agency for science and higher education

REPORT
OF THE EXPERT PANEL
ON THE
RE-ACCREDITATION OF
Zagreb University of Applied Sciences

Date of preliminary site visit:
9 November 2020

Date of on-line re-accreditation:
10-13 November 2020

November 2020

CONTENTS

INTRODUCTION

The Agency for Science and Higher Education (the Agency) is an independent legal entity with public authority, registered in the court register, and a full member of the European Quality Assurance Register for Higher Education (EQAR) and European Association for Quality Assurance in Higher Education (ENQA).

All public and private higher education institutions are subject to re-accreditation, which is conducted in five-year cycles by the Agency, in accordance with the Act on Quality Assurance in Science and Higher Education (Official Gazette 45/09) and subordinate regulations, and by following *Standards and Guidelines for Quality Assurance in the European Higher Education Area* (ESG) and good international practice in quality assurance of higher education and science.

The Agency's Accreditation Council appointed an independent Expert Panel for the evaluation of the Zagreb University of Applied Sciences.

Members of the Expert Panel:

- Prof. Martyn Roderick Jones, Ph.D., School of Science and Engineering, University of Dundee, Scotland, United Kingdom of Great Britain and Northern Ireland, Panel Chair,
- College prof. Hrvoje Jerković, Ph.D., College Algebra, Republic of Croatia,
- Prof. Damir Vučina, Ph.D., Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture University of Split, Republic of Croatia,
- Prof. Kruno Miličević, Ph.D., Faculty of Electrical Engineering, Computing and Information Technology University of Osijek, Republic of Croatia,
- Toni Medić, student, University North, Republic of Croatia.

During the on-line re-accreditation, the Expert Panel held meetings with the following stakeholders:

- Management,
- Office for Quality representatives,
- Students,
- Heads of departments,
- Full-time teaching staff,
- External lecturers,
- Head of Office for international cooperation,
- ECTS and ERASMUS coordinators,

- Head of Center for Lifelong Learning,
- Head of Counselling,
- Alumni,
- Representatives of the business sector, potential employers.

Croatian Expert Panel members went to a preliminary site visit on 9 November 2020 and had a tour of the work facilities, laboratories, library, IT classrooms, student administration office and classrooms, and attended sample lectures, where they held a brief Q&A session with the students.

During the preliminary site visit, the Expert Panel examined the available additional documents and study programme descriptions (learning outcomes).

The Expert Panel drafted this Report on the re-accreditation of the Zagreb University of Applied Sciences based on the Zagreb University of Applied Sciences self-evaluation report, other relevant documents, preliminary site visit and online meetings.

The Report contains the following elements:

- Short description of the evaluated higher education institution,
- Brief analysis of the institutional advantages and disadvantages,
- List of institutional good practices,
- Analysis of each assessment area, recommendations for improvement and quality grade for each assessment area,
- Detailed analysis of each standard, recommendations for improvement and quality grade for each standard,
- Appendices (quality assessment summary by each assessment area and standard, and protocol),
- Summary.

In the analysis of the documentation, preliminary site visit to the Zagreb University of Applied Sciences, online meetings and writing of the Report, the Expert Panel was supported by:

- Matan Čulo, coordinator, ASHE,
- Frano Pavić, assistant coordinator, ASHE,
- Ivana Rončević, interpreter at the preliminary site visit and during online meetings, and translator of the Report, ASHE.

On the basis of the re-accreditation procedure conducted, and with the prior opinion of the Accreditation Council, the Agency issues a following accreditation recommendation to the Minister for Higher Education and Science:

1. **issuance of a confirmation on compliance with the requirements** for performing the activities, or parts of the activities
2. **denial of license** for performing the activities, or parts of the activities
3. **issuance of a letter of expectation** with the deadline for resolving deficiencies of up to three years. A letter of expectation can include the suspension of student enrolment within a set period.

The accreditation recommendation also includes a quality grade of a higher education institution, and recommendations for quality improvement.

SHORT DESCRIPTION OF THE EVALUATED HIGHER EDUCATION INSTITUTION

NAME OF HIGHER EDUCATION INSTITUTION: Zagreb University of Applied Sciences

ADDRESS: Vrbik 8

DEAN: Mr. sc. Goran Malčić

ORGANISATIONAL STRUCTURE:

Departments:

- Electrical Engineering Department;
- Civil Engineering Department;
- IT and Computer Department;
- Mechanical Engineering Department.

Chairs:

- Chair of Mathematics;
- Chair of Physics;
- Chair of Economic Sciences;
- Chair of Kinesiology;
- Chair of Foreign Languages.

The Dean's office with the joint services include:

- Dean's office;
- Office for quality;
- Student services;
- Financial service;
- Legal and personnel service;
- Public procurement service;
- Marketing and public information service;
- IT support centre.

STUDY PROGRAMMES:

- Undergraduate professional study Electrical Engineering;
- Undergraduate professional study Civil Engineering;
- Undergraduate professional study IT;
- Undergraduate professional study Mechatronics;
- Undergraduate professional study Computation;
- Undergraduate professional study Mechanical Engineering;

- Specialist graduate professional study Electrical Engineering;
- Specialist graduate professional study Civil Engineering;
- Specialist graduate professional study IT;
- Specialist graduate professional study Mechanical Engineering;
- Specialist graduate professional study Digital Economy;
- Specialist graduate professional study Information Security and Digital Forensics in English.

NUMBER OF STUDENTS:

Table 3.1. Number of students per study programme for the evaluated academic year

Study programme name	Full-time students	Part-time students
Electrical Engineering (525), professional undergraduate study programme, Zagreb	512	105
Civil Engineering (526), professional undergraduate study programme, Zagreb	363	139
Computer Science (527), professional undergraduate study programme, Zagreb	421	156
Computing (529), professional undergraduate study programme, Zagreb	319	159
Mechanical Engineering (530), professional undergraduate study programme, Zagreb	32	101
Polytechnic Graduate Professional Study Programme (531), specialist graduate professional study programme, Zagreb	34	186
Polytechnic Graduate Professional Study Programme (532), specialist graduate professional study programme, Zagreb	35	374
Polytechnic Graduate Professional Study Programme (533), specialist graduate professional study programme, Zagreb	77	246
Mechatronics (534), professional undergraduate study programme, Zagreb	266	72
Information Security and Digital Forensics (536), specialist graduate professional study programme, Zagreb	0	43
Digital Economy (537), specialist graduate professional study programme, Zagreb	0	46
Total	2.059	1.627

NUMBER OF TEACHERS:

Table 4.1.b Structure of staff - for POLYTECHNICS AND COLLEGES in the evaluated academic year

Staff	Full-time staff		Cumulative employment		External associates	
	Number	Average age	Number	Average age	Number	Average age
College professors with tenure	5	62	-	-	2	59
College professors	19	55,4	-	-	8	61,43
Senior lecturers	52	50,31	-	-	22	61,67
Lecturers	53	44,38	-	-	60	48,85
Lectors	-	-	-	-	-	-
Full professors with tenure	-	-	-	-	9	70,33
Full professors	-	-	-	-	11	60,63
Associate professors	-	-	-	-	16	61,64
Assistant professors	-	-	-	-	10	49
Expert assistants	-	-	-	-	3	41,33
Assistants	22	35,65	-	-	75	39,87
Technical staff	4	50,5	-	-	-	-
Administrative staff	12	47,17	-	-	-	-
Support staff	4	54,5	-	-	-	-

SHORT DESCRIPTION OF THE EVALUATED HIGHER EDUCATION INSTITUTION

The Zagreb University of Applied Sciences (TVZ) is a polytechnic college that provides training in various professions, which provides an opportunity for very precise positioning according to the requirements of the labour market. The TVZ educates engineers and specialists in the field of electrical engineering, construction, informatics, computer science, mechanical engineering, mechatronics, prosthetics and orthotics.

About 150 professors and assistants are permanently employed at the University of Applied Sciences in Zagreb, and more than 100 lecturers from other higher education institutions and recognized experts in practice participate part-time in teaching and work. Although TVZ is primarily focused on professional training, the teaching staff are led by more than 20 full-time doctors of science with proven scientific and professional capabilities.

Each academic year, the University of Applied Sciences is enriched by more than 1,000 young and promising students who successfully join the large alumni community that has shaped engineers for more than 50 years. Every year, over 800 new students enroll in professional studies, and about 300 in specialist studies, and there are now 4,300 active students. All of them are educated for the most specific engineering professions, with an excellently equipped computer-laboratory infrastructure which today consists of over 600 computers in more than 40 computer-equipped cabinets/classrooms and 17 highly equipped specialized laboratories.

There are ambitious plans for the period for 2020-25 and continuous improvement of existing and launching new study programmes, the University of Applied Sciences is one of the best and largest Croatian polytechnic.

BRIEF ANALYSIS OF THE INSTITUTIONAL ADVANTAGES AND DISADVANTAGES

ADVANTAGES OF THE INSTITUTION

1. Rich practical experience of the teachers and external associates with practical and state-of-the-art knowledge and skills.

2. Level of students' knowledge and skills. Good use of national library facilities. Good availability of software that students can use off-site.

3. Excellent graduate employment levels and strong industry recognition of the quality of graduates.

4. All teaching staff are highly dedicated and students are very appreciative of the quality of the programmes.

5. Strong group of external teachers, who bring industry-leading current practice to programmes. These staff also assist with the updating and further development of programmes.

DISADVANTAGES OF THE INSTITUTION

1. Lack of and inadequate distribution of space, meaning students have to travel to different buildings for teaching. Some laboratories require upgraded equipment to support rapidly advancing and changing subject areas. As there is no library on-site a study centre for students would be advantageous.

2. Strategic documents are lacking clear goals, defined measures and (numerical) indicators which would show to what extent the goals are reached. The Institution is not yet a fully integrated organisation and departments tend to develop their own strategies.

3. Large drop-out rates in early years of some programmes, although this tends to be due to students with little intention of staying in higher education.

4. Erasmus placements are minimal and both outgoing and incoming and students need more information about transferable credits to give confidence about undertaking international placements.

5. Scientific research is minimal and is in urgent need of development given the status and expectation of TVZ.

LIST OF INSTITUTIONAL GOOD PRACTICES

EXAMPLES OF GOOD PRACTICE
1. Increasing the number of Expert Council members.
2. TVZ Mobile Challenge Cup (TVZ Mc2), organized regularly by TVZ every year in cooperation with the Student Council.
3. Hiring the teaching staff from the TVZ's own funds.
4. Support for disabled students via the Counselling Centre.
5. Excellent availability of sports and recreational facilities.
6. Support for external teachers and integration into programmes.

ANALYSIS OF EACH ASSESSMENT AREA, RECOMMENDATIONS FOR IMPROVEMENT AND QUALITY GRADE FOR EACH ASSESSMENT AREA

I. Internal quality assurance and the social role of the higher education institution

Analysis

Some issues of previous reaccreditation have still not been resolved. Thereby, the most significant problem is the lack of scientific development plan or research policy.

TVZ has achieved ISO accreditation but in itself this is only a framework for QA and it was noted that further development of an institution-wide system was still necessary. The Institution needs to resolve the strategic relationship with individual departments. It was not clear to the Panel whether departments or senior managers were setting down plans and it was felt that this was affecting such key issues such as scientific research. While it is expected that strategy should be enabled locally within departments, the Panel felt that, for example, TVZ's 5-year strategies were not wholly clear. It was felt that this was perhaps due to TVZ amalgamating previously independent departments into a single institution.

The heterogeneous nature was noted in the overarching QA data, which was considered to be lacking. The problem was compounded by the overly long self-assessment document, which contained a large number of superfluous materials that made it difficult for the Panel to obtain and consider important data.

Recommendations for improvement

Review outlined issues from previous reaccreditation and include them in the new action plan.

Senior managers should develop clear agreed institutional strategies for the short and medium terms. Departments should respond and enact local activities to achieve them and collect clear and unambiguous data by which success can be measured and reported at institutional level.

Quality grade

Minimum level of quality

II. Study programmes

Analysis

TVZ has a broad range of programmes in varying sizes from large to quite small in terms of student numbers. The main departments and programme areas are:

> Civil Engineering (both undergraduate and graduate programmes),
>
> Digital Economy (graduate only),
>
> Electrical Engineering (both undergraduate and graduate programmes),
>
> Information Security and Digital Forensics (graduate only),
>
> Information Technologies and Computing (both undergraduate and graduate programmes),
>
> Mechanical Engineering (both undergraduate and graduate programmes),
>
> Mechatronics (undergraduate only).

There is a strong input from industry and professional organisations into the development of programmes and there is a good balance of theoretical and practical teaching and subjects.

It was noted in the Self-Evaluation Report that the institution needs to improve the level of quality of professional studies and harmonise it with the level of quality of similar university studies and internationally accepted criteria for the accreditation of university and professional studies.

Students and employers were highly positive of all programmes and all teaching staff were required to undertake professional development to ensure skills are up to date. It was noted given the issue of the Covid-19 lockdown that students were very happy with the provision of online teaching that was necessary during 2020.

Recommendations for improvement

There was some unclarity with regard to the provision of internships across all programmes, and the Panel recommends that all students are offered the opportunity to undertake a period of industry experience and that this should be compulsory.

TVZ should ensure that plans for library and study facilities are brought to fruition as soon as possible. It is also recommended that a summary of electronic resources is made available for students.

Quality grade
Satisfactory level of quality

III. Teaching process and student support

Analysis
The institution has published clear admission criteria but there are no procedures for improvements to admission criteria or criteria for the continuation of studies that are taken based on the analysis of student performance on the study programme (depending on the admission criteria or criteria for the continuation of studies). Admission quotas are in some cases not aligned with social and labour market needs.

Previous accreditation concluded that it would be helpful to "create special courses to improve student success". Panel members didn't find any evidence that such courses were created systematically across TVZ studies based on the analysis of students' success. Student-centered learning is in focus in several courses but still many professors give lectures in *ex-cathedra* style without too much interaction with students and without enough examples of practice.

Teachers are generally available and committed and some of them contribute to the motivation of students and their engagement. All relevant information in the form of E-learning systems (LMS), repositories, etc. is available to students online.
There are problems with communication between students and the administration office that should be fixed as soon as possible.

Feedback on student satisfaction with professional support provided by the HEI (tutors, supervisors, advisers, ECTS coordinators, library, student administration office, office for international cooperation, etc.) and feedback on student satisfaction with counselling services (psychological, academic/study, legal, career guidance, etc.) is not systematically collected and analyzed.

The ERASMUS program functions properly. Incoming students are well informed, and they receive all necessary information upon coming to TVZ.

Evaluation procedures take into account the special circumstances of certain groups of students (modifying examination procedures to suit e.g., students with disabilities). Criteria and methods for evaluation and grading are clear and they are published before the beginning of a course. All relevant information in regard to that is publicly present on the web for each study programme and each course.

From assessment of a large number of courses and grading procedures it's obvious that written and oral exams are very often almost the only method of testing students even on engineering courses.

The institution provides support to the teachers in the development of skills related to teaching with new methods and guidelines on implementing online assessments but not in a systematic way. It seems that testing and similar assessment methods are generally still held in classrooms.

Students receive proper feedback in various forms (consultations, advice, recommendations or support from teaching staff members like assistants, and demonstrators). Cooperation among colleague students is very developed.

There is no evidence that the institution conducts systematic meta-evaluation as an instrument used to aggregate findings from a series of evaluations (from students, other teachers) for possible improvements to evaluation and teaching methods.

TVZ analyses the employability of its graduates but lacks own systematic collection of records of employability of graduates.

There is no evidence that there is an established system and a database of contacts with alumni and employers.

The Institution provides students with support regarding future career planning in the form of a Counselling Centre, where they can seek help and support of career counsellors. There are example documents showing students can receive support regarding future career planning.

Feedback from alumni and employers was very positive but dominant for computer science and informatics related studies. Some alumni students reported a lack of specific knowledge in certain skills demanded in the market after finishing TVZ.

General employability of TVZ students on all study programmes is very high.

Recommendations for improvement
Define unified procedures on the level of institution that will systematically analyze students' performance on the study programmes, modify admission criteria and implement it systematically.

There is a lack of a systematic approach towards retaining students in the form of a supervisor training programme, changes of admission criteria/curricula or setting up differential courses.

Define, implement, and systematically monitor teaching methods and different modes of programme delivery corresponding to matter taught in agreement with teachers, students, and professional bodies. Revision of what is being done is needed because there are so many procedures in place which are not being applied. Also, it would be beneficial to inform students about the meaning and value of ECTS. This could be done during the first/"welcome" lesson for example.

The TVZ generally lacks a mechanism for aggregating, analyzing and acting upon feedback from various groups of students:
- Feedback from students on the work of professional support, administration office and counselling services,

- Feedback from foreign and outgoing students,

- Feedback from students from vulnerable and under-represented groups regarding necessary improvements in teaching and studying in general.

Some collection of data exists but in this area it is not systematic.

Increase the presence of other teaching evaluations, especially on engineering courses (points for project, practical and field work, etc.). Define meta-evaluations of teaching methods and teaching assessment methods which are really functional.

The previous Panel concluded that the TVZ should "extend its contact with their alumni and keep a specific register of members". It seems that this recommendation has still not been applied.

Quality grade
Satisfactory level of quality

IV. Teaching and institutional capacities

Analysis

The higher education institution has a sufficient number of teachers for teaching process, but not for the research activities according to the Ordinance on the Content of a Licence and Conditions for Issuing a Licence for Performing Scientific Activity and Re-accreditation of Scientific Institutions. Furthermore, it lacks a clear strategy for further employments. Some individual teachers cultivate cooperation with the industry. Quality of external associates is high. The procedure for election to a higher scientific and teaching title is initiated in line with the regulations. However, the teaching staff does not use fully a great potential of professional development opportunities.

There is still a general problem of a lack of space and the equipment is not sufficient to deliver contemporary knowledge on some topics to the students or to conduct cutting-edge research.

The HEI does not have its own library, but tries to solve this problem using the National and University Library and online materials.

The HEI rationally manages its financial resources.

Recommendations for improvement

The higher education institution should define a clear overarching strategy for issues outlined in this assessment area, and communicate it clearly to the whole staff across the departments.

For solving the space problem, the HEI should make further initiatives and attempts towards responsible institutions, if needed.

Quality grade

Satisfactory level of quality

V. Professional and/or scientific activity

Analysis

The TVZ is focused on professional studies whereby scientific activity should be promoted and developed further in the future. The scope and intensity of professional activities beyond pure teaching could be increased. Currently, there is insufficient evaluation activity of the current situation per department, no targets are defined, there is no action plan, and there exist no incentives beyond financial reward for publications. It seems that suggestions provided in the framework of the previous evaluation have not been considered.

Existing cooperation with industries is low-intensity and related to individual contacts and links rather than long-term institutional agreements.

Given the TVZ's heritage, mission and growth potential, such professional activity should be one of the key development directions in the short term. On the other hand, growth in scientific activities seems feasible but should be institutionally supported and managed.

Recommendations for improvement

Development of a concrete research strategy and deriving of corresponding action plans to implement the strategies including the initial as-is status, to-be targets, quantitative benchmarks, milestones, monitoring responsibilities, corrective actions must be seen as mandatory. Such a strategy and especially a concrete implementation plan will contribute to respective the TVZ's significance. Without such management the development is likely to continue being limited to few individuals and groups and linked to scattered enthusiasm.

Institutional links with stakeholders should be established to go beyond personal contacts. An informal external strategic advisory group may be useful.

Promising labs and groups with growth potential should be supported by acquiring state-of-the-art equipment towards applied science capacity.

Quality grade

Minimum level of quality

DETAILED ANALYSIS OF EACH STANDARD, RECOMMENDATIONS FOR IMPROVEMENT AND QUALITY GRADE FOR EACH STANDARD

I. Internal quality assurance and the social role of the higher education institution

1.1. The higher education institution has established a functional internal quality assurance system.

Analysis

Strategic documents do exist except for a functional research strategy. Nevertheless, it seems that there are insufficient action plans and incentives for the implementation of the strategies. In many aspects, there seem to be no quantitative criteria, targets and benchmarks for achievement, hence there are insufficient concrete corrective actions for future improvement. A compact set of clear and measurable key performance indices does not seem to be widely communicated to staff. Harmonization across departments seems to be another issue.

Although TVZ has adopted accreditation to the ISO standard for its QA systems since the last accreditation that gives it a strong framework, the Panel recommend that further strategy and development is necessary. Issues remain from the incorporation of previously independent departments which result in a lack of institution 'lead' in terms of setting medium and long-terms agendas and clear targets. This should be developed with all stakeholders and requires the collection of robust data from all sources.

Recommendations for improvement

Derive action plans to implement strategies including: initial as-is status, to-be targets, quantitative benchmarks, implementation actions and instruments, milestones, monitoring responsibilities and corrective actions.

Develop a clear institutional strategy and target setting for the medium and long-terms. This should state what type of institution TVZ sees itself becoming. This is particularly pressing for research. This requires to all constituent parts of TVZ to 'sign up', an action plan developed and progress assessed and reported regularly.
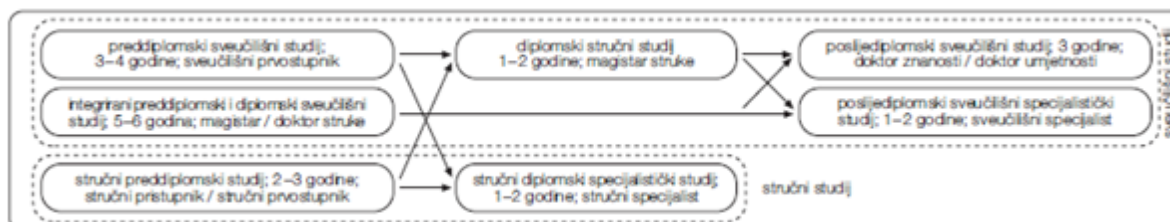
Quality grade

Minimum level of quality

1.2. The higher education institution implements recommendations for quality improvement from previous evaluations.

Analysis

The diploma supplement provided to the Expert Panel graphically implies that the specialist studies programmes are actually "university study programmes" in Croatian version:

And in English version this categorization could be understood in some other way because the translation (University, University of Applied Sciences/School of Professional Higher Education) does not correspond to Croatian version and vice versa:

Yes, the level should be indicated as recommended in previous reaccreditation, but in a proper way (and with correct translations!), following the representation of AZVO: https://www.azvo.hr/en/higher-education/types-of-study-programmes-in-the-republic-of-croatia

There is still a lack of contact with alumni, i.e. there is a formal alumni association but there is no active (formal or non-formal) participation of alumni in reaching strategic goals.

There is still no scientific development plan or research policy. There is only a draft, which is concerning due to the fact that the last recommendations were made 8 years ago.

Internationalization and networking on the level of scientific organizations are still not strong on institutional level, i.e. it is based on personal contacts mainly. Furthermore, there is no improvement towards offering a greater proportion of its programmes in English. Foreign students enroll individual courses after the teachers agree that they are willing to accept them in the particular academic year.

The institution still has a problem with study spaces and classrooms.

Recommendations for improvement
Issues regarding the diploma supplement should be reviewed once more.

Define the role of alumni in a strategy more clearly, with clear goals and measurable indicators.

Scientific development plan and research policy should be defined with corresponding measures and (numerical) indicators which would show to what extent the goals are reached. Thereby, it is necessary to ensure a balanced development of all departments.

Networking should be improved, e.g. by defining and strengthening the role of the Office for International Cooperation more precisely in that direction. Networking as well as offering of greater proportion of TVZ's programmes in English should be defined in a clear overarching institutional strategy. Additionally, there should be a broad fixed list of courses offered in English.

In order to solve a general problem of a lack of space, the HEI should define clear and measurables goals in their strategy and, in accordance with it, make further initiatives and attempts towards responsible institutions, if needed (Ministry of Science and Education, City of Zagreb, etc.).

Quality grade
Minimum level of quality

1.3. The higher education institution supports academic integrity and freedom, prevents all types of unethical behaviour, intolerance and discrimination.

Analysis
Panel members were assured by the quality assurance team that unethical behaviour, intolerance and discrimination are by no means tolerated at the institution and from meetings with students the Panel members were assured that it is really so.

In regard to the documentation that supports that, Panel members have examined a sample case of the Ethical Committee in the folder "Samoanaliza\tema 1\1 3\Primjer izvješća i očitovanja Etičkog povjerenstva.pdf" which shows that unethical behaviour is not tolerated and that student voice in such matter is important. The case shows how professors' duties in the teaching activities can be successfully re-examined and how unacceptable teaching practices and behaviour were changed based on students' complaints.

This case made obvious to the Panel members that the institution has implemented a functional Code of Ethics, Ethics Committee and that it appoints a student ombudsperson or student representatives in the Ethics Committee.

Panel members asked the quality assurance team questions regarding possible student cheating in various activities during times of COVID-19 pandemic. Quality assurance team answered that teaching staff started to use Microsoft Teams platform as soon as possible when COVID-19 outbreak started, not only for delivering lectures but also for oral exams which were introduced as a check after written exams.

Other members of the quality assurance team, which are also members of the teaching staff, assured us that the majority of core teaching activities are conducted with close monitoring of students' activities and that it is not easy to cheat.

Tests are for the majority of courses still held in classroom, online oral exams are regularly used and teaching activities that are delivered fully online require usage of a student's camera to make sure students are not cheating.

On the other hand, Panel members noted that the plagiarism tool (Turnitin) is only used to check against plagiarism in the final works of graduate and undergraduate studies. Departments don't have unified procedures on how to fight cheating in case it occurs on tests nor on how to sanction students if they are caught cheating. Each department is therefore conducting a policy of their own and departments don't use any software solution for making sure that students do not cheat.

Some departments have therefore developed a system of their own (TVZ Grader available on https://grader.tvz.hr/) and they are using it for testing and prevention of cheating on tests.

Some anonymous students' comments received from online form states that it is fairly easy to cheat in the courses that do not use this system (which is the majority of courses).

Panel members have not received or found in submitted documentation any case from the Ethical Committee which shows how the institution is dealing with cases of students cheating in teaching activities.

Recommendations for improvement
Define a unified procedure on the level of all departments for detecting and processing all forms of cheating in all teaching activities, especially those held fully online.

Quality grade
Satisfactory level of quality

1.4. The higher education institution ensures the availability of information on important aspects of its activities (teaching, professional and/or scientific and social role).

Analysis
Information on the study programmes and other activities of the higher education institution is publicly available in the Croatian and English language on the web page of the institution.

Information on the web site is somewhat confusing, for example the web page https://nastava.tvz.hr/kirt/nastavnici/ states that dr. sc. Ćosović Bajić Slavica (ex dean) is the dean of TVZ. Panel members received information that this was an old web site and that it would be removed when a new web site is finished.

Panel members were able to find all other relevant information on the new web site of the institution in regard to admission criteria, enrolment quotas, study programmes, learning outcomes and qualifications.

Likewise, all forms of support available to students are available on the web site, such as student counselling, student's office, student club, etc. including information on relevant events such as open doors day, etc. Other relevant information about various activities is present or it's being set in the new web site.

Students' comments mentioned that sometimes information that they receive is not complete and clear, especially during the admission procedure. While talking to students over Zoom they said that it was to be expected since the student office had to process 3500 admission applications during the COVID-19 pandemic outbreak. Students also noted that all admission cases (in the knowledge) were resolved after several weeks.

The quality assurance team was also asked about the problems related to the communication with the student office and they admitted that they did receive complaints from students, they admit it's a problem they are aware of and that they are working on that.

Recommendations for improvement
Availability of the student office should be seriously re-examined. If students don't receive a reply to their email over several weeks this is something that should be corrected as soon as possible.

All old unused web pages should be shut down. It's very confusing if students see different relevant information on different websites. All published information should be checked and regularly updated. Make sure that the web site and all its content is structured intuitively so all relevant information could be easily found.
All steps of the admission procedure should be up to date with every single relevant step and the same goes for frequently asked questions which students usually have.

Quality grade
Satisfactory level of quality

1.5. The higher education institution understands and encourages the development of its social role.

Analysis
The self-evaluation document defines the social role of TVZ through cooperation with industry, civilian society and local community. While this is certainly true, there should be specific action plans for the implementation of particular elements of vision and mission in order to reinforce the social role of TVZ. During the interviews and discussions with different focus groups it was obvious that individually there was awareness about the social role of TVZ, nevertheless it seems to be based primarily on individual efforts. Given the professional fields of TVZ which are closely related to industries and regional development, there seems to be a substantial potential for enhancing the social role of TVZ and reaching out institutionally rather than individually. For example, public lectures and seminars seem to be dominant in areas such as appraisal of estate, cyber security and some in mathematics, while other areas seem less represented. Given the size of TVZ and its scope of professional areas, more professional workshops, institutional cooperation or advisory services for industries, more lifelong learning programs across all departments, non-degree specialist courses (new technologies and skills), etc., might be interesting. TVZ seems to be active in terms of applications within the new IRI support programs.

While there is some activity related to organizing seminars, some conferences and supporting some professional associations, it seems to be linked to just a few fields and not equally present at all departments. Given the circumstances of several troubled

industries, there seems to be much more potential for the role of TVZ in advisory role and support to local and regional authorities.

Recommendations for improvement

Adequate action plans and structured responsibilities should be developed to increase the scope and intensity of activities. Activities should be promoted and developed within all departments and extended from individual efforts to institutional activities. Beyond the activities in education and similar fields, stronger links to local and regional authorities could perhaps be developed towards actively engaging the TVZ in planning and supporting economic development.

Quality grade

Satisfactory level of quality

1.6. Lifelong learning programmes delivered by the higher education institution are aligned with the strategic goals and the mission of the higher education institution, and social needs.

Analysis

TVZ executes several lifelong learning programmes, which is referred to in the TVZ long-term strategy 2014-2025, and such non-degree educational programmes are organized by the internal Center for Lifelong Learning. The procedures of the Center are regulated by the internal procedure SOP-27 and SOP-27/2 which were accepted by the Management Board of TVZ.

The Center has delivered 20 courses for certified architects, civil engineers, mechanical and electrical engineers in 2006-2011, for which they got formal approval by the Ministry of Construction and Urban Planning.

The Center has also delivered a number of courses in IT and computer networks within their programs Netakademija and Cisco akademija. TVZ offers these as a Cisco Academy (CA), Cisco Academy Support Center (ASC) and Cisco Instructor Training Center (ITC). As CA, the TVZ offers the following programmes: IT Essentials, CCNA, CCNA Security, CCNA Cybersecurity, Networking Essentials, CCNP, for students and external scholars.

The Center also offers internal education on new technologies and tools in education such as Moodle LMS, e-learning, Crosbi, and also Safety at work.

There should perhaps be more specialized courses for the industry, beyond the certification programs of the industrial chambers and the Cisco academy. Lifelong learning is nowadays increasingly important as the scope of know-how in all professions grows at a high rate, and all professionals need to learn and develop their respective sets of competencies and skills in order not to be left uncompetitive with obsolete or outdated skills. This seems to offer significant opportunities to TVZ given its scope of engineering areas.

The potential market for this activity is very wide and stretches beyond IT, definitely for example to electrical and mechanical engineering, where there seem to be few systematic lifelong learning packages offered regularly. Professional certification courses are certainly one option, but other should perhaps be offered for public support towards partial specialist education (new technologies and skills) for jobs for which there is demand. We could not see that all departments of TVZ actively offer specific lifelong learning, it doesn't seem to be a regularly organized activity in all departments.

Recommendations for improvement
There seems to be extensive potential for TVZ in the area of lifelong learning. This could reinforce the social role of TVZ but also generate some income for further growth. The potential customer base may include professionals who need certification or new sets of skills, industries in restructuring, regional authorities, institutions providing horizontal support for specific sectors of the economy, etc.

Extensive market analysis should be launched to detect niches and gaps, and industries and authorities should be approached to develop new specialist courses accordingly. TVZ should perhaps explore whether to develop tailor-made lifelong learning programmes for interested industries.

Quality grade
Satisfactory level of quality

II. Study programmes

2.1. The general objectives of all study programmes are in line with the mission and strategic goals of the higher education institution and the demands of the labour market.

Analysis

The Panel members note that the TVZ does align its mission and strategic goals with the demands of the labour market. There is a rich tradition of study programmes that have been highly successful for many years. New study programmes are being developed successfully and are responsive to the requirements of employers and industry demands. This response is based mostly on personal contacts. However, there seems to be no systematic evaluation across departments. TVZ has high graduate employment and underlines the accomplishment of the institution's strategic goals.

Recommendations for improvement

Develop a more specific strategy that will allow a clear evidence-based measurement of achieving these goals.

Provide more evidence of the analysis and the implementation of recommendations from professional organisations.

Quality grade

Satisfactory level of quality

2.2. The intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.

Analysis

The outcomes are written in line with the guidelines of the Act on Croatian Qualification Framework. The graduates and alumni consider that the study programmes are sufficient and beneficial for them. Employers express their satisfaction with the ability of engineers who completed the programme. However, there is some lack of practical knowledge in the study programmes covering the areas of robotics and mechatronics due to the lack of appropriate equipment.

Regarding IT related programmes:
- Undergraduate professional study IT,

- Specialist graduate professional study IT,
- Specialist graduate professional study Digital Economy,

Panel members concluded that intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.

Panel members have received some reports about problems with transferred students from the University of Split in Zagreb.

Panel members received a report that due to a lack of students, the University of Split in Zagreb was closed as a field of study, and the students of that institution were transferred to TVZ (professional study Digital economy), where they graduated in the field of Accounting and Finance. Since TVZ is a Technical Polytechnic and the University of Split is a University of Economics, this is paradox situation. The report also states that students were unable to receive a proper professional title at the end of study due to previously stated reasons.

Regarding the undergraduate professional study of Mechatronics:
- Panel members concluded that intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.

- Panel members also concluded that the programme is up to date with Industry standards, but the equipment isn't quite on the same level regarding robotics and automation (PLCs).

Regarding the study of Electrical Engineering:
- Panel members concluded that intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.

- We are greeting the possibility of choosing different directions of specialization at the undergraduate level (Electrical power engineering, Control and computer engineering in automation, etc.) i.e. courses in general at the graduate level.

- The learning outcomes and content of soft skills courses in general (Social Philosophy and Technology Entrepreneurship) should be re-examined in cooperation with the employers.

Regarding the undergraduate study of Civil Engineering:
A lengthy set of documents was provided by TVZ covering 292 pages, giving list after list of modules and tutors. While this is a comprehensive document, a summary document would be useful that would allow a specialist Panel member to navigate clearly the development of the programme from First to Final Year.

It was not possible to understand how many electives students can or must undertake in any semester. Why are so many tutors named in each module? Who is responsible/leader for the module?

A number of 'Final Thesis' outputs are mentioned but there was no evidence of students undertaking an individual research project.

It was difficult to see how the compulsory part of the programme has been developed and how often it is reviewed. The programme appears to favour the Building design and while construction and reinforced concrete is covered extensively the descriptions provided suggest that this is more at member level rather than a complex frame. Steel framed design and construction is not sufficiently covered. Other areas that receive enhanced attention are i) climate emergency, sustainability, ethics and inclusion; ii) role of design in safe construction and operation of buildings and structures and health and safety risk assessment; and iii) increased emphasis on practical, applied and authentic design exercises.

Regarding the graduate study of Civil Engineering:
As noted above, a straightforward summary document for the graduate programme would have been helpful, particularly how opportunities are facilitated to integrate the technical and non-technical aspects of engineering and to develop a commitment to professional and social responsibility and ethical codes of conduct. Again, there is no individual research project listed. The comments provided above apply to the graduate programme.

Regarding the study of Mechanical Engineering:
The study programmes in mechanical engineering include undergraduate professional study in mechanical engineering and polytechnic specialist graduate programme, specialization in mechanical engineering.

The course objectives and learning outcomes are formulated and structured both for obligatory and elective courses and generally correspond to standards. Particular course contents of individual lectures and laboratories are defined along with teaching methods.

The overview tables for individual programmes provided to the Panel should be clarified as 'new' and 'old' programmes are referenced, and there are some incorrect links to the English versions of documents. The document for the graduate programme refers only to elective courses in higher semesters and there are no guidelines related to the selection rules for elective courses. Corresponding presentation on the TVZ website is missing. It should be improved to communicate the essential information to existing and potential students.

Recommendations for improvement
Through systematic communication with partner companies and alumni the HEI should identify, primarily for mechatronics and robotics, but also in general, which learning outcomes are not adopted by the students, and define an action plan how to solve this issue.

The problematic situation with students transferred from the University of Split to TVZ (Digital Economy study programme) should be rectified as soon as possible.

In case of more study programme branches (e.g. in Electrical Engineering: Electrical power engineering, Control and computer engineering in automation, etc.) and choosing elective courses in general, the HEI should check the students' motivation for their decision, i.e. check if they are motivated by (apparent) difficulty of the branches, or by their judgement regarding future employability, etc.

The learning outcomes and content of soft skills courses in general (e.g. Social Philosophy and Technology Entrepreneurship at the Electrical Engineering study) should be re-examined in cooperation with the employers and balanced between various study programmes, but also respecting the peculiar needs of each programme.

Upgrade equipment (what is possible and achievable) and try to get/buy a robotic arm.

Quality grade
Satisfactory level of quality

2.3. The higher education institution provides evidence of the achievement of intended learning outcomes of the study programmes it delivers.

Analysis
The evaluation of learning outcomes is carried out according to the evaluation criteria described in the study programmes for each course individually, mostly through final

written and oral exams. Feedback from employers is unfortunately not used systematically as a kind of performance indicator. Additionally, formal measurement method for overall assessment of the achievement of intended learning outcomes does not exist.

Recommendations for improvement
Through systematic communication with partner companies and alumni the HEI should check continuously if the defined learning outcomes reflect the real needs of the labour market. In addition, through student enquiries, for example after passing the exam, students should carry out a form of self-evaluation to see to what extent they adopted the learning outcomes, which will be very useful information to the teachers in order to modify teaching and evaluation methods.

Quality grade
Satisfactory level of quality

2.4. The HEI uses feedback from students, employers, professional organisations and alumni in the procedures of planning, proposing and approving new programmes, and revising or closing the existing programmes.

Analysis
Generally, yes, but there is no informal external 'council' or systematic evaluation of such feedback except at the level of active alumni (to some degree) elements of the standard. Development activities related to study programmes are carried out systematically and regularly, involving various stakeholders.

Planning and proposing new study programmes includes an analysis of justification for delivering a study programme, resources and alignment with the strategic goals at the local and regional level, and other needs of society.

The higher education institution publishes up-to-date versions of study programmes and records the changes to study programmes.

Recommendations for improvement
Launch an extensive survey with stakeholders (especially potential employers and professional organisations) and evaluate. This should be coordinated by TVZ management and implemented at departmental level.

TVZ should analyse records of change for their fitness for purpose.

Quality grade
Minimum level of quality

2.5. The higher education institution ensures that ECTS allocation is adequate.

Analysis
There is contradictory information related to this, and it also seems that different departments are not fully harmonized due to their respective different histories, heritage, circumstances, demand, etc. This applies also to several other aspects beyond this.

Although there is discussion with the student body with regard to ECTS allocation, there is insufficient analysis of real workload levels. Students are not being systematically consulted about the number of hours that are actually being spent to complete coursework, etc. Academic staff are estimating student workloads without confirmation of the students.

Recommendations for improvement
Develop cross-departmental harmonization meetings and procedures.

There should be clear workload modelling for each programme that measures actual student effort and ensures that this is similar across different programmes. This measurement must include student and recent graduate input and feedback.

Quality grade
Satisfactory level of quality

2.6. Student practice is an integral part of the study programmes.

Analysis
According to the provided study programme documents and information gained at the meetings, student practice is a substantial part of study programmes (or even combined with final thesis, as in the case of undergraduate civil engineering programme). However, in some cases the student practice seems to be just an elective course (e.g. in the case of undergraduate electrical engineering programme) or even non-existent (mostly at graduate level), which shows significant imbalance in approach between the departments. Although it is understandable that various study programmes can have some differences in dealing with student practice, it is expected that all students have a

form of student practice (adapted to specific needs of the programme) as mandatory content, due to the professional focus of the HEI.

Recommendations for improvement
Harmonize the conditions for the student practice between the study programmes and departments, as well as the procedures of conducting the practice and checking/ensuring its quality (e.g. through student feedback, but also through alumni feedback), respecting the specific needs of the study programmes. Thereby, the employers (companies) and alumni must be included in the corresponding discussion and decision-making regarding the form and timing of the student practice.

Quality grade
Minimum level of quality

III. Teaching process and student support

3.1. Admission criteria or criteria for the continuation of studies are in line with the requirements of the study programme, clearly defined, published and consistently applied.

Analysis
The institution has published clear admission criteria which are present on the web site of the institution and explained clearly in the Self-evaluation Report.

The Institution has defined decision-making procedures regarding the admission criteria (evaluation of high school GPA and State Matura level as well as scoring additional achievements of the applicant).

TVZ has recognition procedures and examples of recognition of Croatian higher education qualifications, periods of study and prior learning in the case of continuation of studies. Panel members have found samples of such documentation in folder/file - "/3 08/Rješenje molbe za prijelaz" which shows the procedure of transfer from another HEI institution with recognition of courses.

Panel members didn't receive any proof that improvements to admission criteria or criteria for the continuation of studies are made based on the analysis of student performance on the study programme (depending on the admission criteria or criteria for the continuation of studies).

Recommendations for improvement
Define unified procedures on the level of institution that will systematically analyse students' performance on the study programme, modify admission criteria and implement it systematically.

Quality grade
Satisfactory level of quality

3.2. The higher education institution gathers and analyses information on student progress and uses it to ensure the continuity and completion of study.

Analysis
Panel members noted from submitted documentation that there is a very high drop-out rate among students in the first year of study on many programmes. For example, the Analytic supplement (240) states that for 2018 drop-out rate for the study programme of Civil Engineering was 30% for students enrolling in the second year.

Management of school as well as the Self-evaluation report states that the HEI usually receives applications from students with lower scores. The Self-evaluation report states: "Lower transition and completion are generally observed in undergraduate studies, which can be explained by greater interest of the better high school students for the university studies."

Panel members haven't found any strong evidence of systematic approach towards this problem. There is no retention policy of any sort, nor there is evidence on systematic monitoring of student success with steps taken towards helping students systematically in finishing study and specifically helping lower grades students to finish the first year successfully.

Previous accreditation concluded that it would be helpful to "create special courses to improve student success". Panel members didn't find any evidence that such courses were created systematically across TVZ studies based on the analysis of student success.

The Self-evaluation report states that "students have insight from the very beginning in their progress, and are thus motivated to try harder if they notice that they are lagging behind other students or behind the targeted results" which does not imply any methodical support. However, latter on the report mentions that students have the right to consultations, additional classes if requested and help of a fellow demonstrator student but Panel members have no evidence that such methods are systematically implemented

across studies. Annex 2.2 chapter "Enhancing the study on the example of the Study of Civil Engineering" shows advancement of a course but this is general modernization of course without focus on lower grades students.

Recommendations for improvement
This Panel, again, recommends what the previous panel have already recommended – to create special courses for students to improve their success. There is a lack of systematic approach towards retaining students in the form of supervisor training programme, changes of admission criteria / curricula or setting up differential courses.

Quality grade
Minimum level of quality

3.3. The higher education institution ensures student-centred learning.

Analysis
After the evaluation of study programmes submitted by the institution the Panel members are under the impression that there are too many courses that apply written and oral exam as the main, only or dominant way of testing students' success on courses.

Student comments mentioned some nice examples of student-centered learning but they also mentioned that many professors give lectures in ex-cathedra style without too much interaction with students and without enough examples of practice.

As a proof of student-oriented teaching the chapter 3.3. of the Self-evaluation report mentions some nice awards and similar, but this is not related to "student-oriented teaching" topic. Panel members noticed that students don't have enough knowledge about the distribution of ECTS points.

Soil Mechanics course and few other courses seems to use „collaborative learning", various research activities and some similar student-oriented activities. Many courses do heavily rely on practical work, some field work and projects but there is no evidence that the HEI continually evaluates and adapts teaching methods and different modes of programme delivery.

There is however evidence of revision of a whole study programme, while it is not clear weather new teaching activities were implemented together with the revision of the programme itself.

Assessment of teaching methods is mentioned several times in the Self-evaluation report in the form of student survey, other colleagues' assessment and external assessment by another college. In all these chapters there is no explanation of how a systematic approach of assessment and improvement afterwards works – it seems that this is predominantly left to teachers in accordance with student surveys and that there is no supervision over that process whatsoever. This was the Panel's impression even after talks with the Quality assurance team and management of the institution. Also, there is no evidence of feedback from professional community on teaching methods.

Different modes of programme delivery are applied for various types of students and circumstances. From talks with students, Panel members concluded that under-represented and vulnerable groups of students are well taken care of, considering the adaptation of teaching methods and other aspects of study and learning in general as well.

TVZ is trying to modernize all its lab facilities but the Panel members cannot state that what has been seen in laboratories where lab work is done is state-of-the-art technology. However, student labs are conducted properly and Panel members saw evidence from the visit to lab facilities that TVZ teaching staff is adopting its practical teaching methods to the online environment.

From talks with students Panel members concluded that teachers are available and committed and that some of them contribute to the motivation of students and their engagement. All relevant information in the form of E-learning systems (LMS), repositories, etc. are available to students online.

Recommendations for improvement
Define, implement, and systematically monitor teaching methods and different modes of programme delivery corresponding to matter taught in agreement with teachers, students and professional bodies. Revision of what is being done is needed because there is so many procedures in place which are not being applied. Also, it would be beneficial to inform students about the meaning and value of ECTS. This could be done during the first/"welcome" lesson for example.

Quality grade
Minimum level of quality

3.4. The higher education institution ensures adequate student support.

Analysis

Guidance on studying and career opportunities exists formally in the form of Regulations on studying and other regulations on internal organisation of the institution. There are two documents in the folder "Samoanaliza\tema 3\3 04\SAVJETOVALIŠTE" which shows the report of two students from vulnerable group who had positive experiences with Student counselling office and adaptation of teaching activity according to their need.

During the conversations with heads of departments mentioned they said that they have regular meetings with students and good relationship with them.

Problem with the communication between students and administration office is confirmed. A member of the Quality Assurance team confirmed that students are complaining that members of the administration office are not properly responding to student emails. The problem was addressed and the QA team said that they are working on solving that issue.

Students' comments mentioned that there was a lack of organisation during admissions in year 2020. Students enrolling in specialist studies noted that they "did not know which documents to send or to which account to pay." These circumstances however could be explained by pandemic situation which escalated at the time of sign-ups. However, new web page at https://www.tvz.hr/upisi/diplomski guides students of specialist studies clearly through the admission procedure with all relevant information present.

Information on the number, qualification structure and availability of administrative staff is available online. There is no information on training, professional development, and exchange of administrative staff. The previous accreditation concluded that "the institution is recommended to increase its study spaces and classrooms and establish a library for the special scientific demands of the departments". Library has still not been established, as stated by the Self-evaluation Report.

In the conversations with students and from submitted documentation the Panel found some evidence that student support and counselling services are functional and available to students of various groups.

From talks with students, Panel members concluded that teachers' availability is usually prompt and adequate and information on consultation hours is always provided to students.

As stated by the Self-evaluation Report: "Student Council representatives have the right and obligation to participate at Expert Councils". Also, the new Statute defined that 23 students are now members of Expert Councils and therefore can influence work of Council more significantly. Panel members however have no practical proof of how that is implemented.

Feedback on student satisfaction with professional support provided by the HEI (tutors, supervisors, advisers, ECTS coordinators, library, student administration office, office for international cooperation, etc.) and feedback on student satisfaction with counselling services (psychological, academic/study, legal, career guidance, etc.) is not systematically collected and analysed.

Recommendations for improvement
Start collecting feedback from students on works of professional support, administration office and counselling services. Implement mechanisms for the implementation of needed changes and monitor their implementation, otherwise some systemic problems will persist.

Quality grade
Satisfactory level of quality

3.5. The higher education institution ensures support to students from vulnerable and under-represented groups.

Analysis
There are some examples of provision of financial support to students from vulnerable and under-represented groups. From talks with vulnerable and under-represented students Panel members concluded that facilities are adopted for entrance for disabled students and that the teaching staff, administration and counselling services are helping those students in every way possible.

There is documented evidence, as mentioned previously, i.e. a report of two students from vulnerable group who had positive experiences with Student counselling office and adaptation of teaching activity according to their need in various courses.

Recommendations for improvement
Start collecting feedback from students from vulnerable and under-represented groups and use it for necessary improvements in teaching and studying in general.

Quality grade
Satisfactory level of quality

3.6. The higher education institution allows students to gain international experience.

Analysis
Students are informed about the opportunities for completing part of their study abroad as stated in the Self-evaluation Report: "In the first lecture for the first-year students, the students are introduced to the opportunities offered by Erasmus." Panel members had the impression that Erasmus staff is well informed and helpful from talks with them. Usually about 30 students on average participate in the Erasmus mobility programme.

Submitted documentation contains Erasmus Charter for Higher Education for the period 2014-2020 and other types of exchange agreements and projects that enable incoming and outgoing student mobility. In 2019, six teaching staff members participated in Erasmus mobility program. Since 2017, the institution has participated in 10 Erasmus projects with a total of EUR 239.592 received. The institution has signed agreements with 38 institutions. List is created as "proposals of the employees and students or on invitation from other higher education institutions" as stated in the Self-evaluation Report.

The exposure of students to English language teaching and/or work with foreign professors and colleagues is somewhat week considering the number of study programmes. From the talks with the Quality Assurance team, some 30 courses could be delivered in English. Records given by the institution show that in 2018 eight incoming professors participated in Erasmus mobility.

The Institution has established the procedure of recognizing ECTS points as stated in the Self-evaluation Report "ECTS coordinator issues a document Recognition of grades acquired through ERASMUS mobility" which is the basis for that.

Analysis of student satisfaction with the quality of support provided by the HEI does not formally exist. The Institution has a less formal way of collecting this data as stated in the Self-evaluation Report: "students report to their ECTS coordinator or Erasmus administrator in case of any problem, and upon return, the student shall submit a report on their stay." This only explains student support services but does not explain weather there is any systematic feedback taken from students.

Panel members did not find any document that shows examples of the assessment and recognition of ECTS credits obtained at foreign higher education institutions. There is single document that gives report on only one student's experience in Samoanaliza\tema 3\3 06\ERASMUS\Izvješće studenta o stručnoj praksi.docx however this document clearly shows that students are gaining competencies required for the employment in an international environment.

Recommendations for improvement
Start collecting feedback from foreign and outgoing students systematically and use it for necessary improvements. The Self-evaluation Report should be updated with information on foreign student learning the Croatian language.

Quality grade
Satisfactory level of quality

3.7. The higher education institution ensures adequate study conditions for foreign students.

Analysis
TVZ has a publicly available web page that contains all relevant information about International and national cooperation in regard with ERASMUS+ incoming mobility program. Information is available at:
https://www.tvz.hr/international-and-national-cooperation/erasmus/incoming-mobility/students?lang=en.

On average, around 30 foreign students participate in ERASMUS program. Incoming students are well informed and they receive all necessary information upon coming to the TVZ as stated in Self-evaluation Report (International office; ERASMUS coordinator).

There is some evidence that the institution systematically collects feedback on satisfaction and needs of foreign students only based on a statement in Self-evaluation report: "When leaving TVZ, each student is required to submit a report on their satisfaction with the teaching process. These reports are reviewed and processed." Since the report is not a survey it seems, again, there is a lack of a systematic approach in this area.

The Panel members didn't find any documentation about the number of foreign students involved in the Croatian language learning.

There seem to be no oral lectures in English as there are few incoming Erasmus students, they are mentored individually instead, which is acceptable.

Foreign students are well informed about studying and living in Croatia.

Recommendations for improvement
Start collecting feedback from foreign and outgoing students systematically and use it for necessary improvements. The Self-evaluation Report should be updated with information on foreign student taking Croatian language. Make a fixed list of courses offered to foreign incoming students for each year and update it regularly.

Quality grade
Satisfactory level of quality

3.8. The higher education institution ensures an objective and consistent evaluation and assessment of student achievements.

Analysis
There is evidence that evaluation procedures take into account special circumstances of certain groups of students (modifying examination procedures to suit e.g. students with disabilities). Document in the folder \Samoanaliza\tema 3\3 08\primjer Savjetovališta za studente\Izvođenje nastave te provjera znanja i vještina prilagođeni su osobama iz ranjivih i podzastupljenih.docx shows a request for such adaptations for 2 courses. Several other documents with similar requests are available together with explanations on what modifications are necessary in current teaching activities so students can reach the same learning outcomes.

The criteria and methods for evaluation and grading are clear and published before the beginning of a course. All relevant information in regard with that is publicly available on the web for each study programme and each course.

Panel members cannot conclude that criteria and methods for evaluation and grading are always aligned with the teaching methods used. From the assessment of a large number of courses and grading procedures it's obvious that written and oral exams are very often almost the only method of testing students even on engineering courses where other, more practical testing evaluations, are more advisable in the form of projects, group projects, etc. which should carry more points.

The Institution provides support to teachers in the development of skills related to teaching with new methods and guidelines on implementing online assessments but not in a systematic way. It seems that testing and similar assessment methods are generally still held in classrooms.

There is no evidence or examples of implemented procedures for ensuring the objectivity and reliability of grading but as stated in the Self-evaluation Report: "TVZ carries out every year the so-called teacher assessment. For this purpose, the teachers are grouped in threes, and their task is to analyse each other's teaching materials, discuss the teaching methods, and finally assess the work of their colleague and submit a report". Since this is only the mechanism of possible change of teaching assessments and teaching methods it is to be expected that teachers would do this in pro-forma style. There is no evidence that this is an effective method.

Students receive feedback on the evaluation results within days, as stated by the Self-evaluation Report. It's also stated that students have the right to consultations, advice, recommendations or support from teaching staff members, assistants, demonstrators, but often also the cooperation among colleague students is very developed.

There is no evidence that the institution conducts systematic meta-evaluation as an instrument used to aggregate findings from a series of evaluations (from students, other teachers) for possible improvements in evaluation and teaching methods.

Recommendations for improvement
Increase presence of other teaching evaluations especially on engineering courses (points for project, practical and field work, etc.) Define meta-evaluations of teaching methods and teaching assessment methods which really work, not only based on students' feedback from surveys or other teaching staff evaluations but some overall procedure which will incorporate those methods and make sure they are systematically implemented on each study programme. Also, give proof that implemented assessment is not only another defined procedure in the Self-evaluation Report.

Quality grade
Satisfactory level of quality

3.9. The higher education institution issues diplomas and Diploma Supplements in accordance with the relevant regulations.

Analysis
Make sure that translation from Croatian to English version of diploma supplement is implying same thing, specifically please check AZVO page and updated graphical representation according to the information published (https://www.azvo.hr/en/higher-education/types-of-study-programmes-in-the republic-of-croatia).

Quality grade
Satisfactory level of quality

3.10. The higher education institution is committed to the employability of graduates.

Analysis
The higher education institution analyses the employability of its graduates based on the Croatian Employment Service on registered unemployment and registered vacancies and also based on the reaction of different companies addressing the need for employees, as stated in the Self-evaluation Report. But there is no evidence that TVZ has a record of employability of its own students.

TVZ does use some existing alumni contacts to maintain links with companies which are potential employers but there is no evidence that this is done systematically across studies.

TVZ states that it supports the work of Alumni TVZ, which clearly indicates that this association is a student governed body.

There is no evidence that there is an established system and a database of contacts with alumni and employers. Alumni TVZ members need to register by filling out the form to the Alumni club – this procedure doesn't guarantee the information will be entered in the alumni database.

From talks with alumni Panel members noticed that not all present alumni are receiving newsletters from the Alumni Club nor that they are aware of all its activities.

Admission quotas in some cases are not aligned with social and labour market needs. Specifically, admission quotas for Computer Science for example is set on 100 for the last three years while in 2018 there were 312 applied students, in 2017 there were 303, and in 2016 there were 289 students. Similar situation is for Computing study programme.

The Institution provides students with support regarding future career planning in the form of Counselling Centre, where they can seek help and support of the career counsellors. There are example documents showing students can receive support regarding future career planning.

Feedback from alumni and employers was very positive but predominantly so for computer science and informatics related studies. Some alumni of the Mechatronics study mentioned that they lack certain knowledge and skills demanded in the labour market after finishing the TVZ.

Table 3.7 from the Analytic Supplement is showing that the general employability of TVZ students on all study programmes is very high.

Recommendations for improvement
The previous Panel concluded that the TVZ should "extend its contact with its alumni and keep a specific register of members". It seems that this recommendation has still not been applied.

Quality grade
Satisfactory level of quality

IV. Teaching and institutional capacities

4.1. The higher education institution ensures adequate teaching capacities.

Analysis
The higher education institution at the moment does not have a sufficient number of teachers according to the Ordinance for Performing Scientific Activity (at least 5 teachers selected into scientific or scientific-teaching grade and 3 of them must be in the technical field). According to the data in the Analytical Supplement to the Self-evaluation Report, one of the study programmes (Digital Economy) is showing a low ratio of full-time employed teachers and teaching hours (0,19 to 0,33 depending on type of courses), and this issue should be taken care of in the following period. The teachers are qualified for courses they deliver. Teacher-student ratio is 1:19 which is in line with the minimum criteria of the Ordinance for Performing Higher Education Activity. Workload is mostly appropriate and in line with regulations and policies, but there are more significant deviations (e.g. zero workload for some teachers), according to the Table 4.3.

Recommendations for improvement
The higher education institution should have a clear overarching strategy for further employments regarding the expected development of research and study programmes, i.e. employ more teachers (through Ministry funds or their own funds) for study programmes which are generating more interest from the labour market. In doing so, the institution will solve a problem of too big teaching groups at some study programmes. According to the strategy, upgrade promising labs and groups with growth potential by acquiring state-of-the-art equipment towards applied science capacity. Deviations in teachers' workload must be analysed and corrected, especially in cases of zero workload.

Quality grade
Satisfactory level of quality

4.2. The higher education institution ensures appropriate quality of external associates.

Analysis
As stated in the Self-evaluation Report document (Chapter 4.2), the procedure of appointment to scientific-teaching positions and corresponding job positions are aligned with the current legal framework and the Regulations on the procedure for the election into scientific and teaching, artistic and teaching, scientific, teaching, and associate titles and to appropriate positions at the University.

In the meetings it was clear that the external associates are contributing to the quality of study programmes through their practical and state-of-the-art knowledge and skills presented to the students during the teaching and final/graduation theses. In addition, in some cases, external lecturers allow the use of their companies' lab, which helps students to compare their study experience with the expectations of the labour market.

Recommendations for improvement
None

Quality grade
High level of quality

4.3. Teacher recruitment, advancement and re-appointment is based on objective and transparent procedures, which include the evaluation of excellence.

Analysis
The procedure for the election to a higher scientific and teaching title is initiated in line with the corresponding regulations. Because of the specific institution structure, decision-making procedure on the departmental and institutional level is carried out in communication between individual departments and the Dean's Board.

Recommendations for improvement
It is needed to communicate the strategic plans, also with a view to recruitment, better between the whole staff, among all departments. In doing so, it is expected that the HEI will grow to a more integrated unit.

Quality grade
Satisfactory level of quality

4.4. The higher education institution provides support to teachers in their professional development.

Analysis
There are possibilities for teachers' professional development (provided by the Lifelong Learning Centre and Counselling Centre), but only a small proportion of the teaching staff takes advantage of it, i.e. acquisition of technical and soft skills. However, there is no clear motivation mechanism and/or initiatives from the management towards the teachers, i.e. professional development is mostly voluntarily (with the exception of methodical

pedagogical psychological training, which is compulsory for all new teaching staff without previous teaching experience). There was no example for sabbatical leave.

Recommendations for improvement

The higher education institution should define motivation mechanisms for teachers' professional development and sabbatical leave.

Quality grade

Satisfactory level of quality

4.5. The space, equipment and the entire infrastructure (laboratories, IT service, work facilities etc.) are adequate for the delivery of the study programmes and ensure the achievement of intended learning outcomes and the implementation of professional and/or scientific activity.

Analysis

The equipment and the entire infrastructure (laboratories, IT services, work facilities, etc.) are minimally sufficient for the delivery of study programmes, ensuring the achievement of the intended learning outcomes and the implementation of scientific activity. However, it is not sufficient to deliver contemporary knowledge on some topics to the students or to conduct cutting-edge research (e.g. robotics and mechatronics are lacking a robotic arm, civil engineering should include more contemporary software tools). Consequently, equipment is not sufficient to conduct research activities in general.

The HEI makes new investments in equipment, but it relies heavily on initiatives from individual departments without any clear overarching strategy, which causes uneven development of departments.

There is still a general problem of a lack of space (corrected data delivered during the meetings resulted with the ratio $4344/(2059+1627)=1{,}18\text{m}^2/\text{student}$, contrary to $6003/(2059+1627)=1{,}63 \text{ m2/student}$ provided in the Analytical Supplement).

Recommendations for improvement

The investment in equipment should be increased to achieve a higher level of education and research quality in a reasonable time period. Thereby, there should be a clear overarching strategy in order to ensure an even development of departments.

To improve teaching conditions, it is recommended to encourage and motivate teachers/researchers to apply for research and professional projects, that are focused to equipment procurement.

In order to solve a general problem of a lack of space, the HEI should define clear and measurable goals in their strategy and, in accordance with that, make further initiatives and attempts towards responsible institutions if needed (Ministry of Science and Education, City of Zagreb, etc.).

Quality grade
Minimum level of quality

4.6. The library and library equipment, as well as access to additional resources ensure the literature necessary for ensuring high-quality of study and scientific and teaching activity.

Analysis
The HEI does not have its own library, so the students have to rely on the National and University Library. There are corresponding procedures, which ensure that the Library procures literature needed by the students. Students did not report any problems regarding literature availability. However, the HEI did not provide the data about the availability of required literature in the Self-evaluation Report.

Needed literature is also available online at the institution's learning management systems.

Recommendations for improvement
The HEI should develop its own "e-library" which will provide at one place all resources at the moment available online at the institutions' learning management systems, scattered through individual courses. In that way, students (but also the teachers) should have the possibility to have a clear overview and to search literature, but also to evaluate and harmonize online teaching materials through various departments, study programmes, technical and research areas.

Furthermore, the HEI should gather and analyze data about the availability of required literature, independent of its location and source (the National and University Library, their own e-books, etc.).

Quality grade
Satisfactory level of quality

4.7. The higher education institution rationally manages its financial resources.

Analysis

Tables 4.11 and 4.12 show that the higher education institution rationally manages its financial resources. However, due to the lack of a clear overarching institutional strategy there are no clear investment plans and priorities for the future. Investments are made according to the needs of individual departments, without any strategic mechanisms to balance the development between the departments. Furthermore, due to the favorable economic environment and personal contacts with industry it is expected to have higher income resulting from professional projects than 1% reported in the Subsection 4.7 of the Self-evaluation Report.

Recommendations for improvement

Define a clear overarching institution strategy which should be the basis for future income and expenditure plans, including a plan for increase of professional projects and for investment of the surplus, especially in starting research projects, i.e. strengthening research capacities and resources.

Quality grade

Satisfactory level of quality

V. Professional and/or scientific activity

5.1. Teachers and associates employed at the higher education institution are committed to the achievement of high quality and quantity of professional and/or scientific activity.

Analysis

Despite the recommendation provided in the last accreditation session, there is still no adequate research strategy and consequently no action plan presented in a structured form. A draft document 'Strategic program for scientific activities – draft version' was submitted as 'additional documentation' but is a rather generic document that needs to be developed much deeper.

This standard includes two rather distinct areas, scientific and professional activity. While we recognize that historically scientific activity was not in the focus of TVZ, the institution has declared its commitment in the future. Nevertheless, it is very hard to achieve high scientific productivity without a number of in-house mentored PhD candidates and post-docs, and this makes the significance of an adequate strategy even more crucial. Additionally, this activity should not be described by a set of generic or intangible statements or vague ideas, it needs a well-developed action plan.

Currently there is no evaluation of the current situation per department, no targets are defined, no action plans exist, and there are no incentives beyond financial reward for publications.

There are relatively few professional cooperation projects with industries. This is not satisfactory given the 50+ years heritage and evolution, as well as TVZ's applied studies identity. Existing cooperation with industries is low-intensity and related to individual contacts and links rather than long-term institutional agreements. Lifelong learning is predominantly related to the Cisco courses and professional certification for industrial chambers.

Recommendations for improvement

An adequate research strategy that goes beyond the generic must be developed and corresponding very specific action plans need to be derived to implement the strategies which include: initial as-is status, to-be targets, quantitative benchmarks, milestones, monitoring responsibilities, corrective actions.

Quality grade

Minimum level of quality

5.2. The higher education institution proves the social relevance of its professional and/or scientific research and transfer of knowledge.

Analysis

Many stakeholders seem to be satisfied with TVZ since their graduates develop successful careers in the respective companies. Nevertheless, these links seem to be ad-hoc and linked to particular staff members and individuals rather than institutions.
There have been <u>few</u> joint project applications involving jointly TVZ and industries in the past.

There seems to be no external strategic council (formal or informal), only an alumni network, some members of which seem to be active with this regard. TVZ does not seem to be involved in advising local or regional development authorities.

As already stated, the professional fields of TVZ are closely related to industries and regional development, and there seems to be substantial potential for enhancing the social role of TVZ by offering more professional workshops, institutional cooperation or advisory services for industries, more lifelong learning programs across all departments, programs to acquire new skills in all departments, etc.

Recommendations for improvement

Institutional links with stakeholders should be developed to go beyond personal contacts. A well-composed and diverse informal external strategic advisory group should perhaps be consulted to diversify and intensify related activities. All departments should be active in these activities.

Quality grade

Satisfactory level of quality

5.3. Professional and/or scientific achievements of the higher education institution have been recognized in the regional, national and international context.

Analysis

Generally, alumni members who were present at the meetings express very positive professional experience with TVZ. Contrary to the well recognized and visible education component, the scientific output is rather low which can be understood to some degree as it only recently came into focus. Professional activities should also be wider and more intensive given the scope and size of TVZ. There seem to be no internal systematic

evaluations of professional and scientific achievements at the level of groups or departments. There seem to be no standardized procedures across departments. There is only a weak link between professional and scientific activities and acquisition of specific lab equipment. International impact of professional and scientific achievements at TVZ is difficult to assess and evaluate based on limited information available.

Further analysis of this standard was not feasible witout an adequate research strategy and action plan documents.

Recommendations for improvement
It is absolutely necessary to develop a concrete research strategy and especially implementation plans. These are crucial prerequisites to develop instruments contributing to respective TVZ's significance.

Quality grade
Minimum level of quality

5.4. Professional and/or scientific activities and achievements of the higher education institution improve teaching.

Analysis
It is a generally recognized fact that professional and scientific activities improve teaching in many aspects, and TVZ would be no exception.

There is evidence that cooperation with some companies (alumni network) or diploma works carried out in companies enable the teaching to be enhanced and upgraded by the possibility to use labs and equipment available in the respective companies. This also applies to external TVZ teachers employed in those companies. The available information does not extend beyond individual cases.

Recommendations for improvement
Once 5.3 is improved, it will also spill over into improved teaching. Hence: the research strategy and especially concrete implementation plans are necessary to intensify professional and scientific activities which, in turn, will also improve teaching. It would also be useful if young internal TVZ staff would be associated to experienced external experts to accelerate the respective learning curves.

Quality grade
Satisfactory level of quality

APPENDICES

1. Quality assessment summary - tables

2. Site visit protocol

Quality grade by assessment area				
Assessment area	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
I. Internal quality assurance and the social role of the higher education institution		X		
II. Study programmes			X	
III. Teaching process and student support			X	
IV. Teaching and institutional capacities			X	
V. Professional and/or scientific activity		X		

Quality grade by standard				
I. Internal quality assurance and the social role of the higher education institution	*Unsatisfactory level of quality*	*Minimum level of quality*	*Satisfactory level of quality*	*High level of quality*
1.1. The higher education institution has established a functional internal quality assurance system.		X		
1.2. The higher education institution implements recommendations for quality improvement from previous evaluations.		X		
1.3. The higher education institution supports academic integrity and freedom, prevents all types of unethical behaviour, intolerance and discrimination.			X	
1.4. The higher education institution ensures the availability of information on important aspects of its activities (teaching, professional and/or scientific and social role).			X	
1.5. The higher education institution understands and encourages the development of its social role.			X	
1.6. Lifelong learning programmes delivered by the higher education institution are aligned with the strategic goals and the mission of the higher education institution, and social needs.			X	

Quality grade by standard				
II. Study programmes	*Unsatisfactory level of quality*	*Minimum level of quality*	*Satisfactory level of quality*	*High level of quality*
2.1. The general objectives of all study programmes are in line with the mission and strategic goals of the higher education institution and the demands of the labour market.			X	
2.2. The intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.			X	
2.3. The higher education institution provides evidence of the achievement of intended learning outcomes of the study programmes it delivers.			X	
2.4. The HEI uses feedback from students, employers, professional organisations and alumni in the procedures of planning, proposing and approving new programmes, and revising or closing the existing programmes.		X		
2.5. The higher education institution ensures that ECTS allocation is adequate.			X	
2.6. Student practice is an integral part of the study programmes.		X		

Quality grade by standard				
III. Teaching process and student support	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
3.1. Admission criteria or criteria for the continuation of studies are in line with the requirements of the study programme, clearly defined, published and consistently applied.			X	
3.2. The higher education institution gathers and analyses information on student progress and uses it to ensure the continuity and completion of study.		X		
3.3. The higher education institution ensures student-centred learning.		X		
3.4. The higher education institution ensures adequate student support.			X	
3.5. The higher education institution ensures support to students from vulnerable and under-represented groups.			X	
3.6. The higher education institution allows students to gain international experience.			X	
3.7. The higher education institution ensures adequate study conditions for foreign students.			X	
3.8. The higher education institution ensures an objective and consistent evaluation and assessment of student achievements.			X	
3.9. The higher education institution issues diplomas and Diploma Supplements in accordance with the relevant regulations.			X	
3.10. The higher education institution is committed to the employability of graduates.			X	

Quality grade by standard				
IV. Teaching and institutional capacities	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
4.1. The higher education institution ensures adequate teaching capacities.			X	
4.2. The higher education institution ensures appropriate quality of external associates.				X
4.3. Teacher recruitment, advancement and re-appointment is based on objective and transparent procedures. which include the evaluation of excellence.			X	
4.4. The higher education institution provides support to teachers in their professional development.			X	
4.5. The space, equipment and the entire infrastructure (laboratories, IT service, work facilities etc.) are adequate for the delivery of the study programmes and ensure the achievement of intended learning outcomes and the implementation of professional and/or scientific activity.		X		
4.6. The library and library equipment, as well as access to additional resources ensure the literature necessary for ensuring high-quality of study and scientific and teaching activity.			X	
4.7. The higher education institution rationally manages its financial resources.			X	

Quality grade by standard				
V. Professional and/or scientific activity	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
5.1. Teachers and associates employed at the higher education institution are committed to the achievement of high quality and quantity of professional and/or scientific activity.		X		
5.2. The higher education institution proves the social relevance of its professional and/or scientific research and transfer of knowledge.			X	
5.3. Professional and/or scientific achievements of the higher education institution have been recognized in the regional, national and international context.		X		
5.4. Professional and/or scientific activities and achievements of the higher education institution improve teaching.			X	

Edukacija članova stručnog povjerenstva u virtualnom okruženju/Education of panel members in virtual form

	Srijeda, 28. listopada 2020.	Wednesday, 28th October 2020
10:00 –	- Predstavljanje AZVO-a - Predstavljanje sustava visokog obrazovanja u RH - Postupak reakreditacije - Standardi za vrednovanje kvalitete *Pauza* - Kako napisati Završno izvješće - Priprema povjerenstva za posjet visokom učilištu (rasprava o Samoanalizi i popratnim dokumentima)	- Presentation of ASHE - Overview of the higher education system in Croatia - Re-accreditation procedure - Standards for the evaluation of quality *Break* - How to write the Final report - Preparation of the Expert Panel members for the site visit (discussion on the Self-evaluation report and supporting documents)

Preliminarni posjet Stručnog povjerenstva visokom učilištu / Preliminary site-visit of Expert Panel members to the HEI

	Ponedjeljak, 9. studenog 2020.	Monday, 9 November 2020
8:50– 9:00	Spajanje Prof. Jonesa na poveznicu (link) ZOOM	Joining of 1 member of the Expert Panel (Prof. Jones) to the ZOOM meeting via link
9:00 – 10:00	Sastanak članova stručnog povjerenstva s dekanom i prodekanima	Meeting of the Expert Panel members with the Dean and Vice-Deans
10:00 – 10:10	*Pauza*	*Break*
10:10 – 11:10	Sastanak članova stručnog povjerenstva s predstavnicima Ureda za kvalitetu	Meeting of the Expert Panel members with the representatives of the Office for Quality
11:10 – 12:40	**Analiza dokumenata**	***Document analysis***
12:40 – 14:00	**Ručak**	***Lunch***
14:00 –	**Obilazak Veleučilišta** (predavaonice, inf. učionice, knjižnica, studentske službe, laboratoriji) **i prisustvovanje nastavi**	**Tour of the University** (classrooms, computer classrooms, library, student services, labs) **and participation in teaching classes**

Zoom sastanak članova stručnog povjerenstva / Zoom meeting of the expert panel members

	Utorak,10.studenog 2020.	Tuesday, 10 November 2020
10:00– 12:00	Virtualni sastanak članova stručnog povjerenstva, diskusija o zapažanjima i impresijama s preliminarnog posjeta	Virtual meeting of the Expert Panel members, discussion of observations and impressions from the preliminary visit

Prvi dan reakreditacije u virtualnom okruženju / First day of re-accreditation in virtual form

	Srijeda, 11. studenog 2020.	**Wednesday, 11 November 2020**
10:20 – 10:30	Spajanje na poveznicu (link) ZOOM	Joining ZOOM meeting via the link
10:30 – 11:15	Sastanak članova Stručnog povjerenstva s pročelnicima odjela	Meeting of Expert Panel members with Heads of Department
11:15 – 11:30	*Pauza*	*Break*
11:30 – 12:30	Sastanak s nastavnicima (u stalnom radnom odnosu, nisu na rukovodećim mjestima)	Meeting with full-time employed teachers who do not have managerial positions
12:30 – 13:30	*Pauza, Interni sastanak članova stručnog povjerenstava*	*Break, Internal meeting of the panel members*
13:30– 14:15	Sastanak s vanjskim predavačima	Meeting with external lecturers
14:15 – 14:30	*Pauza*	*Break*
14:30 – 15:15	Organizacija dodatnog sastanka o otvorenim pitanjima – prema potrebi	Organisation of an additional meeting on open questions, if needed

Drugi dan reakreditacije u virtualnom okruženju / Second day of re-accreditation in virtual form

	Četvrtak, 12. studenog 2020.	Thursday, 12 November 2020
9:20 – 9:30	Spajanje na poveznicu (link) ZOOM	Joining ZOOM meeting via the link
9:30 – 10:30	Sastanak s: • Voditeljem ureda za međunarodnu suradnju • ECTS i ERASMUS koordinatorima • Voditeljem Centra za cjeloživotno obrazovanje • Voditeljicom Savjetovališta	Meeting with: • Head of Office for international cooperation • ECTS and ERASMUS coordinators • Head of Center for Lifelong Learning • Head of Counseling
10:30 – 10:40	*Pauza*	*Break*
10:40 – 11:40	Sastanak sa studentima	Meeting with students
11:40 – 12:40	*Pauza*	*Break*
12:40 – 13:15	Sastanak s alumnijima (bivši studenti koji nisu zaposlenici visokog učilišta)	Meeting with Alumni (former students who are not employed by the HEI)
13:15 – 14:00	Organizacija dodatnog sastanka o otvorenim pitanjima – prema potrebi	Organisation of an additional meeting on open questions, if needed

Treći dan reakreditacije u virtualnom okruženju / Third day of re-accreditation in virtual form

	Petak, 13. studenog 2020.	**Friday, 13 November 2020**
10:00 – 10:10	Spajanje na poveznicu (link) ZOOM	Joining ZOOM meeting via the link
10:10 – 11:00	Sastanak članova stručnog povjerenstava s prodekanom za znanost, vanjsku suradnju i nove studijske programe	Meeting with the Vice Dean for Science, External Cooperation and New Study Programs
11:00 – 11:10	*Pauza*	*Break*
11:10 – 12:00	Sastanak s vanjskim dionicima - predstavnicima strukovnih i profesionalnih udruženja, poslovna zajednica, poslodavci, stručnjaci iz prakse	Meeting with external stakeholders -representatives of professional organisations, business sector/industry sector, employers, professional experts
12:00 – 13:00	*Pauza*	*Break*
13:00 – 13:10	Interni sastanak članova stručnog povjerenstva	Internal meeting of the Expert Panel members
13:10 – 13:50	Sastanak s znanstveno aktivnim osobljem	Meeting with research active staff
13:50 – 14:00	Završni sastanak s dekanom i prodekanima	Exit meeting with the Dean and Vice-Deans

SUMMARY

The reaccreditation had to be carried out remotely and both the Agency and TVZ are thanked for successfully supporting this. A site visit was possible for local panel members, and although the foreign panel member was not able to join this, a video tour was made available. Extensive video interviews were undertaken with management, administration, internal and external teaching staff, students and industry stakeholders. Combined with the extensive self-evaluation report and data, this enabled the Panel to form its assessment of the institution.

The Panel noted that the student cohort were extremely positive with regard the institution, its teaching staff and programmes. This was also reflected by the employers that were interviewed. There have to improvements in entry standards for students but it was noted that this has resulted in the loss of 'traditional' students wishing to enter TVZ. There was good interaction with external teaching staff and the quality of graduates was noted by employers. External staff reported that they were valued and well supported and had a clear understanding of departmental strategy. Connections were mainly personal to internal senior staff in departments. External staff were highly motivated to improve student learning and to 'give back' to TVZ. There is a strong Alumnus Association and elected leaders were active in promoting activities. The Professional Council had been expanded in which students were represented.

It was noted that TVZ does not have its own library and students use the National Library facilities. While this is satisfactory it would be important to have a clear strategy for the 'right' electronic resources for students and researchers and to have a dedicated study centre. Students were also very positive with online teaching that was having to operate at the time of the visit and the availability of staff both within and out with normal hours. It was noted that some programmes had significant numbers of drop-outs in early years. There is a need to update some laboratories with, for example with robotic arms and similar mechatronic systems.

The Counselling Centre was very supportive of all students and the feedback from students was highly positive. They provide support and advice on accommodation for students with particular needs and financial support if necessary.

Incoming and outgoing Erasmus student numbers were limited and it was reported that this was due to a lack of confidence in transferring credits from other institutions. Those who had participated in the scheme from TVZ, gave very satisfactory reports with regard to their experience.

Although an over-arching administrative process now exists there are still issues with independent departments now incorporated into TVZ and further development of these are required. The financial position of TVZ was in a better position but changes/cost savings had caused some disquiet for some staff.