



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

**VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO**

***AVIACINIAI ELEKTROS ĮRENGINIAI PROGRAMOS***

**(62401T105 (621H43001))**

**VERTINIMO IŠVADOS**

---

**EVALUATION REPORT**

***OF AEROSPACE ELECTRICAL EQUIPMENT (62401T105  
(621H43001)) STUDY PROGRAMME***

**AT VILNIUS GEDIMINAS TECHNICAL UNIVERSITY**

Grupės vadovas:

Team leader:

Prof. Dr. Edmund Handschin

Grupės nariai:

Team members:

Prof. Dr. Krzysztof Kozłowski

Prof. Dr. Erkki Lakervi

Prof. Dr. Tõnu Lehtla

Dr. Arturas Klementavičius

Išvados parengtos anglų kalba

Report language - English

Vilnius

2010

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Aviaciniai elektros įrenginiai</i>
Valstybinis kodas	62401T105 (621H43001))
Studijų sritis	technologiniai mokslai
Studijų kryptis	elektros inžinerija
Studijų programos rūšis	universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	nuolatinė (2)
Studijų programos apimtis kreditais <sup>1</sup>	80
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	elektros inžinerijos magistras
Studijų programos įregistravimo data	2002 m . birželio 14 d.

<sup>1</sup> – vienas kreditas laikomas lygiu 40 studento darbo valandų

## INFORMATION ON EVALUATED STUDY PROGRAMME

Name of the study programme	<i>Aerospace electrical equipment</i>
State code	62401T105 (621H43001))
Study area	technological science
Study field	electrical engineering
Kind of the study programme	university studies
Level of studies	Second
Study mode (length in years)	full-time (2)
Scope of the study programme in national credits <sup>1</sup>	80
Degree and (or) professional qualifications awarded	Master of Electrical Engineering
Date of registration of the study programme	14 June 2002

<sup>1</sup> – one credit is equal to 40 hours of student work

© Studijų kokybės vertinimo centras  
Centre for Quality Assessment in Higher Education

## CONTENTS

I. INTRODUCTION.....	4
II. PROGRAMME ANALYSIS .....	5
1.1. Programme demand, purpose and aims .....	5
1.2. Learning outcomes of the programme.....	5
2. Curriculum design .....	6
2.1. Programme structure.....	6
2.2. Programme content.....	6
3. Staff .....	7
3.1. Staff composition and turnover .....	7
3.2. Staff competence.....	7
4. Facilities and learning resources.....	7
4.1. Facilities .....	8
4.2. Learning resources.....	8
5. Study process and student assessment.....	8
5.1. Student admission.....	8
5.2. Study process .....	9
5.3. Student support .....	9
5.4. Student achievement assessment.....	9
5.5. Graduates placement.....	10
6. Programme management .....	10
6.1. Programme administration .....	10
6.2. Internal quality assurance .....	10
III. RECOMMENDATIONS .....	11
IV. GENERAL ASSESSMENT.....	12

## I. INTRODUCTION

This evaluation report is based on the material on self-assessing 2010 provided by the Vilnius Gediminas Technical University (VGTU) for the study field “Aviation Electrical Equipment”. The responsibility of this study programme is with the Antanas Gustaitis Aviation Institute. The remote study of the self-assessment documents was carried out in September 2010. The onsite evaluation was done by the entire evaluation team on November 12, 2010 on the premises of VGTU, Antanas Gustaitis Aviation Institute, according to the following programme.

### **Friday, 12 November**

09.00 – 11.00 Visiting of an airfield, flight simulator and some mechanical laboratories

11.00 – 11.30 Meeting with faculty administration staff

*11.30 – 12.15 Break*

12.15 – 13.00 Meeting with staff responsible for preparation of SAR

13.00 – 13.45 Meeting with teaching staff

*13.45 – 14.45 Lunch*

14.45 – 15.15 Familiarizing with students’ course and final papers (thesis), examination material

15.15 – 16.00 Meeting with alumni and employers

16.00 – 16.15 Experts private discussion and finalisation of the visit

16.15 – 16.30 Introduction of general remarks of the visit to the university

During the onsite visit the evaluation team was informed that since 2007 till now there are no students studying this study programme. As it mentioned in the order of the Minister (2010), the programmes that are not running for three years anymore, should be taken away from Register. All decisions concerning the final evaluation report have been taken unanimously by the entire team.

The following abbreviations are used in this report:

SER - Self-evaluation report

MA - Master

BA - Bachelor

## **II. PROGRAMME ANALYSIS**

### ***1. Programme aims and learning outcomes***

#### **1.1. Programme demand, purpose and aims**

The MA study programme „Aviation Electrical Equipment” approved by order No ISAK-1093 of 14 June 2002 of the Minister of Education and Science was registered in the Register of Studies and Educational Programmes No ISAK-1093. The previous assessment was performed in 2001. These were the marked issues that should have been improved:

a) Not less than 32 credits should be foreseen for both a scientific investigative work and a final thesis of the study programme of MA degree. 30 credits should be foreseen for this programme.

b) There are no free-chosen subjects in the study programme of MA degree.

During the onsite visit a study programme was presented which formally addresses these two points.

Based on the discussion with the alumni and employers it was cleared, that there is no need for specialists educated according to this MA programme; new students are not interested in this study programme because in their opinion VGTU offers a closely related MA study programme named “Avionics Electronics Equipment” which apparently is more popular.

The proposed MA programme was in line with all the institutional, state and international directives in particular the Civil Aviation Administration, the Military Air Forces and the State Border Guard Services till 2007. Due to the parallel MA programme “Avionics Electronics Equipment” there is no longer a need for this MA study programme.

The aims of the study programme are well presented and formally well met by the evaluated study programme till 2007. The same applies to the type and proposed cycle of the studies which comply with the aims of the programme. At present these requirements are not satisfied, because no obligatory changes were made.

#### **1.2. Learning outcomes of the programme**

The content of the teaching programme was – even for the students following this programme until 2007 - not a valid basis in order to achieve the intended competence of the students. The alumni stated that the expectations of this study programme are not fulfilled. As one example which concurs with this statement is a fact that they work in other areas.

##### *1.2.2. Consistency of the learning outcomes*

This point is hard to evaluate because the description of the courses in English version of the SER is very short and not informative. During the onsite visit no additional information was given to enhance the description of courses.

There is no transformation of the learning outcomes because VGTU was not interested in developing and improving this programme. It is due to the fact that there were no meetings within department with alumni and employers and as a consequence the evaluated MA programme remains idle since 2007. Besides that the graduates work in areas that are not related to the study programme. The intended learning objectives mentioned in the SER and stressed during the onsite visit remain unsatisfied and vague because there are not students since 2007 who could verify the correctness of these statements.

## ***2. Curriculum design***

### **2.1. Programme structure**

This MA study programme was in close agreement with the requirements of legal acts till 2007. The required changes to be conforming to the legal requirements for University second level study programmes formulated in June 2010 have not been implemented.

Relations and sequence of the MA study programme are defined in a satisfactory level. However, elective courses have been never implemented in practice.

### **2.2. Programme content**

The programme content was in compliance with the regulations for this study field and with the general requirements for the study programmes including the recommendations of the European Organisation for the Safety of Air Navigation at a satisfactory level till 2007. At present this programme should observe the comments provided in section 2.2.2. The study scope is 80 credits. The requirements are as follows: a number of modules in a semester are not higher than 5, and a minimal scope of the study module is 3 credits. A module of an investigative work contains 12 credits (no less than 7 credits are required), 4 credits (5% of the programme scope) are foreseen for optional subjects as free-chosen module. In addition, two options are foreseen in the programme according to the alternatives provided, and a study module of scientific research and innovation basics containing 3 credits. The practice is not foreseen in the programme. 20 credits are planned for a final work. Time provided for students' independent study work comprises more than 30 % of the programme scope.

The separation between electric and electronic subjects does not correspond to the actual requirements of a modern MA programme in aviation equipment. Forms and methods used in classes cannot be evaluated because there are no classes for this MA programme due to the lack of students.

### **3. Staff**

#### **3.1. Staff composition and turnover**

The rationality of the staff composition is very poor because most of the teachers are part time teachers. There are no visiting teachers. The qualification of teachers is not related to the MA study programme because their research is not along with the evaluated study programme. This concurs with the alumni statements concerning this study programme. Professional activities of the teachers are not related to the study programme. The ratio of teachers to students cannot be calculated because there are no students. The number of teaching staff is very limited; most of the teachers are active in other study programmes.

A turnover of teachers is not required because the study programme is not running since 2007. Therefore there is no impact of the staff turnover on this MA study programme. This can be seen as one of the reasons that the programme was not attractive for students. .

#### **3.2. Staff competence**

Although most of the teachers have good teaching experience there are some shortcomings in staff competence. According to the requirements the number of professors should be not less than 20 percent of the deepening level subjects. In the SER it is stated that *teachers who have pedagogical title of Professor teach subjects containing 10 credits and that makes up 16% of the scope of the deepening level subjects*. Therefore the number of professors is not sufficient. Teachers' research activities, if any, are not correlated with the evaluated study programme. Most of them do not have recent publications even not published conference papers.

There is a formal way in VGTU for teachers' professional development: to get a position as a lecturer, assistant, associate professor and professor should announce a public competition. At the end of every tenure of 5 years teachers are assessed by the Competition Commission of the Faculty whether they are suitable for a particular position, i.e. whether they meet the minimal requirements for a particular position in accordance with scientific, pedagogical methodological or other activity results. In the SER it is disclosed, how VGTU as institution promotes the professional development of their teachers, but it was nothing written and even told during the

onsite visit how the Institute organizes and motivates teachers' professional development. There is no impact of the professional development on the study programme because due to the lack of students this MA study programme is not running.

#### **4. Facilities and learning resources**

##### **4.1. Facilities**

For a small number of students there would be a sufficient number of small auditoriums. A computerized auditorium is equipped with a sufficient number of working places. During the onsite visit some facilities were shown: a small airport, very old laboratories with navigation equipment, simulation laboratory that are not in line with the study programme. The evaluation committee was told that since 2008 a project to modernize the laboratories started but no visible improvement was done with this respect. The teaching facilities would be adequate if there were any students following this MA programme.

During the onsite visit of the evaluation team not any laboratory related to this MA study programme was shown.

##### **4.2. Learning resources**

A very small library provides the necessary information for potential students by means of textbooks and journals. Access to electronic databases, like for example IEEE Xplore, is available.

The teaching staff is able to provide potential students with adequate learning material. There is an access via internet to methodological publications.

#### **5. Study process and student assessment**

##### **5.1. Student admission**

There is no entry examination required for admission of the studies. Applicants with BA degree in the field of Electrical Engineering, Electronic Engineering or Physics are admitted. It is not clear why Physics applicants without an engineering degree are qualified for this MA programme in engineering. Applicants must have a sufficient number of credits in the specified subjects listed in SER. These requirements do not seem to be rational.

The study programme is neither attractive nor modern because the separation into electrical and electronic engineering is completely outdated. Young people are not interested to study this



MA programme. The department does not undertake any effort to attract potential students for this MA study programme except extending the admission time until November. The success of this extension is equal to zero. It seems that the Institute relies on the general information about the studies organized by VGTU not undertaking any specific actions with respect to this MA programme.

## **5.2. Study process**

The schedule of the study programme follows a consistent scheme. The schedule of the examination sessions fits well into the study programme.

Experts group could not evaluate if the student academic performance assessment is organised well, because no information was provided during the visit.

Mobility of the students also could not be evaluated, because there are no students currently studying in the programme. Teachers' mobility is not organised within this programme.

## **5.3. Student support**

As there are no students in this programme, the experts group could not check its usefulness to students, as well as social support.

## **5.4. Student achievement assessment**

There is a system approved by VGTU. It is used for an assessment of general subjects. We found out, that neither SER nor staff of that programme could provide with the information about suitability of assessment criteria.

In SER was explained about the feedback given to students after examination, but it could not be checked in practice as no students are currently assessment in that particular programme.

The final thesis assessment is poorly defined in the SER (for example there are no details concerning the thesis final examination procedure, scores assignment etc.) and no additional information was provided during the onsite visit. The evaluation team was not able to check these requirements because there are no recent MA theses.

## **5.5. Graduates placement**

There are 14 graduates in total who finished this MA study programme in the past. All of them are employed but mainly not according to their education (for example some of them work as radio engineers). Hence the correlation of the graduate professional activities with the MA study programme is low. The study programme is overloaded with theory that is not necessary in the opinion of the graduates. Contact with real equipment is very limited during the studies and make them not attractive to young people. Practical knowledge gained at the collage level is higher to that offered at the evaluated study programme.

## **6. Programme management**

### **6.1. Programme administration**

It seems that the staff responsible for this programme management are not interested to improve this programme to make it more attractive. It could be a reason, that there are no students inscribed in this MA programme.

### **6.2. Internal quality assurance**

The general rules imposed by the VGTU for internal quality assurance are applied but the suitability of these measures cannot be checked because there are no students.

In SER was explained, that programmes are being improved on a regular basis. According to SER last update of this programme was done in 2008. During the visit the staff could not provide any information on what was updated and why.

We noticed that there are no initiatives of the staff to improve the programme within this Institute (AGAI). There are inconcrete wishes expressed in the SER due to the possible changes, but no concrete plans of change mentioned.

Graduates and employers mentioned many weaknesses of the programme, but it seemed that there voice is not heard by the institute and they were invited just for meetings with expert group.

### III. RECOMMENDATIONS

Since there is no admission of students since 2007 this MA study programme should be closed according to the regulation of the Ministry (2010). There is no reason whatsoever to continue this programme. It is not attractive and modern. A number of the subjects offered in this programme are mostly the same as in the MA study programme *Avionic Electronics Equipment*. The evaluated MA study programme does not offer an official and publicly recognized licence of maintenance that is allegedly available in the other mentioned MA study programme. The programme is highly theoretical with no practical part that is required by the employers. It might be possible to move some subjects offered in the MA programme “Aerospace Electrical Equipment” to the “Avionic Electronics Equipment programme” and to only run the last one that seems to be more popular and interesting for students. The team has no information about the accreditation of the MA study programme “Avionic Electronics Equipment”.

#### IV. GENERAL ASSESSMENT

The study programme *Aerospace electrical equipment* (state code – 62401T105 (621H43001)) is given **negative** evaluation.

Table. *Study programme assessment in points by evaluation areas.*

No.	Evaluation area	Assessment in points*
1	Programme aims and learning outcomes	1
2	Curriculum design	1
3	Staff	1
4	Facilities and learning resources	2
5	Study process and student assessment (student admission, student support, student achievement assessment)	1
6	Programme management (programme administration, internal quality assurance)	1
	<b>Total:</b>	<b>7</b>

\*1 (unsatisfactory) - there are essential shortcomings that must be eliminated

2 (poor) - meets the established minimum requirements, needs improvement

3 (good) - the area develops systematically, has distinctive features

4 (very good) - the area is exceptionally good

Grupės vadovas:

Team leader:

Prof. Dr. Edmund Handschin

Grupės nariai:

Team members:

Prof. Dr. Krzysztof Kozłowski

Prof. Dr. Erkki Lakervi

Prof. Dr. Tõnu Lehtla

Dr. Arturas Klementavičius