Implementation plan for the FIT ï BME ï RMA Atlantis project funded by FIPSE and EU Commission

Draft version

This document describes a project that sets the framework to make possible for FIT[1] students to satisfy the BME[2] degree requirements for BME students to satisfy the FIT degree requirements. This plan will be yearly updated and subject to change during the project in order to maximize the project outcome and as required by the funding organizations.

This document is a draft for the first student exchange period of the project that is the 2007/2008 spring semester and summer semester.

Plan of project year one for FIT students to fulfill the BME requirements in the BSc electrical engineering program

Administrative framework

FIT students accepted under this project will spend a spring and a full summer semester in Budapest and (BME) in Brussels (RMA[3]). The spring semester is the 8th semester of their BSc study program of the FIT students.

The FIT students will begin by studying 3 to 4 weeks at RMA (see table bellow). The topics are for preparation for their thesis subject. This preparation is equivalent to the senior design course at FIT. Then students travel to BME and begin the spring semester. After the spring semester completion at BME, the students return to RMA to complete their undergraduate research work which is concluded by a thesis defense (evaluated by a thesis committee). The thesis work is required for BME certification of requirements to fulfill the BME undergraduate degree. The timeline of FIT students staying at the two EU countries is shown in the following table. These dates are tentative and may be slightly modified as academic calendars of the institutions concerned are finalized.

Start date	End date	Location
7th Jan 2008	1st Feb 2008	RMA
4th Feb 2008	18th May 2008	BME
21st May 2008	30th May 2008	BME
2nd June 2008	1st August 2008	RMA

FIT students will receive a scholarship and they are exempted from the tuition fees at the BME (ad at the RMA too) based on a one-to-one student exchange with the BME. The FIT students pay their tuition fees at the FIT. No tuition fee transfer takes place.

FIT students need to obtain a healthcare insurance in Hungary (see attachment). Related products offered for foreign students are available by private companies and by the Hungarian National Health Insurance Company (see the handout in the annex which is made available to all non EU students at the BME). For information, the approximate costs of the insurance for one semester are

- 150 USD for a semester (example of a private company)
- 100 USD for a month by the National Health Insurance Company

FIT students need no visa for their stay in Brussels at RMA.

[1] Florida Institute of Technology (located in Melbourne, Florida, USA)
[2] Budapest University of Technology and Economics (located in Budapest, Hungary, EU)
[3] Royal Military Academy (located in Brussels, Belgium, EU)

The minimal amount of working load for an FIT student at the BME is 12 contact hours a week (approx. 15 ECTS). This may be lower than the working load necessary to obtain the BME diploma, though it guarantees that the FIT students will be regularly enrolled at the BME during their stay and that they receive the student visa. This enrollment entitles FIT students to obtain all student assistance (for example public transport, railway, cultural events, museums, etc.) that are available for Hungarian citizens (and EU exchange students) during their studies in state universities.

The FIT students who receive not enough credits during their stay in Budapest may be excluded from the program prior to the summer semester in Brussels.

FIT students are selected by the FIT project officers on a competitive basis. The FIT students and the FIT and BME project officers agree on a study plan before the departure of the student. The study plan is a document that is signed by the students and by the project officers. The study plan comprises

- Courses and credits the student is offered at the BME.
- Equivalences of previous courses and credits.
- Final exam subject.
- Conditions of the thesis defense.

Study plans are offered and accepted on an individual basis in order to maximize the successful stay of the students at the BME and the collection of the credits to be transferred. The study plans may also vary year to year depending on the availability of courses at the BME.

Failure to obtain credits does not entail any reimbursement of the scholarship by the student, but such a failure does not entail any financial obligation from the FIT or from the BME either. Failure to obtain credits may however end the scholarship period before the summer period at the RMA.

At the end of his/her stay at the BME, the FIT student will receive an official transcript in English that summarizes his/her credits and grades (even if not all credits enumerated in the study program are obtained). This transcript is free of charge.

Upon a BSc. thesis defense and final examination which both take place with a faculty committee, the FIT students obtains a diploma or certificate stating that he/she fulfilled all requirements that is necessary for a BME degree.

The study program and equivalences

The BSc. program of the English language education at the BME (faculty of Electrical Engineering and Informatics) has been changed and the new program is introduced from the 2005/2006 academic year. This implies that the FIT students who arrive to the BME in the 2007/2008 spring semester have different equivalence tables that those students then the students who arrive in later years. The differences are limited.

The equivalences stated bellow are valid for the FIT students who arrive in 2007/2008 spring and they are based on the FIT 2006-2007 University Catalogue. The equivalences are pending final BME faculty study board approval. No major change is expected for FIT students who arrive in 2008/2009 spring semester, but the equivalences will be redefined for FIT students who arrive subsequently.

The final examination subjects are the following:

- Control systems
- Other course selected from a list

The final examination includes a formal defense of the thesis. The thesis work and topics will be formed as pat of the spring and summer academic experience at RMA in the area of Sensing Technology and Robotic Systems (STARS).

US student study program for the double degree

FIT: Electrical Engineering

BME: Electrical Engineering, Electronics spec

Course name	Course host	Equivalent BME	credit FIT	ECTS	USA 1	2	3	4	5	6	7	EU 8	9
General chemistry 1	FIT	Elective I	4	2									summer semester
		Materials and technology		5									
Composition and Rhetoric	FIT	Human or economics subject	3	4									
Digital Logic	FIT	Digital circuits	4	5									
Calculus 1	FIT	Mathematics I	4	7									
Writing about Literature	FIT	None	2	0									
Computer design	FIT	Digital systems	4	5									
Calculus 2	FIT	Mathematics II	4	6									
Physics 1	FIT	Physics I	4	5									
Physics Lab 1	FIT	Laboratory I	1	2									
Circuit theory 1	FIT	Networks and systems I	4	5									
Software/hardware design	FIT	Programming I	3	5									
Differential equations and linear algebra	FIT	Mathematics III	4	4									
Physics 2	FIT	Physics II	4	5									
Circuit theory 2	FIT	Networks and systems II	4	6									
Civilization 1	FIT	Human or economics subject	3	4									
Calculus 3	FIT	Mathematics IV	4	6									
Probability and statistics	FIT	Probability theory	3	4									
Modern phyiscs	FIT	Physics III	3	4									
Scientific and Techn. Comm.	FIT	Human or economics subject	3	2									
Signals and systems	FIT	Signals and systems	3	5									
Electronics Electron devices Electromagnetic fields	FIT	Electronics I	4	5									
		Electronics II	3	4									
		Electronics III		5									
		Electromagnetics	3	4									
Junior design	FIT	Project laboratory I	1	3									
Electronmagnetic waves	FIT	Radio systems	3	5									
Microcomputer systems 1	FIT	Software engineering I	4	4									
		Programming II		4									
Communication systems	FIT	Telecommunication	3	5									
Civilisation 2	FIT	Philosophy	3	2									

Free elective	FIT	Specialization Elective I	3	5									
Control Systems	FIT	Control Engineering	3	5									
System Design 1	FIT	Project laboratory II	3	4									
		Laboratory for specialization I		1									
Restricted Electives	FIT	Elective II	6	4									
		Specialization Elective II		5									
		Microelectronics and technology		4									
Social science elective	FIT	Ergonomy and Psychology	3	4									
Technical elective	FIT	Advanced Electronics	3	4									
None	RMA	Laboratory for specialization II		1									
Technical elective (in Robotics)	RMA	Elective III	3	4									
Restricted Electives (HUM)	RMA	French language and culture	1.5	2									
System design	RMA	Thesis (part one)	3	5									
Electooptic devices and Systems	BME	Optoelectronics (Spec. elective III)	3	5									
Restricted Electives (HUM)	BME	Management and business economics	3	4									
Humanities/Social sciences electives	BME	Hungarian language and culture	1.5	2									
None	BME	Software engineering II		4									
None	BME	Measurement technology / techniques		5									
None	BME	Laboratory II		4									
None	RMA	Thesis		25									

Similar study programs will be created by pairing other degree programs from the FIT and the BME during the project period.

BME students seeking FIT degree (BSc. in Electrical Engineering)

Administrative framework

The BME students spend one spring semester in Melbourne (FIT) which is the 6th semester of their studies.

The BME students receive a scholarship and they are exempted from the tuition fees at the FIT based on a one-to-one student exchange with the FIT. The BME students are regularly enrolled at the BME for the exchange semester and pay the corresponding tuition (if any[4]). No tuition fee transfer takes place.

[4] most of the students are state financed at the BME so the tuition fee is paid by the state

The BME students are selected by the BME project officers on a competitive basis. The BME students and the FIT and BME project officers agree on a study plan before the departure of the student. The study plan is a document that is signed by the students and by the project officers. The study plan comprises

- Courses and credits the student is offered at the FIT on order to obtain the FIT degree.
- Equivalences of previous courses and credits.
- Modalities of the thesis defense.

Study plans are offered and accepted on an individual basis in order to maximize the successful stay of the students at the BME and the collection of the credits to be transferred. The study plans may also vary year to year depending on the availability of courses at the BME.

BME students need to have a TOEFL certification to be accepted at the FIT.

Failure to obtain credits does not entail any reimbursement of the scholarship by the student, but such a failure does not entail any financial obligation from the FIT or from the BME either. Failure to obtain credits may however end the scholarship period before the summer period at the RMA.

At the end of his/her stay at the FIT, the BME student will receive an official transcript in English that summarizes his/her credits and grades (even if not all credits are obtained). This transcript is free of charge.

Upon successful completion of studies the BME students get a diploma stating that he/she fulfilled all requirements that is necessary to a FIT degree including the credits obtained at his/her home institution i.e. the BME.

The study program and equivalences

The equivalences stated bellow are valid for the BME students who arrive in 2007/2008 spring semester and they are based on the FIT 2006-2007 University Catalogue. The equivalences may by pending final BME faculty study board approval. The equivalences will be redefined for BME students who arrive subsequently.

EU student study program for the double degree

FIT: Electrical Engineering

BME: Electrical Engineering

					EU					USA	EU
Course name	**Course host**	**Equivalent FIT**	**credit FIT**	**ECTS**	1	2	3	4	5	6	7
Human elective 1	BME	none		2							
Mathematics A1	BME	Calculus 1	4	7							
Foundation of computer sciences	BME	Calculus 2	4	6							
Material science	BME	Modern physics	3	4							
Basics of programming 1	BME	Software/hardware design	3	5							
Digital design 1	BME	Digital Logic	4	7							
Mathematics A2	BME	Calculus 3	4	6							
Micro and Macroeconomics	BME	Social science elective	3	4							
Physics 1	BME	Physics 1	4	5							
		Physics lab 1	1								
Basics of programming 2	BME	none		4							
Digital design 2	BME	Computer design	4	6							
		Microcomputer systems	4								
Systems and signals 1	BME	Circuit theory	4	6							

Mathematics A3	BME	Differential equations and linear algebra	4	4							
Mathematics A4	BME	Probability and statistics	3	4							
Physics 2	BME	Physics 2	4	5							
Software engineering 1	BME	none		5							
Systems and signals 2	BME	Circuit theory 2	4	6							
		Signals and systems	3								
Electrotechnics	BME	Electronics	4	6							
Management and business economics	BME	Restricted elective (HUM)	3	4							
Software engineering 2	BME	none		5							
Electromagnetic fields	BME	Electromagnetic fields	3	5							
Electronics 1	BME	Electron devices	3	6							
Measurement techniques	BME	Free elective	3	5							
Electric power systems	BME	Restricted elective	3	5							
Electronics 2	BME	Electromagnetic waves	3	6							
Microelectronics	BME	none									
Infocommunications	BME	Communication systems	3	5							
Electronics technology	BME	Restricted electives (1/2)	3	5							
Control theory	BME	Control systems	3	5							
Laboratory I	BME	Technical elective (lab)	3	5							
Human elective 2	FIT	Writing about literature	3	2							
Human elective 3		Humanities/Social sciences elective	3	2							
Business law				2							
Specialization theoretical subject 1	FIT	Technical elective	6	4							
Specialization theoretical subject 2				4							
Specialization theoretical subject 3	FIT	Electrooptic devices and systems	3	4							
Project laboratory	FIT	System design 2	1	5							
Laboratory II	FIT	?		4							
Laboratory for specialization	FIT	Restricted elective (lab)	3	4							
Thesis	BME	none		10							
Free elective I	FIT	STARS related free elective	3	4							
Free elective II	FIT	STARS related free elective	3	4							
Free elective III	FIT	STARS related free elective	2	2							
Obligatory Econ. & Human elective 4	FIT	BUS or HUM elective	1	2							
Obligatory Econ. & Human 5	FIT	BUS or HUM elective	1	2							

The 7th semester classes marked as FIT can be taken by the BME students at the FIT during a summer period in order to obtain certification of requirements to fulfill the FIT BSc degree.

RMA students participating in the program

There is no RMA student participating in the exchange during the academic year in 2007/2008. The framework of the stay of the RMA students is detailed in a separate document.

Budapest and Brussels, 23rd - 25nd May 2007

Bálint Kiss
BME Faculty of Electrical Engineering and Informatics
BSc. Course Director (BME)

Annex 1

HEALTH INSURANCE HANDOUT

The health insurance system of the ***Budapest University of Technology and Economics*** and the ***Generali Providencia Insurance Co.*** provides the following services for foreign students of the university and their relatives (husband, wife and children) staying in Hungary. It covers the cost of curing and the necessary medical treatment caused by diseases or accidents. The company also covers 50% of the price of payable medicine prescribed by the doctor.
Disburse of invoice is to be paid through bank transfer to a Hungarian Forints account, within 30 days after submitting the invoice.
In case of need of paediatrician medical attendance treatments may be carried out by the Heim Pál Gyermekkórház 1089,Budapest Üllői út 86.) or any other institutions.
The obligation of the insurance company refers only to outpatient treatment and hospitalisation in Hungary.

Expect for emergency treatments, the insurance company covers the cost of only those treatments which are carried out by the GYÓGYÍR kht 1117,Budapest,Fehérvári ut 12. (basement Dr.Szekeres Orsolya) or hospitalisation ordered by this health centre.

Presently, the services of our insurance company do not cover hospitalisation due to childbirth and any consequences of illnesses or accidents that occurred prior to the starting date of the insurance period.
The insurance does not cover the cost of dental treatment (except for aftermath of accidents), medical attendance of pregnancy, abortion (unless it is medically reasonable), treatments of cosmetics and rehabilitation, tapering-off cures, diseases caused by HIV, medical examinations required for health certificate.

The basic premium for period - from **1st of September** until **1st of February** and from **1st of February** until **1st of September - is 27.500 HUF** for students and for members of their family. Students registered after the registration period are ensured from the first day after paying the insurance fee.

The insurance card contains personal data of the insured person entitling its owner to use medical services according to the conditions specified above.

Students have the possibility to make a contract with the National Health Insurance Company, in this case the insurance costs 30% of the current minimum wage (21.500 HUF / month).

Students are obliged to buy health insurance card if they are not contracted with another insurance company registered in Hungary. The premium paid by those students who are contracted with another insurance company registered in Hungary, and report this fact before the 30th of September, will be repaid.
In case of need of urgency attendance you can call the following phone number for further information.
Dr. Szekeres Orsolya 30/412-6395