future.

The experts learned that the curriculum has been designed based on civil aviation regulations, the labour market demands as well as national regulations by the Turkish Higher Education Council. The original curriculum has been modified in 2017 which now applies to the first year students. A further revision is scheduled for early 2018 with the aim of becoming an acknowledged school by the General Directorate of Civil Aviation. Such an acknowledgement entails a recognition of courses to decrease the time of practice after graduation to become a certified aircraft technician. The experts consider this approach highly valuable and support the university in its application. Such an acknowledgment would be highly beneficial for students and welcomed by the labour market representatives, who prefer graduates who have as much certified skills as possible to start working on airframe and aircraft engines independently.

The curricular changes from 2015 – 2017 are well documented by the university and transparent to students. With the new curriculum (2018), IGU aims at modifications and changes which will address some shortcomings in the present (2017) curriculum. As the 2017 curriculum forms the basis for accreditation, the experts need to address these issues with the foresight of a timely remedy.

Teachers, students and labour market representatives jointly mentioned that English skills are one of the central skills for graduates to be successful in the business. English is the language of aviation and has to form a central element of education. Currently, the curriculum contains two general English courses and two Business English courses. The department drafts a Turkish-English dictionary of essential subject-related terms which is supposed to help students. The university also provides free English courses on weekends and covers costs for additional courses if students score well in the national English language proficiency test. However, as the experts could detect, the current mechanism are not sufficient in preparing students adequately; mandatory options for improving English proficiency of students have to be expanded in the curriculum (**Finding 4**). The department could, for example, include courses from the English-taught IGU programme "Aviation Management" or provide a course on "Technical Aviation English" as a specific preparation. Generally, the collaboration with other departments such as those of the engineering faculty or in the field of economics would provide the department with further opportunities of complementing the curriculum with interesting and valuable (elective) courses.

The curriculum contains theoretical courses as well as a number of practical courses, which start in the third year. The curriculum is generally designed to achieve the intended learning outcomes which are well defined on the programme level. There are important specifications that an aircraft technician must have. A competent aircraft technician must primarily have sense of responsibility due to the fact that lives of hundreds of persons and hundred-million-dollar-aircraft are entrusted to the same. The characteristics, which a competent aircraft technician is required to have, can be specified as follows: to have high sense of reasoning, manipulative skills, sufficient level of English language proficiency and experience in the field which the same serves. Keeping calm is of vital importance for work safety, particularly, due to the fact that the works are carried out under time pressure. Graduates are trained to become mechanics in the field of aircraft engineering, which requires further practical training after graduation in the respective companies. This is clearly regulated by the Turkish DGCA and the European EASA (Part 66). Students are aware of the additional training. It is, however, essential that the English title of the programme does correctly depict the scope of the training. The experts could see different English titles being used by the university in the documentation. As the aircraft mechanic field relies heavily on (international) standards and procedures, a consistent and correct use of the English title is essential (**Finding 5**).

The current (2017) curriculum covers various topics relevant for the practice and is logical in its structure. The curriculum includes basic science, basic engineering and general education courses in addition to the practical courses. The basic science courses such as mathematics, physics improve the students' knowledge on science. The basic engineering courses such as thermodynamics, fluid mechanics, materials science, aerodynamics, mechanics improve the students' knowledge on engineering. Both basic science and basic engineering courses are given during the first four semesters so that the students improve themselves in the theoretical side and get prepared for the practical courses. Practical courses help students apply their knowledge to real-life situations. The experts encourage the university to continue to make use of practical applications throughout the programme (see Chapter III.3). In these courses students train, for example, their problem-solving and communicative skills. The programme thus conveys generic and methodological skills in addition to subject-specific competencies. Project management is another important skill which should go beyond just mere group work. Further training in this aspect could be considered by the university.

Aircraft mechanic is a fast-changing field and developments in aviation are manifold. An update of courses and learning outcomes according to current topics and trends within the field should be continuously provided (**Finding 6**). For example, changes in aircraft materials are changing the maintenance requirements of these new aircraft. In addition to changes in composites used to make structural components of the aircraft, composites are being used more and more within the airplane itself. Floors and floor beams, for example, are now made of high-strength composite material. Working with these composites requires new maintenance skills and therefore new maintenance training. The adoption of aircraft health monitoring systems, 3D printing technologies, predictive and prescriptive maintenance could also be given as examples for the future trend. The department is in contact with the labour market, such as the Turkish Aircraft Technician Association, and invites experts for guest talks. These tools along with the further development of staff should be used to keep course content up to date.

The curriculum contains a 30-day internship, which the experts value very positively. Students reflect on their experiences by preparing an internship report. The department reported that ca. 75% of students found an internship opportunity. For the remaining students, difficulties seem to exist to find suitable options. The university should increase its support to help students make the best use of this curricular element (see Chapter III.6). Various instruments already exist to support tasks, like the Erasmus office at IGU. Instead of a thesis, students are supposed to work on a graduation project which refers to real-life examples.

Curriculum documentation is available but needs further modifications to include all relevant information (Finding 2, see Chapter III.1). All curricular elements are assigned credits according to the relevant workload.

Conclusion

The curriculum is generally designed to achieve the intended learning outcomes, which are transparently defined. Modifications are necessary and recommended, however, to better prepare graduates for employment. The criterion is partly fulfilled.

3. Learning, Teaching and Assessment of Students

The delivery of material encourages students to take an active role in the learning process.

Students are assessed using accessible criteria, regulations, and procedures, which are made readily available to all participants and which are applied consistently.

Assessment procedures are designed to measure the achievement of the intended learning outcomes.

[ESG 1.3]

Description

Learning, Teaching

At Istanbul Gelişim University, one academic year consists of two periods. It is based on the workload corresponding to 30 ECTS per semester, including a total of 60 ECTS credits in one academic year (1530 hours of student workload).

The curriculum of both programmes is conveyed most often via lectures and seminars, according to the university. Teaching is supposed to be student-centred in that it allows and encourages students to participate in class discussions. Students regularly receive reading and homework assignments on which class discussions usually evolve.

Distance education complements regular class hours. As outlined in the self-evaluation report, several courses are delivered face-to-face as well as digitally, among those Turkish, English and “Principles of Atatürk”.

Assessment

Instructors decide on the examination type and evaluation tool. The “Associate Degree and Undergraduate Education-Training and Examination Regulations” allow for exams, homework, application, quiz, report, presentation, verbal assessment, thesis presentation, document presentation, expert appraisal and computer assisted presentation.

Examinations take place mid-term and end-of-term. A Planning Unit bears responsibility for the organization of the examinations. Times and locations are being published on the student information system OBIS. Make-up exams for excused students are being offered.

Experts' Evaluation

The curriculum is taught in theoretical and practical courses which support the achievement of the intended learning outcomes; a graduation project and an internship are mandatory and noteworthy elements to train especially the practical skills of future mechanics and technicians. The theoretical side includes basic science, basic engineering and general education courses. The theoretical courses improve the students' knowledge on the engineering field and prepare the students for the practical courses. On average, 40% of courses in the School of Applied Sciences are said to be practical. Teachers and students of “Aircraft Mechanic - Engine Maintenance” reported that theoretical knowledge is often applied to practical tasks and that students are invited to participate in in-class discussion, such as in the course on aircraft materials. Groups were said to be no larger than 15-20, which is a favourable rate. The experts acknowledge the efforts by the instructors to engage students in practical work and teachers are certainly motivated to engage students. Nevertheless, the number and range of applied courses should be increased (**Finding 7**). Such an increase would further enable students to transfer their knowledge to situations outside the university context. Methods of teaching, learning, and assessment support an interlacing of theoretical and practical aspects. The number of elective courses should also be increased to allow the students to choose from a group of courses instead of taking all electives.

Along with an increase of further applied elements, students will be forced to train and improve their soft skills, such as communication skills and teamwork. The experts learned about the teacher's individual efforts to foster these skills with specific tasks in class. A course on the human factor can be taken as an elective. The experts encourage the university to continue this approach and integrate the acquisition and further development of soft skills in a systematic form in (mandatory) courses. Additionally, students team up and work independently in the Student Aviation Club, which receives ample support by the university (see Chapter III.6).

The course descriptions indicate the use of a mid-term and a final written exam, which are suitable for theoretical courses and elements of the practical courses. However, as stated by the instructors and students, homework and quizzes are used as well in classes, which is welcomed by the experts. A variety of different examination forms in which students are assessed throughout the semester and according to different skills is important for the learning process. The experts recommend further expanding the variety of assessment forms, such as project work and oral presentations (**Finding 8**). All assessment forms used have to be documented in the course descriptions to ensure transparency (Finding 2, see Chapter III.1). Class attendance is checked and forms an integral part of the grade. Assessment regulations are defined and communicated to students prior to the class or in the first session the latest.

Examinations are scheduled within a specific examination period fixed at the beginning of the term. Responsibilities and structures related to the organisation of exams are clearly defined. Make-up exams regulations are provided and students reported positively about them. The examination rules include regulations to compensate for disadvantages, illness, absence, or other mitigating circumstances that may affect a student.

Conclusion

Teaching and assessment methods are adequate. Improvements could be made, however, to increase the number of practical applications and to diversify assessment forms. The criterion is partly fulfilled.

4. Student Admission, Progression, Recognition and Certification

Consistently applied, pre-defined, published regulations are in place which cover student admission, progression, recognition, and certification.

[ESG 1.4]

Description

Admittance to the study programme

Admission to the programmes of IGU is based on a central examination system regulated by the national Council of Higher Education. The requirement for admission to Gelişim University is a pre-defined score in the Transition to Higher Education Examination and the Undergraduate Placement Examination. Furthermore, students must pass a foreign language proficiency test if a programme is offered in English. Opportunities for transition to IGU from vocational high schools or other higher education institutions are subject to the "Regulations on Transfer among Associate and Undergraduate Degree Programs, Double Major, and Subspecialty and the Principles of Credit Transfer among Institutions in Higher Education Institutions".

IGU charges tuition fees but provides financial support such as scholarships and discounts.

Creditation and recognition

Istanbul Gelişim University is part of the European Higher Education Area and applies ECTS credits to all its study programmes. ECTS credits and workload are assigned on the basis of the

weekly course hours, midterm and final exams as well as other assignments, laboratory work, seminars and other learning component. 1 ECTS credits equals 25,5 hours of workload. In addition, IGU uses local credits.

Outgoing students sign a learning agreement and receive full academic recognition of their courses taken abroad. According to the university, ECTS transfer is guaranteed. Likewise, incoming students receive a Transcript of Records with ECTS credits and grades for recognition at their home institution.

Further transitional conditions are provided by the “IGU Course Directive on Equivalence and Adaptation Guidelines”.

Certification

Students receive a Diploma Supplement on completion of their studies in English and Turkish. The Diploma is based on the model developed by the European Commission, the Council of Europe and UNESCO and provides a standardized description of the nature, level, context and status of the studies completed by its holder.

Experts' Evaluation

IGU showed to the experts that formal procedures for the student-life-cycle are in place and transparently communicated to students. Universities in Turkey have to follow precise national regulations and procedures, which cover for example the admission to university. High-school graduates take a central examination test and are placed in universities according to their scores; the higher the score the more likely students can attend their preferred choices. The university may thus not select its students individually and admission criteria are nationally fixed.

IGU keeps track of the number of applicants as well as of their composition. According to the management, IGU is the second most popular choice of students compared with other private universities in Turkey. A European accreditation may attract further talented students by which the university and the programme will benefit.

IGU participates in the Erasmus+ programme and the university allocates all national funds to students. An Erasmus coordinator helps students with the application and any kind of formal procedures. The number of partner institutions in Europe increased to 85 recently, as shown by the university; the School of Applied Sciences currently runs 15 partnerships. Procedures for the formal recognition are in place and students, to which the experts talked to, are aware of the possibilities.

However, due to various reasons, the number of students going or wanting to go abroad within the department of “Aircraft Mechanic – Engine Maintenance” is low. Since aviation is an international field, intercultural expertise is of high importance and the experts think that the university should use all means to foster students' motivation to do a semester or an internship abroad (**Finding 9**). The experts consider that potential obstacles can be overcome by students and the university and that infrastructure and resources are available at IGU. The experts are, for example, convinced that the Board of Trustees and the management will support any student wanting to go abroad, either by helping to improve language skills or by covering expenses. This support is considered to be very generous by the experts. Most essential for a stay abroad are adequate English skills, which can be improved in various ways (see Chapter III.2). Similar programmes in Aircraft Mechanic are offered in Europe and partnerships could be sought. Internships could be carried out at European companies or higher education institutions.

The first cohort of the programme has not graduated yet. Hence, a subject-specific diploma supplement has not been issued by the university yet and needs to be handed in (**Finding 10**).

Conclusion

IGU has defined regulations and procedures for the student-life-cycle which are efficient and transparent. A subject-specific diploma is, however, missing. The criterion is partly fulfilled.

5. Teaching Staff

The composition (quantity, qualifications, professional and international experience, etc.) of the staff is appropriate for the achievement of the intended learning outcomes.

Staff involved with teaching is qualified and competent to do so.

Transparent procedures are in place for the recruitment and development of the staff.

[ESG 1.5]

Description

As outlined by the university, human resource management is supported by the “Strategic Planning and Quality Assurance Office” with the aim of a consistent distribution and equal workload of members among the faculty. Currently, IGU employs overall 466 full time academic staff, according to the numbers given in the self-evaluation report. Among those are 43 professors, 10 associate professors, 180 assistant professors, 148 teaching assistants, 70 research assistants as well as 15 lecturers. IGU outline that it adheres to a defined process for hiring new staff. Within the scope of the Turkish Higher Education Law, appointment and promotion conditions for higher education institutions are taken as the basis for recruitment and appointment of teaching staff.

Based on the information given by the university, teaching staff for the programme comprises 2 assistant professors with 19 teaching hours each.

IGU provides an orientation programme for newly hired professors under the guidance of the Head of the study programme and supported by research assistants. Regular training programmes shall be offered to staff as well as English courses especially designed for administrative staff.

Experts' Evaluation

The programme on “Aircraft Mechanic - Engine Maintenance” is a relatively new offer and still under development. Staff is currently sufficient according to the national regulations and with regard to the student number. The university management informed the experts that new professors have been or will be hired, which is a positive development. Hiring procedures are in place which comply with the national regulations by the Turkish Higher Education Council. The experts highly acknowledge the substantial support by the university management for the programme.

During the discussions, the experts could clearly detect the high motivation of staff members and their strong commitment to the programme and the field. Courses are taught by the head of the department, associate professors and research assistants. Professors from related departments such as “Aviation Management” cover courses in the curriculum as well.

A large number of teaching hours is covered by the head of department. So far, the required resources for the deliverance of the programme are met. However, in case the Head of Department will not be able to teach or in case the number of students increases, shortages of teaching staff may become visible. Thus, the university has to hand in a hiring plan and timeline indicating the number and qualification of positions to be filled and the courses and subjects which shall be taught by each position (**Finding 11**).

The management supports teachers in their scientific publications and attendance of conferences by offering financial incentives and covering expenses. The management grants rewards for na-

tional and international publications; travel expenses for conferences in which teaching staff contributes will be reimbursed. The experts encourage staff to make use of this support.

Conclusion

Teaching staff is committed and qualified and students feel well taken care of. As the number of students will most likely increase, further staff is required. The university thus has to draft a hiring plan. The criterion is partly fulfilled.

6. Learning Resources and Student Support

Appropriate facilities and resources are available for learning and teaching activities.

Guidance and support is available for students to advise on achieving successful completion of their studies.

[ESG 1.6]

Description

Facilities and resources

IGU is distributed over 3 campuses in the neighbourhood of Avcilar, Istanbul. Overall, facilities shall comprise 24.400 m² of indoor areas with classrooms, conference rooms, reading rooms and exhibition rooms. Students can benefit from 13 fully equipped computer laboratories and several libraries, as defined by the university. In addition, the campuses host cafeterias, health centres, a fitness club and a radio and television studio.

Students can access learning material and online courses via a Learning Management System provided by IGU. A Student Information System and a Student Mail System facilitate registration and the information exchange. The Department of Information Technology monitors all soft- and hardware systems and IT areas for students and staff.

IGU Library and Documentation Centre currently contains ca. 115.000 items of learning material, including electronic sources such as E-Books and online journals. The seating capacity amounts to 200. According to the university, the library and documentation centre is designed to meet all kinds of information and documentation requirements of its students, academic and administrative staff.

The study programme is financed mainly by tuition fees. According to IGU, the financial resources of the university are determined and distributed in the budget period every year considering the physical and technical requirements for the sustainability of programmes as well as student and teaching staff numbers.

Information, consultation and guidance

Information to interested students is distributed in so-called Promotion Days, in which the university presents its programmes and schools. During registration, students receive guidance and support by the Directorate of Public Affairs as well as by the Head and research assistants.

According to the self-evaluation report, IGU aims to support students' individual, social and academic development during university life. The university applies an academic advisor support system in which advisors help students with all academic as well as administrative issues during their studies. Instructors offer regular consultation hours. The university highlights the Psychological Guidance, Counselling and Research Center, the Centre for Continuing Education as well as the Office of Career Development as further support units which offer guidance in personal as well as professional development and growth of students' personalities.

Among the services offered by the Office of Career Development are consultation, seminars and conferences, the invitation of experts and specialists as well as the allocation of internships. The

Psychological Guidance, Counselling and Research Center holds meetings, seminars and organizes social activities to help students adapt.

Students who wish to do a semester or internship abroad may apply for Erasmus+ or Mevlana, an international student and teaching staff exchange programme established by the initiative of Turkey. Support is provided by the International Relations Office and by research assistants. According to the university, the budget allocated by the National Agency to IGU is used in its entirety for financial support to students.

The university offers assistance to a diverse student body: Working students benefit from courses carried out via distance education. International students receive support by the International Relations Office, which organizes an orientation programme and offers guidance concerning visa and other administrative issues. Students with disabilities are supported by a Disabled Student Unit within the framework of the "IGU Regulation on the Advisory and Coordination of Higher Education Institutions". The unit provides guidance and makes arrangements to facilitate the student life of disabled students. For example, special examinations are offered which address the individual need of the student. According to the university, the campus and its facilities are suitable for disabled students.

IGU actively supports students in their effort to found student clubs and student councils. Moreover, it organizes summer schools and conferences. These bodies invite various experts and specialists from private and public sectors to the university and they also organize technical visits.

Experts' Evaluation

The experts could clearly see that student support – be it financial support, guidance and counselling or the provision of learning facilities – is of great importance to the university and one of its great assets. Resources are generously provided, and the university management supports the study programme profoundly.

Classrooms and workshops are provided on the campus in Avcılar. Laboratory space is used in the Vocational School and currently in expansion. Practical courses are taught here and technical equipment such as working tools and workstations are available. The university also cooperates with local companies to use their facilities for practical applications. The development of the facilities (defined as physical space, learning material etc.) is one of the strategic goals of IGU and it is reflected in the most recent expansion of the campus and the scheduled building of further laboratories. The facilities currently under development are sufficient for the conduction of the programme.

Learning material is provided in the library and via online databases. IGU participates in relevant databases and students can access catalogues and sometimes even the material itself from their home computer. Books recommended to students are often in Turkish, professors provide translations of English works. In order to improve English proficiency and in order to provide the latest sources the university should expand its library with regard to English titles (**Finding 12**). Software used in classes covers for example AutoCAD Commands or AutoCAD 3D. However, the experts highly encourage the university to purchase and utilize recent and more relevant software through special university license. Familiarization with state-of-the-art CAD software in the international aerospace industry like CATIA V5 or 3D Experience by Dassault Systems is absolutely necessary for the students such as CATIA (**Finding 13**).

Course descriptions are available. Additionally, instructors provide a more precise outline in the first session of the individual class. The course descriptions do not fully reflect the course content, teaching methods and assessment forms as they are used by instructors. They require revision to provide full transparency; the definition of learning outcome is missing in some cases (Finding 2, see Chapter III.1). Courses are scheduled so that no overlap occurs. The experts are convinced that students will be able to finish their studies in the expected period of time.

Guidance and support is offered in various ways and the experts gained the impression that students are very satisfied with the help they receive. Instructors are readily available to students, not only during official office hours. Several administrative offices provide support, such as the Office of Career Development, the Erasmus Office and the Psychological Guidance, Counselling and Research Center.

At the beginning of their studies, students are assigned an academic advisor out of the teaching staff. Complaints can be submitted anonymously via the student representative. International incoming students will receive support. So far, however, the department has not received an incoming student. Student diversity is planned to be considered when allocating, planning, and providing learning resources and student support. Nevertheless, the department's student composition is currently very homogeneous as the cohorts usually consist of male Turkish students. An increased diversity with regard to gender and nationality would be beneficial for the students and the programme.

Internships are an integral part of the curriculum and the instructors try to help students in finding available spots by e.g. forming agreements with companies. Nonetheless, as reported by teaching staff and students, it may be difficult to find positions for everyone. It is, however, crucial that students are able to carry out their internship in a suitable company. The university should therefore increase its efforts in helping students **(Finding 14)**.

The university encourages student activities and supports clubs and initiatives financially. The Aviation Club has been reported to be very active in organizing events and in connecting students. The experts value these efforts and encourage the Club to reach out to similar international networks (e.g. EUROAVIA) to build ties to international students.

Conclusion

The university offers excellent guidance and support opportunities. International offers, however, do currently not affect the programme under review. Thanks to the investments currently underway, the laboratories will be sufficient to conduct the programme. With respect to the findings noted, the criterion is partly fulfilled.

7. Information

Data is collected from relevant sources and stakeholders, analysed, and used for the effective management and continuous enhancement of the programme. [ESG 1.7]

Impartial and objective, up-to-date information regarding the programme and its qualifications is published regularly. This published information is appropriate for and available to relevant stakeholders. [ESG 1.8]

Description

According to the university, IGU gathers information from internal and external stakeholders and holds regular meetings with academic staff, students and local, regional and national stakeholders. Questionnaires among students are regularly distributed and analyzed. Deans and the lecturers are supposed to monitor the scope of programmes with regard to changes in the business world. The Office of Career Development regularly examines the potential employment opportunities of graduates.

The university publishes information on study programmes on its website. Students and staff receive information via the Student Information System, the Student Mail System and the Personnel Information System. The university confirms that it collects data on students' profiles and progression, their satisfaction as well as on the effectiveness of teachers with the help of an information system.

Experts' Evaluation

The experts have no doubt that IGU collects a large number of data on students' progression and success. An internal database connects statistics to the overall strategic goals and allows for a continuous monitoring of study programmes. An Office for Strategic Planning supports the analysis of the data, which is available to the management and the head of the respective programme. If students leave the programme, for example, the university carries out a background analysis as to the reasons for the drop-out. Once the programme will be completed by the first cohort, the university will gather information on the graduation rate and the sectors in which students will be employed.

Labour market ties have been reported to be existing but rather informal (see Chapter III.1). The experts met very committed and engaged labour market representatives whose feedback on the programme could be collected in a more formal way (Finding 2).

Information on the programme is fully available in Turkish on the IGU website. Course descriptions in English lack, however, some information such as the precise assessment forms and the learning outcomes for all courses (Finding 3, see Chapter III.1). The English website could be improved to present information in a consistent and complete manner. Information material in paper form is sufficiently provided.

Conclusion

The university applies a comprehensive data-gathering system. Information is also provided sufficiently to externals. The course descriptions need to be revised, however. The criterion is thus partly fulfilled.

IV. Recommendations of the panel of experts

The panel of experts recommends to accredit **with conditions** the study programme “**Aircraft Mechanic: Engine Maintenance**” (Bachelor of Science) offered by **Istanbul Gelişim University**.

Findings:

1. Course evaluations should be used to collect a more precise feedback on the workload and assessment of courses; open questions should be included to provide students with more elaborate answering options.
2. Collecting feedback from the labour market should be formalized.
3. Course descriptions need to be revised to contain all relevant information on the learning outcomes, course content and assessment forms as used in class.
4. English language skills of students have to be trained more prominently in the curriculum.
5. The university has to apply its English title, such as “Aircraft Mechanics and Engine Maintenance” in a consistent and correct way.
6. Recent developments within the field of aircraft mechanic should be included in the curriculum.
7. The number and range of applied courses should be increased.
8. Examinations forms should be more varied.
9. The university should increase its efforts in encouraging students to go abroad.
10. A subject-specific diploma supplement has to be handed in.
11. The university has to hand in a hiring plan and timeline indicating the number and qualification of positions to be filled and the courses and subjects which shall be taught by each position.
12. The university should expand the library with regard to English books.
13. The university should offer possibilities for the students to familiarize themselves with aerospace state-of-the-art CAD software, like CATIA V5 or 3D Experience by Dassault Systems.
14. The university should increase its support for students in finding internships.