



## **GUIDEBOOK**

### **on Mechanisms and Recommendations for Double Degree Programs between EU&RU, EU&CH, RU&CH Universities**

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**Internationalisation of master Programs In Russia and China  
in Electrical engineering**

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**ERASMUS + KA2- Cooperation for Innovation and Exchange of Good Practices –  
Capacity Building in the Field of Higher Education**



## **Contents**

### Chapter 1. Double and Joint Degree in Global Context

#### 1.1. Double Degree Definition and Perception

#### 1.2. Motivation and Goals of Double Degree Programs (Joint Degrees)

#### 1.3. Definition of Double Degree Program

#### 1.4. Models of Double (Joint) Degree Programs

#### 1.5. Perception of the Joint (Double) Degree

### Chapter 2. Double Degree Programs and Chinese Higher Education System

#### 2.1. China's Education System (brief introduction)

#### 2.2. China's Experience on Double Degree Programs

#### 2.3. Professional Standards in China

#### 2.4. Basis of Curriculum for Electrical Engineering (M.E Program)

#### 2.5. Integration of Curricula for Electrical Engineering (M.E Program) of China- Europe-Russia

#### 2.6. Curriculum in Electrical Engineering

### Chapter 3. Double Degree Programs and French Higher Education System

#### 3.1. The Different Types of Institutes of Higher Education in France

#### 3.2. French Degrees, LMD System and Equivalences



3.3. How Higher Education Works in France

3.4. Agreement on Mutual Recognition of Diplomas

Chapter 4. Double Degree Programs and German Higher Education System

4.1. The Different Types of Higher Education in Germany

4.2. Conditions and Factors of Successful Cooperation

Chapter 5. Double Degree Programs and Italian Higher Education System

5.1. Major Characteristics of Education in the Italy

5.2. Bologna Reforms in Italy

5.3. The Italian University Reform and Joint Degrees

5.4. State-of the-art of Double Degree Programs in Italy

Chapter 6. Conditions and Factors of Successful Cooperation

References



## Chapter 1. Double and Joint Degree in Global Context

### 1.1. Double Degree Definition and Perception

The **Bologna Declaration** of 19 June 1999 has been signed by 30 European countries, including the then 15 Member States of the EU (Austria, Belgium, Germany, Denmark, Greece, Spain, Finland, France, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Sweden, the United Kingdom) as well as the 10 countries that joined the EU on 1 May 2004 (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia). Iceland, Norway and the Swiss Confederation are also signatories to the declaration, as are Bulgaria and Romania, who became members of the EU on 1 January 2007. Kazakhstan joined the Bologna process in March 2010. Today, 47 countries participate in the Bologna process.

With the adoption of the Bologna Declaration in 1999, much has been done in the transformation of the European system of higher education in an effective international community of universities, and hence in the Universities of the participating countries of the Bologna process. However, the implementation of the Bologna Declaration and subsequent documents adopted under the respective agreements between educational institutions, ministries and governments show that to give more stable and dynamic nature to educational reforms of the universities in these countries there is a need in time to implement changes in legislation on education. Certainly, the idea of introducing joint degrees (double or multiple degrees) in European higher education area was the natural consequence of the adoption of multilevel structure of higher education and the development of student and academic staff mobility in the countries involved in the Bologna process. However, after the adoption of the Bologna Declaration, it became clear that the double degree program is qualitatively different from the simple exchanges, although they are an integral part. It was essential to achieve a consensus on approaches to the definition of "double degree program".

Due to the Bologna Declaration, new tools and initiatives that promote the objectives of a common European space of higher education, both supranational and national and institutional have appeared. Issues such as the mobility of teachers and students, and the recognition of



qualifications, quality and excellence are priority areas for both Europe and its partners. The EU can share its expertise in areas such as benchmarking, lifelong learning, key competences and qualification frameworks.

The European Commission's international co-operation programs in higher education and training included:

- Erasmus Mundus: enhancing quality in higher education through scholarships and academic co-operation worldwide;
- Co-operation with industrialised countries: enhancing the quality of higher education and vocational education and training, mainly through joint study programs;
- Jean Monnet: promoting teaching and research on European integration;
- Tempus: building co-operation between the EU and neighbouring regions;
- Edulink: capacity-building and regional integration in higher education in ACP (Africa, Caribbean and Pacific) states and regions;
- Alfa: supporting co-operation between higher education institutions in the EU and Latin America.

The European University Association launched and realized a number of projects, such as:

- Europe-Africa Quality Connect: Building Institutional Capacity Through Partnership (2010-2012)
- CODOC – Cooperation on Doctoral Education between Africa, Asia, Latin America and Europe (2010-2012),
- SIRUS – Shaping Inclusive and Responsive University Strategies (2009-2011),
- Internationalisation Handbook (2009-2011),
- Access to Success: Fostering Trust and Exchange between Europe and Africa (2008-2010),
- EU-Asia Higher Education Platform (2008-2010),
- EUA survey on Master programs in Europe (2007-2009),
- Information Project on Higher Education Reform (2006),
- EUA Joint Masters project: Joint Masters Project (2002-2004) and Follow-up to the Joint Masters Project: EMNEM (2005-2006) to promote The European Higher Education Area and Bologna Process.<sup>1</sup>

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<sup>1</sup> European Commission, EACEA, Projects on PROMOTION OF EUROPEAN HIGHER EDUCATION IN THE WORLD, <http://eacea.ec.europa.eu>



## 1.2. Motivation and Goals of Double Degree Programs (Joint Degrees)

The report “Joint and Double Degrees within the European Higher Education Area Towards Further Internationalisation of Business Degrees” carried out by Consortium of International Double Degrees (CIDD) (2006) stated that motivation and objectives of double degree programs are diverse. European institutions and national governments are considering double degree program as a means of strengthening European citizenship and to increase the employability of internationally mobile students. For universities double degree program (joint degrees) on average is to improve the efficiency of their own development programs. Moreover, institutions of higher education used integrated study programs with double degree opportunities as selling point in order to improve their competitiveness.

First the problem of double degree (joint degree) in the European space of higher education has been clearly indicated in the Communiqué of Ministers of the European Higher Education May 19, 2001 in Prague.

It provides stated: "In order to further strengthen the important European dimensions of higher education and graduate employability Ministers called upon the higher education sector to increase the development of modules, courses and curricula at all levels with "European" content, orientation or organisation.

This concerns particularly modules, courses and degree curricula offered in partnership by institutions from different countries and leading to a recognized joint degree.”

The same theme has been widely reflected in a number of documents following international forums, conferences and seminars, in particular, such as Graz Declaration 2003; Bergen Communiqué of 19-20 May 2005 – The European Higher Education Area – Achieving the Goals; London Communiqué of 18 May 2007 – Towards the European Higher Education Area: responding to challenges in a globalised world; Leuven/Louvain-la-Neuve Communiqué of 28-29 April 2009 – The Bologna Process 2020 – The European Higher Education Area in the new decade. EHEA Ministerial Conference in Budapest and Third Bologna Policy Forum – April 2012 - "Beyond the Bologna process: Creating and connecting national, regional and global higher education spaces”, in which was stated “Fair academic and professional recognition, including recognition of non-formal and informal learning, is at the core of the EHEA. It is a direct benefit for students’ academic mobility, it improves graduates’ chances of professional mobility and it represents an accurate



measure of the degree of convergence and trust attained. We are determined to remove outstanding obstacles hindering effective and proper recognition and are willing to work together towards the automatic recognition of comparable academic degrees, building on the tools of the Bologna framework, as a long-term goal of the EHEA. We therefore commit to reviewing our national legislation to comply with the Lisbon Recognition Convention. We welcome the European Area of Recognition (EAR) Manual and recommend its use as a set of guidelines for recognition of foreign qualifications and a compendium of good practices, as well as encourage higher education institutions and quality assurance agencies to assess institutional recognition procedures in internal and external quality assurance. We strive for open higher education systems and better balanced mobility in the EHEA. If mobility imbalances between EHEA countries are deemed unsustainable by at least one party, we encourage the countries involved to jointly seek a solution, in line with the EHEA Mobility Strategy. We encourage higher education institutions to further develop joint programs and degrees as part of a wider EHEA approach. We will examine national rules and practices relating to joint programs and degrees as a way to dismantle obstacles to cooperation and mobility embedded in national contexts. Cooperation with other regions of the world and international openness are key factors to the development of the EHEA. We commit to further exploring the global understanding of the EHEA goals and principles in line with the strategic priorities set by the 2007 strategy for “the EHEA in a Global Setting”. We will evaluate the strategy’s implementation by 2015 with the aim to provide guidelines for further internationalisation developments. The Bologna Policy Forum will continue as an opportunity for dialogue and its format will be further developed with our global partners.”

### **1.3. Definition of Double Degree Program**

As the Ministers’ communiqués do not differentiate between joint and double degrees, “an agreed definition of a joint degree in Europe is still lacking”. Touch and Rauhvargers (2002) in their study “Survey on Master Degrees and Joint Degrees in Europe” implicitly included double degrees when defining joint degrees. They talked about joint degrees when “after completion of the full program, the student either obtains the national degrees of each participating institution or a degree (in fact usually an unofficial ‘certificate’ or ‘diploma’) awarded jointly by them.”



In May 2003, the ENIC (Council of Europe/Unesco) and NARIC (European Commission) networks state in their “Draft Explanatory Memorandum” that a “more precise definition of joint degree remains to be formulated”.

At a workshop for Program Director “JOINT DEGREES WITHIN THE COIMBRA GROUP”, Padova, February 14th – 15th, 2003, was issued glossary, which states

“DOUBLE-DEGREE” PROGRAM or SCHEME:

It relies on an agreement between two institutions. The agreed study program foresees for the participating student a substantial period spent at the partner university, in addition to a main period spent at the home university. No change in the local didactic offers is required/envisaged. The student follows a single “distributed” curriculum and the total duration of studies is unaltered. The student will eventually get two national degree diplomas, according to one of the two following variants:

- independent double degrees (i.e. two independent pieces of paper, each one signed by one Rector/President/...). Some institutions oppose this scheme as unfair (“you cannot catch two fishes with one hook”, not ethical);
- linked double degrees also called “double half degrees”: each institution awards its regular degree, but the corresponding degree diploma explicitly states that it is awarded simultaneously with a degree of the other institution, for a single “distributed” curriculum. The present scheme has an alternative in a scheme (see DOUBLE DEGREES), which aims at two degrees, but foresees extra work of the student in order to get the two degrees, e.g. two years at the host institution instead of one year at home.

#### DOUBLE DEGREES

This scheme is different from the DOUBLE DEGREE SCHEME (see above). Indeed, even though it again aims at awarding two degrees and it relies on an agreement between two institutions, nevertheless the Double Degrees scheme requires two additional conditions:(i) it foresees an extension of the duration of studies of the moving student (generally by one year); (ii) it involves studies (at the two institutions), which usually pertain to different (even though related) areas. Sometimes the present scheme is named OVERLAPPING STUDIES SCHEME. In the present scheme the degree awarding can occur in one of the following ways:

- consecutive degrees: typically the student leaves the home institution one year before the legal end of her/his studies, after having obtained (at least) the minimal set of credits, which are



necessary for a degree in the given subject area. The student then goes to another institution, where s(he) spends two years of study in a second area. After the first year at the host institution, the student gets a first degree from the home institution. After completing the second year, the student gets a (new) degree at the host institution. In such a scheme, the student is registered in the host institution for her/his last year of study;

- concurrent degrees: similar to the consecutive degrees, but here the student gets two degrees simultaneously, when both curricula are completed. The student remains then registered in her/his home institution all the time. The distribution of studies in the two institutions can occur according to different time-schedules. A well-known scheme of “concurrent degrees” is the T.I.M.E. (Top Industrial Managers for Europe) double degrees scheme (more than 1000 double degrees already conferred on). Usually, the home University degree diploma is awarded at first, according to the local procedures; the host University degree diploma is awarded soon afterwards, on a simple administrative basis.”

The European Commission published this definition in Erasmus Mundus Glossary as following<sup>2</sup>:

“A double or multiple degree is defined as a study program offered by at least two (double) or more (multiple) higher education institutions whereby the student receives, upon completion of the study program, a separate degree certificate from each of the participating institutions.”

“A joint degree is defined as a single degree certificate awarded to a student upon completion of a joint program. The joint degree must be signed by the competent authorities of two or more of the participating institutions jointly and recognised officially in the countries where those participating institutions are located.”

We should make an emphasis on the international forums, almost entirely devoted to the problem of development and implementation of joint programs and degrees of double diplomas: Stockholm 2004 Workshop “Joint Degrees – Further Development” with general conclusion that in most Bologna countries higher education degrees are regulated in national legislation.

In some countries, higher education programs have to be nationally approved. Many higher education institutions in the Bologna countries cooperate to deliver joint study programs but few countries have a legal framework that explicitly allows the award of joint degrees. In some cases, double degrees are awarded.

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<sup>2</sup> [https://ec.europa.eu/programs/erasmus-plus/program-guide/annexes/annex-iii\\_en](https://ec.europa.eu/programs/erasmus-plus/program-guide/annexes/annex-iii_en)



The workshop participants agreed that: “Joint study programs and joint degree awards are important instruments to achieve the Bologna objectives. The process of developing and offering joint study programs, at the initiative of higher education institutions and in the interest of students, is the core activity; the long-term vision, however, is to build sustainable collaborations between higher education institutions and to award joint degrees.”

Of special note is the material of Official Bologna Seminar, Berlin, 21-22 September 2006 “Joint Degrees – A Hallmark of the European Higher Education Area?”. The meeting agreed on the following conclusions and recommendations to the ministers concerned:

(1) “There is already evidence that joint (integrated) programs contribute largely to the building of a European identity of a specific, higher-education-related kind. They combine international experience, enhanced linguistic, cultural and social competence. If these contributions to the coherence of a European Higher Education Area (EHEA) are really valuable and appreciated, there must be some kind of specific funding for them either on the national or on the European level or perhaps even as a combination of the two.

This request is justified because – at least in the initial phase – there are additional (overhead) costs that are specific to such programs. On the other hand, there is an added value of these programs and in the long run and with more experience gained, there could even result less costs or greater capacity options by the (international) pooling of resources.

(2) There is a rather broad consensus on what the necessary criteria for the design and development of integrated European (joint) programs are. There could probably even be a final list of “good criteria” (or “golden rules” as the European University Association (EUA) put it) that can be derived from the Stockholm, Mantova and Berlin Seminars and other documents cited in this connection. Such a document should then be published as a Bologna document of reference and relevance.

(3) In the case of legal definitions of a “true” joint degree this is not the case (no broad consensus) and it may be difficult to achieve it with a formula that covers all aspects from Albania to Russia, EU and Non-EU... Perhaps this is not even necessary. All ministers whose countries have already ratified the Lisbon Recognition Convention (these are 39 at the time being) have at least in general agreed to the formulation chosen for the Lisbon Subsidiary Documents of Unesco and the Council of Europe (which is a broader one for the design and description of joint integrated programs).

Therefore, the ministers are asked to incorporate in their national legislation on higher education



at least the written option for the awarding of joint degrees with a reference to the Lisbon Convention descriptions and making sure that they are quality-assured according to national standards and European principles and guidelines already agreed upon.

In addition to legal provisions allowing for joint degrees it is also of utmost importance to make extensive use of a precise and informative Diploma Supplement (DS). It could also be possible to combine the single or multiple diploma document with a “joint” diploma supplement in such a way that the different parts or sheets can-not be separated any more as is practice in the juridical area and with certain contracts.

In the meantime, the ministers should encourage institutions to continue and enhance their work for the preparation and design of integrated joint programs”.

The last Bologna seminar devoted mostly to the question of joint and double degree was held in Chelyabinsk, Russia, March 16 and 17, 2009. The Bologna Seminar on “JOINT PROGRAMS AND STUDENT MOBILITY”. The main issues were:

- Launching joint programs and projects together with foreign and international organizations;
- Achievement of educational processes compatibility between universities;
- European and Russian universities experience in developing and improving joint educational programs;
- Learning results recognition in universities-partners;
- Creating conditions for extending mobility, including teachers’ language competence.

#### **1.4. Models of Double (Joint) Degree Programs**

Comparative analysis of models of double degree programs (joint degrees) of individual countries was conducted by specialists program SOCRATES on behalf of the European Commission and its financial support in 2002 namely ‘Survey on Master Degrees and Joint Degrees in Europe’. It has defined the several ways of implementation of such programs as follows:

1. The award of a “real” joint degree on a single degree certificate in the name of both or all participating institutions. Until now, this has been feasible solely in the United Kingdom and Italy. It might also become possible under the new decree in the Flemish Community of Belgium. Romania says that it is in favor of a single degree certificate issued by all institutions, but the



proposal has not been implemented yet.

2. The award of two separate degree certificates (a “double degree”) appears to be a fairly common practice, especially if the cooperation is between two countries/institutions, although double degrees also exist in multilateral partnerships. The practice is reported by the Flemish Community of Belgium, Bulgaria, Estonia, Finland, France, Germany, Ireland, Lithuania and Switzerland. Double degrees may also be awarded in Italy (at Bachelor and Master levels), Latvia, the Netherlands, Norway and the United Kingdom. In Hungary, where double degrees are currently non-existent, the preference is thought to be for two separate degree certificates. Two degrees have also been awarded in instances in which programs have been established by much broader multi-lateral partnerships or consortia. For example, in the case of the CIDD consortium of university business schools, a joint degree program has been developed by all members of the consortium, but students study at just two of them from which they receive their double award (two degrees). Much the same applies to the TIME consortium.

The award of more than two degree certificates from all participating institutions is less common, although some countries indicate that it may occur.

3. One degree certificate awarded in the name of the participating institution at which the student is registered.”

In many cases, the legislation of participating countries is such that neither “joint” nor “double” awards are possible according to ‘Survey on Master Degrees and Joint Degrees in Europe’. Where the joint degree is awarded in the name of just one institution, several different methods are used to provide evidence that the award does actually result from a joint program:

- An unofficial degree certificate is awarded on behalf of the whole partnership, in addition to the national degree, to testify that the program has been developed and taught jointly. This is the practice in several joint degree partnerships in Europe, such as the consortium awarding an M.Sc in European Construction, a consortium offering joint doctoral degrees in biology, and one awarding a European Master in Business Science. The same practice is also noted in the replies from Iceland, Poland, and Romania (in the case of jointly supervised doctorates and joint degrees at postgraduate level), and in one of the replies from Portugal.
- A degree certificate awarded by one of the partner institutions is also signed by representatives of all the others. While this procedure is often cited as the most logical approach to the award of joint degrees, replies to the questionnaire supplied little evidence of its use in practice.



- A degree certificate, awarded and signed by representatives of one of the participating institutions only, notes clearly that its holder has followed a jointly developed program and lists all the other partner institutions. The French Community of Belgium and the Netherlands state explicitly that this procedure is sometimes used by their higher education institutions to award joint degrees and the practice may be more widespread still. However, an additional note on the degree certificate/diploma may not be legally possible in countries whose legislation includes regulations governing the text for inclusion on nationally recognised certificates.

- One normal degree certificate is awarded by a single institution in the partnership. The fact that this often occurs, even in jointly developed programs with student and teaching staff mobility, is surprising. The procedure is reported by Slovakia, and applies to the award of joint doctorates by the French Community of Belgium and the Netherlands. In addition, it is the most commonly adopted method of awarding joint degrees in Iceland, and a possibility also in Portugal and the United Kingdom. In Malta, graduates may receive a single degree from either the University of Malta or its one or more partner institutions in accordance with a prior agreement between them. The award of one degree by a single institution is the more widespread of two options in Norway, and national degrees only are awarded to graduates in joint programs in engineering and agriculture between universities in the Nordic countries and Baltic States. Finally, graduates from German joint programs may receive only one qualification, unless they have simultaneously satisfied the conditions for the award of degrees in both Germany and the partner country. “

Carlo Finocchietti and Maria Sticchi Damiani in their Chapter “Joint degrees and double degrees. The Italian experience” (2002) have also worked toward defining schemes of awarding joint and double through the programs in Italy. In accordance with their work they have defined following cases:

“*Case no. 1.* Award of the national qualification with commitment for mutual recognition. Each participating institution awards its own national degree to its own students and undertakes to recognise the qualification awarded by the partner without any additional burden for the students. The level of curricular integration required for this type of agreement is generally agreed at bilateral level.

*Case no. 2.* Award of the national qualification with a joint certificate. Each participating institution awards its own national degree to its own students and at the same time issues a joint certificate



testifying as to a determined level of curricular integration, whose requisites are agreed at bilateral or possibly network level.

*Case no. 3.* Award of the national qualification with attachment of a European label each participating institution awards its own national degree to its own students and at the same time issues a European label testifying as to a determined level of curricular integration, whose requisites are agreed at European level.

*Case no. 4.* Award of a joint qualification.

The participating institutions jointly award a joint degree on the basis of bilateral or network agreements which envisage the completion of an integrated curriculum whose duration is fixed by the partners

*Case no. 5.* Subsequent acquisition of the second qualification

The participating institutions award their own national degrees to students who have attained a qualification of the same level from a partner on the basis of agreements which envisage an additional period of study within the ambit of an integrated curriculum.

*Case no. 6.* Award of a double qualification (with a prolonging of the studies).

The participating institutions contemporaneously award the two respective national degrees to students involved in the program on the basis of bilateral agreements which envisage the completion of an integrated curriculum longer than that provided for in each of the countries concerned.

*Case no. 7.* Award of the double qualification

The participating institutions contemporaneously award the two respective national qualifications to students involved in the program on the basis of bilateral agreements which envisage the completion of an integrated curriculum of the same duration as that provided for in each of the countries concerned.”

## **1.5. Perception of the Joint (Double) Degree**

Employers perspective on double degree can be seen in the Chapter published in 2010 “Employers’ perceptions regarding graduates of engineering dual degrees” by Josephine Fleming, R. Mahalinga Iyer Mark Shortis, Hari Vuthaluru, Ke Xing & Bruce Moulton which reports on the attitude of



employees to joint (double) degrees. It was found that “All of the employers had an understanding of the nature of dual degree programs. Overall, the findings suggest that graduates of engineering dual degrees are regarded by many employers as having a greater breadth of knowledge than their single degree counterparts. Employers tend to expect graduates of dual degrees to have more-developed communication skills and greater versatility. Some employers raised concerns that this breadth comes at the expense of depth of technical expertise. Although the breadth of knowledge and skills may hold graduates of dual degrees in good stead for future work in areas such as management, many employers expressed a view that they must demonstrate technical ability as engineers in the first few years of their career. On the question of whether employers are more likely to recruit graduates of dual degrees than single degrees, mixed responses were seen. Some employers indicated that it made no difference, while others indicated that, all other things being equal, a dual degree graduate would be preferred. Clearly, this is a complex issue that is confounded by the individual perceptions of employers, the size of the organisation and whether the business of the organisation is specialised or multi-disciplinary. However, no employer indicated that they would be less likely to recruit a dual degree graduate. Some employers indicated that they would prefer masters or honours to a dual degree. Most employers indicated that good academic results were far more important than the type of degree undertaken.

The academic perspective on joint (double) degree can be seen in the publication “Double degrees: double the trouble or twice the return?” by A. Russell, Sara Dolnicar ( 2007), which stated that “ Double degrees represent an area of growing significance, for universities and society. For universities, they represent a significant proportion of enrolments (approaching 10%), they attract strong students (higher entry requirements) who are more likely to undertake postgraduate work (for students who enrolled in double degrees at UoW between 1983 and 2003, 3.5% went on to research doctorates, compared with 1.8% of single degree students), and they are preferentially selected by women, providing an avenue for improving women's participation in higher education. There is potential for expansion of double degree enrolments, particularly among international students. Double degrees potentially provide an avenue for developing transferable skills in graduates, including skills in transdisciplinarity and integration. At the same time, our research reveals considerable obstacles and challenges associated with double degrees, which affect students' satisfaction, performance and persistence. These observations suggest that double degrees should be a hot topic in higher education. However, this is one of very few studies we are



aware of that has specifically investigated double degrees. This paucity of research may reflect the underlying problem for double degrees – they don't fit. They potentially sit outside, or above, the disciplinary structure of universities. This characteristic likely contributes to the failure of universities to invest in the improvement of double degree programs —they are 'nobody's baby' and have no champions. And yet it is also this boundary-spanning characteristic that gives them so much promise. Given the talents of these strong and enthusiastic students, and the potential of double degrees to create graduates able to traverse and integrate across disciplinary boundaries, to suggest that this is a lost opportunity is to understate the issue.” However there are also opinions that “it is cheating the job market to award two independent degrees after a curriculum that has not required any additional workload, in terms of credits, with respect to the workload required to a student who will be awarded one degree. I have also the feeling that there is some part of cheating the job market to award two degrees of two different countries without asking the students to be proficient in the languages of both countries.” in accordance to Chapter “Models of European Double and Joint Degrees: A Need for Transparency” by Giancarlo Spinelli (2003), Politecnico di Milano.

Although a lot of work has been done towards Joint and Double degree programs the development of a more or less acceptable to many European universities structural models of double degree programs (joint degrees) was, and still remains one of the most difficult problems which still awaits solution. This particular work contributes to the global picture of the state-of-art of double degree programs by analyzing the situation in several European country such France. Germany and Italy as well as in the Partner countries such China and Russia, and by providing recommendation for the European-Chinese, Chinese-Russian and European-Russian double degree programs.



## Chapter 2. Double Degree Programs and Chinese Higher Education System

### 2.1. China's Education System (brief introduction)

People's Republic of China (hereinafter referred to as China) has the largest education system in the world. China's education system is not only immense but diverse. Education is state-run, with little involvement of private providers in the school sector, and increasingly decentralized. County-level governments have primary responsibility of the governing and delivery of school education. For the most part, provincial authorities administer higher education institutions. In recent years, the Ministry of Education has shifted from direct control to macro-level monitoring of the education system. It steers education reform via laws, plans, budget allocation, information services, policy guidance and administrative means.

In China, students usually enroll in pre-school at age two or three, and leave pre-school at the age of six. Pre-school education is not compulsory, and many pre-schools are privately owned. However, the government has taken on a more proactive role in promoting access following a national commitment to progressively universalize one to three years of pre-school by 2020.

In China, students must complete nine years of compulsory education. Most students spend six years in primary school, though a few school systems use a five-year cycle for primary school. Primary education starts at age six for most children. This is followed by three to four years of junior secondary education. Before the 1990s, secondary schools recruited students on the basis of an entrance examination. To emphasize the compulsory nature of junior secondary schools, and as a part of the effort to orient education away from examination performance and towards a more holistic approach to learning, the government has replaced the entrance examination with a policy of mandatory enrolment based on area of residence.

After finishing compulsory education, students can choose whether to continue with senior secondary education. Senior secondary education takes three years. There are five types of senior secondary schools in China: general senior secondary, technical or specialized secondary, adult



secondary, vocational secondary and crafts schools. The last four are referred to as secondary vocational schools. Students undergo a public examination called Zhongkao before entering senior secondary schools, and admission depends on one's score on this examination. The government uses examination results from Zhongkao to assign students to different senior secondary schools.

Age	Schooling	
27	22	PhD program
26	21	
25	20	
24	19	Master's program
23	18	
22	17	
21	16	University (bachelor's degree) and vocational college
20	15	
19	14	
18	13	
17	12	Senior secondary school
16	11	
15	10	
14	9	Junior secondary school
13	8	
12	7	
11	6	Primary school
10	5	
9	4	
8	3	
7	2	
6	1	Pre-school and kindergarten
5		
4		
3		

*Figure 1. China's Education System Organization*

In China, undergraduate degrees require four years of study. Associate degrees take three years to complete, and students spend two to three years completing a master's degree. A doctoral degree requires five years of study after a bachelor's degree, and three years after a Master's. In



In addition to these tertiary education programs, Chinese students can also enroll in professional higher education programs, which normally take three years.

Admissions to undergraduate programs are based on students' college entrance examination (gaokao) scores. A few exceptional cases are considered without the examination scores. Admissions at the graduate level are based on another entrance examination. However, some students are admitted due to recommendations.

Gaokao, or the National College Entrance Examination, is required for admission to higher education in China. Students take this exam after completing secondary school. The Chinese Ministry of Education works closely with provincial education authorities, universities and college sectors to set all policy matters relating to higher education enrolment and to assure that enrolment policy falls in line with central government priorities. The Ministry of Education oversees policy implementation, and sets guidelines for senior secondary curriculum content and examinations. The Ministry also oversees gaokao examination content. The provincial education authorities are responsible for gaokao student applications, conducting examinations, managing enrolment and setting policy according to provincial needs under the guidance of the Ministry of Education. Universities bear the third level of administration responsibility for enrolling students according to the guidelines set by the Ministry of Education. For universities administered at the national level, the Ministry of Education sets enrolment quotas in consultation with each university. Universities administered at the provincial level follow enrolment plans that are developed by the provincial education authority and approved by the Ministry of Education. A complex matrix of provincial quotas, university quotas and subject quotas is negotiated annually between universities and provincial authorities. While the university sector expresses some autonomy in the enrolment of students, regulating quotas is ultimately a decision made by the Ministry of Education, with flexibility mainly given to private colleges and joint Chinese-foreign educational programs.

## **2.2. China's Experience on Double Degree Programs**

Joint educational program represents institutional academic mobility, in which program students are involved. Chinese legislation entails cooperation with foreign partners in joint implementation



and realization of educational programs. Joint educational program (zhōngwài hézuò bànxué xiàngmù) is a teaching and educational activity, which is jointly carried out by Chinese and foreign educational institutions in the sphere of scientific disciplines, degrees and academic disciplines without creating a joint institution, where the main contingent is represented by Chinese citizens. The essence of the double degree program (program of double diplomas) consists in simultaneous acquisition of two related educational programs of partner universities, based on adjustment of program curriculum and recognition of mobility period by partner universities as well as credit transfer of the educational disciplines (modules), which are studied at partner universities. The program of double degrees supposes that there is a common contextual and structural basis, and every partner add his own courses, thus a student gets the opportunity to master two related programs, using the admission of mobility period and transfer credits for educational disciplines which are common for both partner universities. Programs of double diplomas, programs of exchange education which are realized with Chinese universities are distributed in a following way: 103 programs of bachelor degree, 4 specialist's programs, 21 master degree programs. Thus, total number of all programs is 128, from them in bachelor's degree there is 0% of joint degree programs, 31,3% (40) of double degrees, 49,3% (63) of exchange educational programs and in specialist's program it amounts to 3,1%. As for master degree, there is 0% of joint degree programs, 10,2% (13) of double degree programs and 6,1 % of exchange educational programs. Regional distribution of Chinese partner universities where students go within the framework of joint educational program is the following: 49% are located in the North-East of China (26% in Liaoning province, 12% in Heilongjiang province, 11% in Jilin province), 25% are in the east of China (20% in Shandong, 4% in Jiangsu province, 1% - in Anhui province), 10% - in the north of China (7% - in Beijing, 3% - in Inner Mongolia Autonomous Region), 7% - in central and southern China (5% - in Henan province, 2% - in Hunan Province), 3% - in the north-western parts (in Gansu province).

### **2.3. Professional Standards in China**

Professional standards in China are divided into 58 industry sectors each being managed and maintained by the competent Chinese sectorial ministry or organization. Unfortunately, at the



moment no centralized database exists for accessing information on professional standards (and in particular in electrical engineering). As a result, searching professional standards in electrical engineering can be difficult and will often require Chinese language skills. At the same time it would be necessary for the purposes of our review to mention so called the Hong Kong Qualifications Framework for Electrical Engineering Branch. The Electrical and Mechanical Industry Training Advisory Committee (ITAC) was set up to facilitate the implementation of the Hong Kong Qualifications Framework in the industry. It is a hierarchy that provides benchmarks for determining the level of complexity and difficulty of individual competencies. It is also used to order and support qualifications of different natures and titles. The Hong Kong Qualifications Framework has in place an independent quality assurance system that would enhance recognition and acceptance of the qualifications in the industry, irrespective of the mode and source of learning. The Hong Kong Qualifications Framework has seven levels, from level 1 to level 7, where level 1 is the lowest and level 7 the highest. The outcome characteristic of each level is depicted by a set of generic level descriptors. The generic level descriptors specify for each level its generic complexity, demand and challenges in the four dimensions below: knowledge and intellectual skills; process; application, autonomy and accountability; and communications, IT skills and numeracy.

#### **2.4. Basis of Curriculum for Electrical Engineering (M.E. Program)**

The internationalization of higher education requires that both Chinese and Russian higher education need to promote the continuous improvement of the quality of higher learning institutions while also promoting said type of talent training in accordance with international standards. The educational basis for the Master of Electrical Engineering in China is to cultivate high-level application-oriented specialized personnel for enterprises and engineering departments in the field of electrical engineering. Master programs aim to provide solid basic theories and broad expertise in the field, as well as advanced technological methods for solving engineering problems. Modern management knowledge is to provide them with the strong capabilities to solve practical problems, as well as innovative awareness and the ability to independently undertake engineering



technology or project management work. Professional skills and management work are the aim. Therefore, we should pay attention to the overall optimization of the training program, adhere to the moral education first, strengthen the training of the students' practical ability, deepen the reform of the mode of talent training, and actively explore the mechanism of "enterprise guide and co construction" so as to improve the personal general cultural competences, academic competences, workshop competences, industry-wide technical competences, industry-sector technical competences, and specific competences.

## **2.5. Integration of Curricula for Electrical Engineering (M.E Program) of China-Europe-Russia**

We mainly research Bologna process, Russian system of education, Master programs in electrical engineering in UTBM, UNIVAQ, OVGU and electrical engineering professional standards in European, USA, Australia, Russia and China, etc.

We think that current MSc course learning outcomes between RU, CH and EU partners focus on knowledge, Skills, competence. Knowledge means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework knowledge is described as theoretical or factual. Skills mean the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework skills is described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments). Competence means the proven ability to use knowledge, skills and personal social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework competence is described in terms of responsibility and autonomy.

General speaking, Russia and European countries have demonstrated the trend of demanding both hard and soft skills in terms of their masters' training standards. This provides direction and guidance for China to refine and revise high-level masters. Because of the different backgrounds



of their own educational development, each country has its own talent training standards, which are mainly reflected in the differences in emphasis on hard and soft capabilities, differences in talent types and industries, and the degree of concreteness of training standards. As China signed the "Washington Accord," establishing a systematic and complete authentication and evaluation system for master programs became the construction goal. China combines the needs of the industry with the characteristics of the colleges and universities, aiming to reflect the characteristics of each college and university in the training of high-level engineering talent standards and training models.

## **2.6. Curriculum in Electrical Engineering**

### **Objective of education**

High-level specialized talents should be educated in the field of electrical engineering, who should have solid knowledge of basic theory and wide range of professional knowledge, understand theoretical research on this discipline and have the knowledge of cutting edge technology for engineering, who should be capable of theoretical analysis, research through test and development application, who should be powerful in analyzing and resolving actual issues related to engineering, who should be suitable for electrical engineering and related fields in terms of teaching, scientific research, design, development and management, who should be well grown spiritually, mentally and physically.

Particulars of requirements of academic postgraduates are as below:

- Well informed of important thoughts of Marxism-Leninism, Mao Ze Dong Thoughts, Deng Xiaoping Theory and "Three represents", supporting basic line, policy and strategy of CPC, building up correct worldview, philosophy of life and values, loving the state, abiding by laws and regulations, strongly devoted to business and showing responsibility, good in moral quality and academic education, excellent in character and education, and proactively devoted to servicing the construction of socialist modernization.
- Having solid knowledge of basic theory and wide range of professional knowledge, well informed with tendency of academic development of electrical engineering first-level discipline, having



advanced technology to solve electrical engineering specific issues, and knowledge of modern management.

- Capability of scientific research will be systematically cultivated and trained, having awareness of innovation and pioneering, and capability of innovation, capable of performing discipline research on electrical engineering or independently undertaking specialized subject in the field of electrical engineering
- Good knowledge of a foreign language is mandatory, able to easily read scientific literature related to this discipline, skillful in listening, speaking, reading, writing and translation
- High level in basic quality: Excellence both in morality and learning is, having both ability and political integrity, paying attention to the interests of the whole, broad minded and enriched in innovation and creation, physically and mentally health, friendly in communicating and cooperating with others.

### **Direction of Research**

As supported by electrical engineering and automation, intelligent power grid information engineering, automation and electronic information engineering over 16 years, electrical engineering first-level discipline has developed and grown as key first-level discipline to be constructed in Jilin province. Electrical power system automation second-level discipline is key discipline in Jilin province, where three different directions of research have been developed.

#### *Monitor and control of electrical energy quality of power distribution network*

This research is based on electrical engineering second-level discipline electrical power system and automation, and profoundly integrated with computer science and technology, information and communication engineering, control science and engineering, where intelligent control technology, detection technology, information processing technology and computer technology are utilized to execute monitor and coordinated control of electrical power system. In the end, automated detection, autonomous decision and intelligent control will be realized to ensure safe, steady and reliable operation of electrical power system.

#### *High efficiency of energy utilization and technology to save energy and reduce consumption*



This research is based on modern control theory. As supported by computer, digital signal processor and microelectronic technology, intelligent control technology, detection technology, information processing technology and computer technology will be utilized to control power semi-conductor switches to execute electrical power conversion. This will provide all power loads and actuators among modern industry with highly efficient power supply and motor driven speed governors system with high quality and high performance.

#### *Intelligent micro-grid and new energy power generation technology*

This research mainly focuses on regenerative energy power generation industry which is one of national strategically new energies, where research on critical technology will be carried out in the aspects of control, operation, maintenance, testing, fault diagnosis and reliability of large-scale wind power generators at MW level, win-power and solar-power storage and intelligent micro-grid, and talents will be cultivated.

#### **Education system and credit**

In general, postgraduate for academic degree is 3-year education system

Course is subject to credit system. Credit to be obtained by postgraduate should not be lower than 38 points.

#### **Education mode**

Combination of tutorial system and academic group, where tutor guiding to postgraduate should be fully demonstrated. Self-learning, discussion, and inspiration will be adopted with the focus on students' capability of self-learning and research.

#### **Course learning**

##### *Course system*

Course learning for postgraduate is based on credit system. It is mandatory that 1 point is obtained when 16-hour theoretic course is completed. Particulars of courses are given in attachment.

##### *Personal learning plan*

Personal learning plan should be determined in consultation with tutor and submitted within 3 weeks of entry. Such plan should include: 14 points for fulfillment of degree course, out of which



is 4 points for public basic courses and 10 points for specialized basic courses, 7-9 points for non-degree courses, out of which is 2 points for specialized skills, 5-7 points for selective courses, and 7 points for compulsory courses, where it is 4 points for discipline practicing, 1 point for proposal, 1 point for middle-term thesis assessment and 1 point for comprehensive competence

#### *Way of teaching and assessment*

Degree courses will be taught by classroom teaching and discussion. Assessment will be conducted by shut-book examination. Final examination will contribute 80% of the score and usual performance will contribute 20%. Compulsory courses of non-degree courses will be taught in classroom and discussion. Assessment will be made by shut-book examination. Final examination will contribute 80% of the score and usual performance will contribute 20%. Selective courses of non-degree courses will be taught in classroom and discussion. Assessment will be made by report or open-book examination. Report or final examination will contribute 80% of the score and usual performance will contribute 20%.

#### **Academic dissertation**

Academic dissertation is important part of cultivating postgraduates. Dissertation can fully train the postgraduates to form prudent style of study, obtain basic methods of scientific research, independently perform scientific research and comprehensively utilize learned knowledge to discover and resolve issues.

#### *Topic choosing and research plan*

To ensure the quality of academic thesis, the tutor should define the range of topics for each postgraduate as early as possible by guiding students to choose the topics through reading literatures, investigation and research, and establishing detailed research plan. When conditions permit, postgraduates should be encouraged to participate in scientific research program undertaken by the tutor. Topics to be chosen should show high start point, new point of view and perspective, and make certain sense in term of theory or application.

#### *Proposal*

Proposal should be executed in writing and recitation to cover the topics of thesis. However, postgraduate cultivation form should be downloaded and filled one week ahead of time.

Normally, the contents of postgraduate proposal should show sources of project and basis for project, read, analyze and summarize 40-70 relevant literatures from home and abroad over the



last 15 years, and determine research program. Research program includes: statement of objective of research, contents of research, key points and innovative points, research procedure, technical routine and test programs. The basis for research work should explain required conditions, possible difficulties to be encountered during research, possible solutions and measures. In the end, work plan and time schedule should be defined for research work.

For proposal meeting, minimum 5 scholars with background for associate professors or better position or the persons holding doctor degree must attend this meeting. They will review and give comments. Postgraduates who fail for 1 or 2 times will be subject to corresponding procedures.

#### *Review of academic dissertation*

The college of postgraduate implements academic dissertation review and review random inspection system. Each year, the college of postgraduate will make random inspection of academic dissertations. The remainder of the papers will be subject to random inspection or reviewed according to procedures specified by college of postgraduate. All the academic dissertations organized for review by college of postgraduate are randomly selected papers subject to “double blind” review, that is, author of the thesis, its tutor and comments by evaluation expert will not be shown during such thesis review. Hence, two-way confidentiality is generated during thesis review between author of thesis, its tutor and evaluation expert. Papers to be reviewed by this college, when fallen in range of random inspection, should be submitted according to “double blind” criteria of college of postgraduate. The remainder of the academic dissertations will be reviewed in anonymous followed by procedures at college of postgraduate.

#### *Dissertation defense*

To ensure the quality of academic dissertations, postgraduates are required to submit initial draft before defending the dissertations submitted for defense. In the meanwhile, pre-defense should be given by recitation. Pre-review of postgraduate thesis to be submitted for review will be internally organized by the discipline. The results of pre-defense should be reported to college for registration.

Academic dissertations must be systematically completed academic dissertations, and must be completed independently by the students. Wording and phrases in academic dissertations should be simple, concise, smooth, reliable data, clear graphs, and can precisely and accurately express research achievements. The conclusions should be true and practical.



One of following conditions must be satisfied before the applicant for master degree applies for master degree:

1) more than one thesis published in shared signature on public journal at home and abroad (student is first author, tutor is participant, or tutor is first-level author and student is level-2 author)

2) more than one thesis published in shared signature at important academic conferences at home and abroad (student is first author, tutor is participant, or tutor is first-level author and student is level-2 author).

Defense should be implemented according to “Bylaw of Implementation of Granting Master Degree of Changchun Institute of Technology” when students complete all cultivation processes and pass pre-review for the thesis.

### **Compulsory part**

#### *Proposal and literature reading*

Minimum 30 literature sources should be read before giving the proposal. It is required minimum 15 literature sources should be shown in below table. Proposal can start only after tutor reviews and approves it. 1 point is given when proposal is successful.

#### *Middle term thesis assessment*

For intensified process of postgraduate cultivation and strengthened middle term assessment, college of postgraduate clearly states elimination system is integrated with middle term assessment. Postgraduate middle term assessment will be done by expertise team coordinated by individual colleges. The performance is divided into excellent, good, pass and fail. 1 point can be granted when the performance is rated at pass or above. In such case, it can move to the session of degree paper according to cultivation plan so that the course can continue. For postgraduates who fail in middle term, tutors and postgraduate should jointly determine improvements and make report to degree assessment commission for approval. Depending on the implementation of improvements, middle term inspection can be reorganized in 2 months. In case of failure for two times, it should be considered course is completed in principle.

Middle term inspection requires that postgraduates should make the conduct both in writing and recitation. Postgraduates must download and fill in postgraduate cultivation form one week ahead



of time, and prepare report on the progress of thesis research at middle term. They should also report to expert team on dissertation progress.

Expert team should consist of minimum 5 scholars with background for associate professors or better position or the persons holding doctor degree. They will make assessment of progress of the thesis at middle term, and review the reliability of theoretical analysis of subject, test methods, data, reliability of results and design plan. They will also review the correctness of preliminary conclusions. They will make suggestions on detected issues and next steps of research. For details, see “Procedures on Middle Term Assessment of Postgraduate by Changchun University of Technology”.

#### *Discipline practicing*

Discipline practicing is important step of postgraduate cultivation program. Discipline practicing is based on teaching practice, scientific research, production practicing or listening of academic reports. Performance is registered with pass/fail. For pass, 1 point is given. Postgraduates should listen to minimum 4 academic reports during schooling.

#### *Comprehensive quality training*

Comprehensive quality training means all specialized activities to be conducted during schooling to improve the competence of postgraduates. Conduct of such serial of activities will improve mental quality of postgraduates, teamwork, cultural training and personal characteristics. Main contents include (new student entry):

- 1) Special report;
- 2) Lecture on scientific ethics and construction of style of study;
- 3) Extended training;
- 4) Tea ceremony;
- 5) Social etiquette;
- 6) Music appreciation;
- 7) Lecture on Chinese literature;
- 8) Fine arts (painting, Chinese painting);
- 9) Literature (classic, foreign languages);
- 10) Photography.

The first three items are mandatory. The remainder can be completed as wanted and should be



checked. For performance evaluation, it will be registered pass/fill depending on student attendance and achievement. 1 point is given in case of pass.



## Chapter 3. Double Degree Programs and French Higher Education System

### 3.1. The Different Types of Institutes of Higher Education in France

In France, there are more than 3,500 public and private institutes of higher education. Universities, Grandes Ecoles and schools of art or architecture: there is a wide choice for foreign students who want to study in France.

#### THE UNIVERSITIES: HIGHER EDUCATION FOR ALL

Universities receive 75% of the foreign students who pick France for their post-secondary education. These public institutes of higher education are financed by the French State. Located all around France, the universities confer national degrees (Bachelor's, Master's, Doctorate) that all have the same academic value.

Everyone who has a high school diploma or equivalent can enroll in first year. Science, literature, languages, arts, humanities, medicine and sport: university programs cover all of the areas of learning and research.

#### THE GRANDES ECOLES: THE FRENCH CULTURE OF EXCELLENCE

20% of foreign students are enrolled in a program in the Grandes Ecoles. Écoles Normales Supérieures (ENS -Institutes of Advanced Education), Instituts d'Études Politiques (IEP - Political Science Institutes), engineering schools, business and management schools, veterinary schools and a few others, these Grandes Ecoles are public and private institutes of higher education recognised by the State. They confer degrees for 5 years of undergraduate studies, and some award the title of Master. Much of the training is provided in English.

Admission to the Grandes Ecoles is very selective. It is based on a competitive entry exam after two years of preparatory classes, with an appropriate degree or directly after high school for



schools that have an integrated preparatory program. Tuition and fees are higher than for university.

#### SPECIALISED SCHOOLS AND INSTITUTES: SPECIFIC PROGRAMS

Nearly 3,000 public and private institutes of higher education offer courses in specific sectors such as medicine, audio-visual, communication, journalism, fashion and design, agronomy, political science, etc.

These institutes confer degrees and certificates that may or may not be recognised by the State. Admission to these specialised schools and institutes is based on a competitive entry exam or the applicant's file. Studies there generally last two to five years.

#### SCHOOLS OF ART AND APPLIED ARTS

In France, there are nearly 50 public schools of art and design directly overseen by the Ministry of Culture. Training in art, design and communication is provided in two steps of three or five years, with national degrees awarded on successful completion. Some also offer a third level of studies. Four highly-reputable public schools of art are directly overseen by the Ministry of Higher Education: Boule, Olivier de Serres, Duperré and Estienne. They confer national degrees in graphic design, spatial design, fashion and arts and crafts.

Some private schools or schools that depend from chambers of commerce and industry award their own degrees. Some are registered in the Répertoire National des Certifications Professionnelles (RNCP – National Repertoire of Professional Certifications). These institutes of higher education in art and applied arts are very selective, and enrolment is through analysis of the applicant's file, by competitive entry exam and / or interview. Applications may be filed online on the site Campus Art.

#### THE NATIONAL SCHOOLS OF ARCHITECTURE (ENSA)

The Ecoles Nationales Supérieures d'Architecture (ENSA - the national schools of architecture) form a network of 20 public schools overseen by both the Ministry of Culture and the Ministry of Higher education, Research and Innovation. Two other institutes, the École Spéciale d'Architecture (Special School of Architecture) and the Institut National des Sciences Appliquées (National



Institute of Applied Science) in Strasbourg, are part of the same network and confer equivalent degrees.

### **3.2. French Degrees, LMD System and Equivalences**

French higher education has adopted the LMD system. Most degrees that it awards also give ECTS credits that are recognised by many countries in the European Union and around the world.

#### **DEGREES STANDARDISED WITH THE LMD REFORM AND CREDITS**

The three-level organisation of post-secondary education is shared by most countries in the European Union; in France, meaning licence-master-doctorat (Bachelor's-Master's-Doctorate), or the LMD system.

This system standardises the levels and organises recognition of the degrees in the different countries. It makes educational mobility easier in Europe and elsewhere.

LMD degrees are obtained by successfully completing a certain number of semesters from the time of entry in the higher education program. Each semester awards up to 30 ECTS (European Credits Transfer System) credits that are valid in, and can be transferred to other countries.

A Bachelor's requires successful completion of six semesters, resulting in 180 ECTS credits. An additional four semesters are required to obtain a Master's, with an additional 120 ECTS credits.

A Doctorate is awarded after successful completion of sixteen semesters and awards a total of 480 ECTS credits in a minimum of eight years of studies starting from the first year of the Bachelor's program.

#### **DEGREES RECOGNISED AND GUARANTEED BY THE FRENCH GOVERNMENT**

The value of a French higher education diploma is guaranteed by the State when it's a French diploma, a degree certified by the French Ministry of Education ("diplôme visé") or titles registered on the RNCP (French Directory of Professional Certifications).

For various "Grandes Ecoles" and business/engineering schools, the quality of training and diplomas may also be certified by independent organisations issuing accreditations or labels.



## EQUIVALENCES BETWEEN FRENCH AND FOREIGN DEGREES

Each establishment defines its own admission criteria, according to the student's background and the program requirements. Only the host establishment is authorised to accept or refuse an applicant. Mutual agreements to recognise degrees may nonetheless make requests for equivalence easier.

The ENIC-NARIC centre may provide an attestation certifying to the French value of a degree obtained from a foreign educational system. This attestation does not constitute an equivalence in and of itself, but some institutes of higher education require it. The procedure costs 70 Euros per request.

The ENIC-NARIC European network also lets students certify the value for their country of the years they spent studying in France.

## CERTIFYING PROFESSIONAL EXPERIENCE

There are several structures that certify professional experience with the aim of enrolling in training or certifying a degree, diploma or level of qualification.

There are two distinct procedures: VAP 85 and VAE. The first enables direct access to training following certification of past experience. The second awards all or part of a degree by certifying the applicant's skills and knowledge.

The applicant must submit a dossier to a jury. In practice, these structures are frequently used by French higher education institutes to determine the level of an applicant with respect to the requirements of the programs they provide.

## WHICH PUBLIC ACADEMIC INSTITUTIONS ARE AFFECTED?

France's major public postsecondary institutions are listed below. In all of them, a large part of the real cost of education is subsidized by the state. And all of them are covered by the new system of differentiated tuition.

- All of France's universities
- All 25 institutional groupings
- The three INPs (national polytechnical institutes) in Toulouse, Grenoble, and Bordeaux
- The four écoles centrales in Lille, Lyon, Marseille, and Nantes



- The six INSAs (national institutes of applied sciences) in Lyon, Rennes, Toulouse, Rouen, Strasbourg, and CentreVal de Loire
- The three technological universities in Compiègne, BelfortMontbéliard, and Troyes
- The four ENSs (écoles normales supérieures) in Paris, Cachan, Lyon, and Rennes
- Twenty national institutions, including the Collège de France, CNAM (Conservatoire national des arts et métiers), INALCO (Institut national de langues et de civilisations orientales), and EHESS (École des hautes études en sciences sociales)
- Five French institutions abroad: the French schools in Athens, Rome, and the Far East; the Institut français d'archéologie orientale in Cairo; and the Casa de Velázquez in Madrid
- Twentyfive public research bodies, including CNRS, CNES, CIRAD, INSERM, INRA, and IFREMER

### 3.3. How Higher Education Works in France

#### A DIVERSIFIED HIGHER EDUCATION OFFER

French higher education involves 2.5 million students. 12% of them are from abroad. All of them are benefiting from highly diversified training, and they are enrolled in every field, at every level. There are more than 3,500 public and private institutes of higher education in France: 72 universities, 25 multi-institute campuses, 271 Doctoral schools, 227 engineering schools authorised to award the title of engineer, 220 business and management schools, 45 post-secondary public schools of art, 22 schools of architecture and 3,000 private schools and institutes. Some of France's 3,000 high-schools provide courses in preparation for entry to the Grandes Ecoles, the classes préparatoires (CPGE), others have two-year technical programs, called sections de techniciens supérieurs (STS), or classes in preparation for the national Brevet de technicien supérieur (BTS).

More than 1,200 classes are provided in English. Find out which in the catalogue Programs taught in English. Short programs that consist of learning French thanks to cultural visits are also offered to foreign students. They are detailed in the catalogue of short programs and in our Immersion France application.



There are more and more MOOC offered in French. The acronym FUN, for France Université Numérique (Digital University France), refers to the first French online course platform. It provides nearly 300 courses from over 80 institutes, with enrolment near the one million mark.

#### A TIGHT ACADEMIC SCHEDULE

In France, the academic year begins in September or October, depending on the institution and program. It is punctuated by holidays, including two weeks at year-end. At the end of the first semester, classes are briefly interrupted for exams. The summer holidays start in May or June at the end of the second semester exams. In general, these holidays last at least two months.

#### CLASS FORMATS IN HIGHER EDUCATION IN FRANCE

In French universities, instructors and researchers give students two types of classes:

- cours magistraux (lectures): a professor presents a subject to students in an amphitheatre for 100 to over 1,000 people. These non-mandatory classes are often written up and handed out by the instructors to students in the form of pamphlets, which can prove very handy when it comes time to revise for exams at the end of the semester;
- travaux dirigés (TD - tutorials) and travaux pratiques (TP- practical or lab work): these mandatory classes are for smaller groups and are a complement to the lectures, with the intention of applying and deepening theoretical understanding. Company internships may also be required in addition to the tutorials and practical work.

#### CERTIFYING ACADEMIC KNOWLEDGE

There are two ways that knowledge is tested in the French higher education system. Ongoing assessment evaluates what has been learned throughout the year, with regular testing in each subject matter. There are exams given twice per year, at the end of each semester, for all subjects.

#### LEVEL OF FRENCH REQUIRED FOR FOREIGN STUDENTS

If student is taking a course provided in English, French is not required. Nonetheless, the institution in question may test student's level of English.



On the other hand, if student is taking courses in French, remember that foreign students must present a document attesting to their level of French. Student can obtain one by sitting an official French exam or test, such as the DELF, the DALF, the TCF or the TEF. The common reference is that of the Common European Framework of Reference for Languages (CEFR). Foreign students who have received a French high school diploma in an AEFÉ (Agence pour l'Enseignement du Français à l'Étranger - the Agency for French Education Abroad) institution are exempt.

Level B1 or B2 is recommended for studying at the undergraduate and Master's level, and especially in the humanities and social sciences. Level B2 is required for admission to 1st year in the framework of the DAP (demande d'admission préalable - preliminary request for admission). Some French institutes of higher education may require a higher level, C1 or C2, for specific programs.

### **3.4. Agreement on Mutual Recognition of Diplomas**

In order to develop cooperation in the field of education and science, an intergovernmental agreement on mutual recognition of education, qualifications and degrees was signed between Russia and France on June 29, 2015.

Agreement on mutual recognition of diplomas 29.06.2015

The agreement was developed in accordance with the Convention on the recognition of qualifications relating to higher education in the European region of 11 April 1997 and the Federal law "on education in the Russian Federation".

The agreement regulates mutual recognition of education, qualifications and degrees obtained in Russian and French educational and scientific organisations in order to ensure access of their holders to education in these countries.

The agreement also establishes the correspondence between the levels of education and academic degrees in Russia and France.

Are recognised as comparable:

- secondary vocational education (in the presence of secondary General education), obtained in Russia, confirmed by a diploma of secondary vocational education, and short-term higher



- education, obtained in France, confirmed by a diploma of technician of higher qualification or a University diploma of technology;
- higher education received in Russia, confirmed by a bachelor's degree, and higher education received in France, confirmed by a licentiate (license);
  - higher education obtained after the successful completion of the first year of master's degree in Russia, and higher education obtained after the successful completion of the first year of the Master program in France;
  - higher education received in Russia, confirmed by a diploma of specialist or master, and higher education received in France, confirmed by a diploma "master", the title of "certified engineer" or a diploma of awarding the degree " master»;
  - the degree of candidate of Sciences, provided for by the state system of scientific certification, obtained in Russia, and the degree of doctor, obtained in France.

From the date of entry into force of the Agreement (June 29, 2015), the Agreement between the governments of Russia and France on mutual recognition of documents on scientific degrees of may 12, 2003 ceases to apply.

The decision will allow to implement the procedures of mutual recognition of education, qualifications and degrees obtained in educational and scientific organisations of Russia and France, according to a simplified scheme, will help to attract to work in Russia highly qualified specialists who have received education in the leading French educational and scientific centres.



## Chapter 4. Double Degree Programs and German Higher Education System

### 4.1. The Different Types of Higher Education in Germany

Nearly 2,000 of the 18,000 post-secondary courses to choose from in Germany cater to international students in that they're conducted in the English language. 12 percent of the country's students come from abroad.

But in order to be able to pursue higher education here, you must have an Abitur (completion of final exams) or Fachhochschulreife (university of applied sciences entrance qualification). A comparable qualification is required for foreign students.

Provided you have this in hand, an abundance of study options are available to you. These are the three main types of higher education institutions in Germany.

#### *1) Colleges of Art, Music and Film (Kunst-, Musik- und Filmhochschulen)*

Despite being referred to as colleges, these schools in their respective art fields offer degrees upon completion of studies and have equivalent status to universities.

Studying at a Kunsthochschule generally encompasses learning in a practice-based setting about the fine arts and specializing in subjects such as painting, sculpture, photography or ceramics.

A portfolio of 15 to 40 small works of art may be required as part of an art college's application process, as is the completion of stringent entrance exams.

With regards to music colleges in Germany, of which there are about 30, an emphasis is placed on the making of music, though priority is also given to singing, conducting and sound production.

Over one third of the students at Germany's music colleges come from outside the country.

Filmhochschulen programs focus on directing and filming skills, but also screenwriting, dealing with sound and music as well as image and digital editing.

Other post-secondary studies in the creative field, such as fashion and design, can be found across Germany in a variety of other institutions: universities, universities of applied sciences, and private academies.

#### *2) Universities of Applied Sciences (Fachhochschulen)*



The primary focus at Fachhochschulen is for students to apply scientific knowledge and to be taught professional practice in topical areas (business, technology, social affairs, media, etc.). Programs at universities of applied sciences are usually more practice-oriented.

Though the prerequisites to get into universities and universities of applied sciences are the same, Fachhochschulen are more likely to involve practical semesters which means the courses are not six, but rather, seven or eight semesters long.

And while bachelor's and master's degrees are offered at both Fachhochschulen and universities, depending on the institution, course groups are oftentimes smaller and more manageable at Fachhochschulen.

In Germany there are 106 universities and more than twice as many Fachhochschulen. But whereas an average of 16,500 students attend any one university in the country, 4,500 students attend a university of applied science.

It is a very individual decision - whether to go to university or to a university of applied science. But you should keep in mind that universities more often deal with theoretical subjects. If you are keen on studying humanities or linguistics, for instance, you are more likely to find these courses at universities.

Another German term which is widely used to speak about higher education is 'Hochschulen' - institutions which award academic degrees (e.g. colleges, universities and universities of applied sciences). More and more Fachhochschulen in recent years have been shortening their names to Hochschulen.

Most Hochschulen, such as the one in Bremen and the one in Ingolstadt, have international offices which seek to support foreign students in any way they can.

### *3) Universities (Universitäten)*

Universities are more often than not strongly research-oriented and offer a wide range of courses. Here too, there are practical aspects, but the emphasis is on solid theoretical training and methodological expertise.

Some programs can only be found at universities, such as classical law studies.

But a special type of German university where you're less likely to find a program in law is a technical university. Technical universities (Technische Universitäten) focus on mostly engineering and natural science subjects.



Important to note as well is that universities and schools of equivalent status are the only institutions in Germany with the right to confer doctorates.

### **Higher education institutions: public vs. private**

The types of institutions listed above can be divided into two categories: state-run and private. While most German universities are publicly financed, there are 120 private universities and these consist mainly of Fachhochschulen.

Over 90 percent of students in the Bundesrepublik are enrolled at public universities and colleges; only about 5.5 percent attend a privately-funded one – likely due to private institutions charging high tuition fees.

Students at state-run universities in Germany - both local and international students - do not pay tuition fees, but rather, simple administrative fees of between €100 and €500 per semester that also cover their public transportation costs.

Vocational academies (Berufsakademie) are another example of a privately funded institution. But these schools, of which there are over three dozen across Germany specializing in programs ranging from the social sciences to technology, are not technically regarded as higher education. This is despite the fact that some of their qualifications are recognized as comparable with those of Fachhochschulen.

## **4.2. Conditions and Factors of Successful Cooperation**

### **Level of participating universities:**

#### required:

- availability of a signed agreement (agreement) on cooperation and an agreement on the exchange of students;
- experience in implementing educational programs in the relevant field;
- the presence of a scientific school in the relevant field;
- the presence of partner enterprises for internships provided for in the curriculum;

#### recommended:



- experience in implementing online educational programs;
- experience in participating in international educational or research projects with the participation of European organizations;
- presence in the participating universities of the units dealing with visa support
- availability of places to accommodate exchange students.

### **Level of educational programs:**

#### required:

- availability of an approved curriculum;
- the presence of 1-2 semesters of exchange in the curriculum;

#### recommended:

- the availability of alternative disciplines for students not participating in the double degree program.

### **Teacher Level:**

#### required:

- knowledge of English at a level not lower than B1;
- readiness for the formation and control of professional competencies of students outside the framework of regular educational activities;

#### recommended:

- knowledge of English at a level not lower than B2;
- willingness to form personal competencies among students;
- experience in participating in international educational or research projects with the participation of European organizations.

### **Students Level:**

#### required:

- the presence of a high average score and the absence of training arrears at the time of selection for a double diploma program;
- knowledge of English at a level no lower than A2 and German at a level A1 and higher;



- the presence of confirmed financial guarantees for the costs of staying in another country (visa, travel and accommodation, current expenses);
- availability of approved research topics;
- willingness to work in a multidisciplinary team;

recommended:

- knowledge of English at a level not lower than B1 and German at a level not lower than A2;
- experience in participating in educational or research projects;
- willingness to learn on an individual educational path;
- ability to write motivational letters;
- ability to work independently with educational information resources.



## Chapter 5. Double Degree Programs and Italian Higher Education System

### 5.1. Major characteristics of education in the Italy

Italy is one of the four countries (along with France, Britain and Germany), who first proposed the creation of the so-called European Higher Education Area. On 25 May 1998 the French, German, Italian and UK ministers of education signed a joint declaration at the Sorbonne in Paris on the "harmonisation of the architecture of the European higher education system". The four ministers expressly recognised that the strengthening of the experience of "joint courses" is a significant contribution to the "progressive harmonisation of the overall framework of our degrees and cycles". A year later the ministers of about thirty European countries met in Bologna on 18 and 19 June and signed a declaration which delineated a "European higher education area" to be constructed within the first ten years of the new century.

The education system in Italy is run by the state. Control is exercised by the Ministry of Education, which oversees the content of material for schools, develops training programs, and conducts examinations for teachers. Universities of the country have a great freedom, but they are also under state control. Education in Italy consists of training in universities and training in other educational institutions. There are a very large number of disciplines and fields in the Italian Universities. Non-university sector includes vocational education and arts education. Universities in Italy are the most ancient in Europe and are known all over the world.

University of Bologna was opened in 1088. In fact, it was the ancestor of most Italian universities, which were founded as its branches. In 1200 from the University of Bologna were segregated universities in Padua and Modena, and then were followed by the universities of Rome, Perugia, Pisa, Florence and Naples. Now in Italy there are more than 60 universities, among them there are also private HEI. In total in Italy study a half million of students. In Rome alone concentrated 5 universities, the largest of which LaSapienza, which has about 200 thousand students. The main languages of instruction – Italian and English.

Some universities of Italy are well known for their specialization. For example, to study medicine is better at the University of Salerno, the University of Bologna is famous for its Faculty of Law.



Those who want to become a designer are advised to enter the European Institute of Design in Milan. For Economics and Finance go to University of Trento. Today the most authoritative university is LaSapienza in Rome. It was founded in 1303 by Pope Boniface. During the first seven centuries University enjoyed the support of the Pope. Today 166 thousand people study there, including foreign students.

Italian universities are very attractive to students in many countries, and this is understandable : in addition to the fact that this land is the cradle of ancient civilizations, the world famous art treasures in its architecture, painting, sculpture, writings and discoveries of musicians, artists, poets, sailors, scientists such as Raphael, Michelangelo, Verdi, Christopher Columbus, Leonardo da Vinci, Antonio Meucci, Guglielmo Marconi ... Today in Italy a lot of attention is paid to research in fundamental science and applied field in different directions (biology, physics, medicine, information technology, etc.).

The most prestigious universities have been always considered “First universities” leading origin of scholastic schools. Special status of “First universities” explained by their contribution not only in Italian, but also in world history and tradition. It was the first European universities contributed to blurring of frontiers and the creation of a unified European educational space in the Middle Ages. Universities of Bologna and Salerno, located on the crossroads of major routes and attracted students from all over Europe became legislators of traditional school (GimnasiumOmniumDisciplinarum), subsequently spread throughout the world.

In 20<sup>th</sup> century appeared a large number of universities which required cooperation with business entities. This generation of universities includes the University of Verona, Bocconi University in Milan, Rome Luiss University, and International University of Luiss Guido Carli. In particular, the University Luiss Guido Carli was founded by a group of businessmen and at their expense with the aim of the establishment of the university as an investment in the development of a new class of managers. Subsequently representatives of industrial enterprises and banks took participation in this project.<sup>3</sup>

The new types of universities were also created - universities for foreign students and universities of distance education. Universities for foreign students - public universities that specialize in

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<sup>3</sup> Official Web site of The University Luiss Guido Carli, <http://www.luiss.edu>



teaching Italian language and studies in the field of linguistics. One of the objectives of these universities is training young people from other countries for further study in Italian universities. Today the most popular among Italian students are joint educational projects of European universities, such as the Franco-Italian University and the German-Italian University. Franco-Italian University was established in 1998 on the initiative of the Ministry of Foreign Affairs of Italy and France's leading universities.

Its administrative headquarters are in Grenoble and Turin. It is an original experience of a virtual university, *sans murs*, which aims at co-ordinating the cooperation between the Universities of the two countries and which is based largely on distance learning made possible by new technologies. By means of this new university Italy and France wish "to promote the award of double degrees and joint degrees and participate in the design of common programs". In addition to this commitment to double degrees, another five are specified:

- promote convergence between the respective university systems;
- invite the participation of higher education institutions of other European countries in that process;
- promote joint research programs and life-long learning;
- provide assistance to the university institutions and bodies of both countries in the matter of inter-university cooperation;
- support the creation of databases and telematic links between the two university systems with a view to establishing a virtual network of information, teaching and life-long learning.

Franco-Italian University connected with the 82 French universities and 127 engineering schools, and 45 Italian universities. Today in the University study about 9 million students from Italy, France and other European countries.

Activities of universities of distance education reflect the policy of the Ministry of Education, Universities and Research of Italy to ensure the accessibility of higher education to a different group of population.

The second segment of the higher education system in Italy is non-university sector, represented by the academies and high schools. Basically, the goal of these schools is to prepare specialists of narrow qualifications. These universities include the Academy of Fine Arts, National Academy of Drama, the State Conservatory of Music, the National Academy of Dance, Graduate School of Translation, Graduate School of Choreography, National School of Cinematography. Students can



choose a short-term educational programs, after which certificates are issued, and long-term programs (3 and 5 years), after which diplomas with relevant university degree granted.

Third segment is the sector of higher professional education. Unlike many other European countries, this sector was actually absent in Italy until the end of the XX century. This is due to the fact that, historically, the Italian system of higher education is less a functional way of training, and more – the mechanism of reproduction of social structure. To middle classes were open educational programs offered by special vocational school (Scuole dirette a fini speciali). Contacts of such schools with universities were extremely weak. The only exception in this field is medicine, where a classical university education and crafts have always been closely linked.

At present, the university sector is made up of 89 university institutions which are classified in:

- 58 State universities,
- 17 non-State universities (legally recognised by the State),
- 2 universities for foreigners,
- 6 higher schools specialised in postgraduate university studies,
- 6 telematic universities.

The non-university sector includes 4 education typologies with their institutions:

- higher schools of design: polytechnics for the arts, academies of fine arts, higher institutes for applied arts, music conservatories and recognised music institutes, higher institutes for musical and choreographic studies, national academies,
- higher education in language mediation: higher schools for language mediators,
- higher integrated education: programs of higher technical education & training,
- a few specific fields (e.g. archiving, diplomatics, restoration, military studies, etc.) which, along with their respective institutions, fall under the supervision of ministries other than that of Education.

## **5.2. Bologna Reforms in Italy**

In many Western European countries, Bologna has boosted ongoing reform discussions. Italy, as host country to the conference that gave shape and name to the Process, took a particularly thorough approach to its reform.



In line with this model, Italian university education is today based on three main cycles of study which are as follows<sup>4</sup>:

“First Cycle (Primo Ciclo)

- Bachelor program (Corso di Laurea - three years)
- Single-cycle Degree (Corso di Laurea Magistrale a Ciclo Unico - five or six years)

Second Cycle (Secondo Ciclo)

- Master program (Corso di Laurea Magistrale - two years)
- 1st Level vocational master (Master Universitario di Primo Livello)

Third Cycle (Terzo Ciclo)

- Doctorate (Dottorato di Ricerca)

#### BACHELOR PROGRAM (LAUREA)

The 1st level degree course gives the student an appropriate command of general scientific methods and principles, even when the program is oriented toward the acquisition of specific professional knowledge, and provides a solid base for those who wish to continue their studies with a 2nd level degree or a 1st level master. To be admitted to a 1st level degree course, you must have a secondary school diploma or a suitable equivalent foreign qualification. The 1st level degree course lasts three years. To obtain the qualification (1st level degree) it is necessary to accumulate 180 credits (60 for each year of the course).

#### SINGLE-CYCLE DEGREE (LAUREA MAGISTRALE A CICLO UNICO)

Single-cycle degree courses do not draw a distinction between the initial three-year period of study and the subsequent two-year period of specialisation; the entire study cycle is structured over a single period of five or six years, at the end of which it confers a 2nd level degree (laurea magistrale). The single-cycle degree provides the student with advanced education and training for professions in specific fields regulated by European directives that require a high level of qualification (medicine, dentistry, veterinary medicine, pharmacy and architecture) and for access to legal professions. To be admitted to a single-cycle degree course you must have a secondary school diploma. To obtain the qualification (single-cycle degree) it is necessary to accumulate 300

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<sup>4</sup> Italian Higher Education System, <http://www.unimi.it>



credits, in the case of five-year courses, and 360 credits, in the case of six-year courses (60 for each year of the course).

#### MASTER PROGRAM (LAUREA MAGISTRALE)

The 2nd level degree, also known as a specialised degree, provides the student with advanced education and training for professions in specific fields that require a high level of qualification.

To be admitted to a 2nd level degree course, you must have a 1st level degree or a suitable equivalent foreign qualification. The course lasts two years. To obtain the qualification (2nd level degree) it is necessary to accumulate 120 credits (60 for each year of the course).

#### VOCATIONAL MASTER (MASTER UNIVERSITARIO DI PRIMO LIVELLO)

The aim of a master course is to reinforce, broaden and hone the skills and expertise of graduates and postgraduates, utilising and expanding upon previous training to meet the demands of the professional world. There are both 1st and 2nd level vocational master courses. To be admitted to a 1st level master course, which is part of the second cycle of university studies, you must have a 1st level degree. To be admitted to the 2nd level master course, which is part of the third cycle of university studies, you must have a 2nd level degree. A vocational master course generally lasts from six months to one year (500 didactic and experiential hours). To obtain the qualification (1st or 2nd level master) it is necessary to accumulate 60 credits. There are a limited number of places available for vocational master courses. To be admitted you must pass the selection examinations.

#### DOCTORATE (DOTTORATO DI RICERCA)

Provides the expertise necessary for high-level research activities in universities, public institutions and private associations. To be admitted to a doctoral program you must hold a 2nd level degree. Candidates must also pass the selection examination, as only a limited number of places are available. A doctoral degree is awarded after a period of study lasting three to four years.



*Figure 2. – Structure of the degrees in Italy*

### 5.3. The Italian University Reform and Joint Degrees

An important turning point for the development of joint degrees was the approval of the Regulation on University Autonomy which completed the process of university independence, also in view of the process of convergence of the national policies of the European countries proclaimed by the respective education ministers in the Sorbonne and Bologna declarations. The reform was also motivated by the need for the universities to open up internationally. The modest international mobility of our students and free movement of our professionals bore witness to a more general phenomenon of the low level of internationalization of our university system and its accentuated structural disharmony in comparison to the systems of other countries.

By introducing new instruments, such as (according to provisions in Ministerial Regulation no. 509/99) the possibility to award joint degrees with foreign universities; the recognition of foreign study periods, credits and qualifications for the purposes of allowing to pursue further studies; the obligatory study of a another language of the European Union and the awarding of credits therefore; the possibility to sit the final degree examination in a foreign language; the generalized introduction of the Diploma Supplement, it were allowed to promote and enhance the activities of Italian universities on the international area.

Rank high on the international market of educational services was and is one of the important challenges facing the Italian higher education system with focusing attention on inter-university cooperation and the award of joint (double) degrees.



Implementation of this task is facilitated by the rapid development of joint international educational projects (for example, already mentioned Franco-Italian University and the German-Italian University). During the last years, with the introduction of "contract system" among faculty members in the Italian universities increased the number of foreign teachers. At the same time increased the number of Italian students studying abroad. This was greatly impacted by the active participation of Italy in international mobility programs «Erasmus Mundus», «Socrates», «Tempus».

The chance to exploit synergies between universities to enrich the programs on offer has been grasped by many universities. Many Universities launched the joint and double degree programs. The statistical data represented in next subchapter.

#### **5.4. State-of the-art of Double Degree Programs in Italy**

This section highlights surveys' findings carried out by Institute of International Education and CIMEA of the Fondazione Ru, related to the number and type of degree programs and partner countries.

As to Survey on International Joint and Double Degree Programs 2011 by Institute of International Education, double degree programs appear to be much more common than joint degree programs. Eighty-four percent of respondents offer double degree programs while only 33 percent offer joint degree programs (Table 5). Among respondents, the top countries with joint degree programs are France, Germany, the United States, Italy, and Australia. The same top five countries for joint degree programs are also the top five countries with double degree programs, though in a slightly different ranking order: the United States, Germany, France, Italy, and Australia (Table 6). Based on responses, institutions in the United States clearly favor double degree programs, with a ratio of double degree programs to joint degree programs of 3.77, as compared to Italy, with the lowest double degree to joint degree program ratio of 1.36.

**Table 1. - Percentage and Number of Collaborative Degree Programs as Reported by Responding Institutions**



Joint Degree Programs	33%
Double Degree Programs	84%
Joint and/or Double Degree Programs in Planning Stage or Under Consideration	68%

Source: Survey on International Joint and Double Degree Programs 2015

**Table 2. - Number of Institutions Reporting Joint and Double Degree Programs**

Rank	Joint Degree Programs	Numbers	Double Degree Programs	Numbers
1	France	16	United States	49
2	Germany	16	Germany	47
3	United States	13	France	31
4	Italy	11	Italy	15
5	Australia	6	Australia	12
6	Canada	4	United Kingdom	10
7	United Kingdom	4	Finland	9
8	Finland	2	Canada	7
9	Sweden	2	Mexico	6
10	Belgium	1	Netherlands	3

Source: Survey on International Joint and Double Degree Programs 2015

Four of the top reporting countries offer the majority of their joint or double degree programs at the master's level: France (81 %), Italy (58 %), Germany( 44 %), and the UK (43 %). Notably Australia and the U.S. diverge from this trend, with the majority of Australia's Institutions( 55%) indicating that they offered joint or double degree programs at the doctoral level, and 50% of U.S. Institutions offering programs at the undergraduate level (Table 7).

**Table 3. - Percentages of Joint or Double Degree Programs Offered by Top Responding Countries by Academic Level**

Academic level	Australia	France	Germany	Italy	UK	U.S.
Bachelor's	21%	14%	39%	6%	26%	<b>50%</b>



Master's	24%	<b>81%</b>	<b>44%</b>	<b>58%</b>	<b>43%</b>	36%
Ph.D.	<b>55%</b>	4%	10%	18%	31%	10%
Other	None	1%	6%	18%	None	5%

Source: Survey on International Joint and Double Degree Programs 2015

As to CIMEAPROJOINT Database on joint study programs at Italian universities, it was found that EU partners involved in joint programs agreements with Italian Universities are following: French universities are leaders by the number of agreements on the establishment of double diploma programs with Italian universities. Their share is about 33 %. Germany ranks as the second with 18%. Spain ranks as third - 11 %. UK and Portuguese universities are also actively involved in projects of interuniversity cooperation with Italy - 6% and 5 % respectively. Other frequently cited partner countries are Netherlands (4%), Belgium (3 %) and non-EU countries with 14 %. (Figure 5)



## Chapter 6. Conditions and factors of successful cooperation

Appreciating the potential importance of cooperation between higher education institutions, particularly in relation to joint curricula, academic mobility schemes, integrated programs of study, seeing it as a powerful tool to ensure the attractiveness of European education and its competitiveness, the authors of the Bologna Declaration proclaimed the importance of giving a European dimension to this cooperation. The documents on the results of the meeting of European Ministers of Education in 2001 in Prague, this task is specified in the form of a call for the development of inter-university programs leading to double degrees (diplomas).

Double degree programs are found in a variety of subject areas, but they are the most widely received in economics, business education, law, management and engineering education. Such programs also widely represented in the areas of knowledge related to the science of society and languages.

The Majority of double degree programs is presented at the master's and doctoral levels; to a smaller extent - at the level of bachelor. Most programs grew out of the bilateral cooperation between universities, although there are examples of multilateral programs.

Establishment of double degree programs in European universities in recent years has accelerated due to increased support from the international educational community. However, their development is accompanied by a variety of problems which are often resulting of shortcoming of comparability requirements of the various European educational structures.

The most important among these problems are:

- Financing of training;
- Recognition of double degrees;
- Quality assurance and control;
- Management efficiency;
- Synchronizing movement of students in universities in different countries.

Awarding joint (double) degrees in Europe today is governed mainly by inter-university agreements, rather than by the legislative tools at higher levels. This is due to no national legislation recognizing double, and in some cases - joint diplomas.



The most difficult issue for the dissemination of joint or double degrees is the need to broaden the base of their funding. Such programs are more costly due to the built-in mobility. It should be noted that the practice has spread, when these higher costs are born by the members of the network, or even students. However, it is clear that in the first case it is possible to expect reduction of incentives for universities in such programs. And the second - the aggravation of inequality among students for which such programs will be available, depending on the extent of their financial solvency.

The ways to solve this problem include the following:

- To increase partnerships and funding sources at the European and national levels;
- To finance programs also from business side;
- Targeted redirection of funds for financial support for joint programs and double degree programs, which provide planned mobility (as opposed to support mobility in general)

By joining to the Bologna Declaration, Russia has made a serious commitment to the integration to the European higher education, but there are still serious differences in training programs in terms of timing, load volumes, methods of teaching and orientation programs on the result.

In Russia the Lisbon Convention in 1997 "On the Recognition of Qualifications in Higher Education", which was signed by 40 European countries is in effect. And every country that signed the treaty, obliged to recognize all the documents on education in other countries (if there is no significant difference in education). All EU countries recognize each other's programs, however, Russia is not among them.

In all the basic documents of the Bologna Process the main vector of development of higher education programs, including programs of double and joint degrees, defined as "the harmonization of their architecture" (Bologna and Sorbonne Declaration) by all countries through three cycles of higher education (bachelor - master - doctors) .

Basic requirements for the qualifications of the three cycles are formulated in the so-called Dublin descriptors and the European Qualifications Framework.

Knowledge on the first cycle characterized by novelty and innovation and includes a critical understanding of theories and principles, skills and innovation in addressing complex and unpredictable problems in a particular field of study.

Second cycle assumes presence of highly specialized knowledge, including the most advanced knowledge in the field of study; critical thinking about knowledge in this and related fields; ability



to solve problems in the field of research; create new knowledge and integrate knowledge from different fields. As practice shows, on this cycle profiles observed a greater variety of programs than in the first cycle, as second cycle involves specialized knowledge and skills.

Third cycle assumes presence of the most advanced knowledge in the field of study and related areas; the most advanced specialized skills and techniques, including synthesis and evaluation, required to solve the fundamental problems in the field of research and of innovation, and the ability to reinterpret existing knowledge and practices in the professional field; demonstrate authority, innovation, autonomy, academic and professional integrity and commitment to the development of new ideas or processes.<sup>14</sup>

When designing educational programs of all cycles, these general requirements are necessarily considered. Thus the basic requirement for the formation programs of all three cycles - the definition of learning outcomes, which is not only based on the opinion of the representatives of the academic community, but also employers. Only in this case, program goals and objectives are reasonable and the program itself will meet the requirements for training programs with modern systems of quality assurance. Combine the two components - academic and professional, allowing more adequately determine and shape the content of educational programs.

In other words, program development does not begin with the establishment of the number of hours, and with the definition of the subject areas to be included in the program and are determined on the basis of learning outcomes.

Next we calculate credits as required by the European Credit Transfer System (ECTS), which is used to ensure comparability of programs and the academic and labor mobility of citizens, as well as a real mechanism to measure the complexity of programs. Currently, adopted at the European level "cost" of one academic year is equal to 60 credit units. Credits are allocated to all educational components of a study program (such as modules, courses, placements, dissertation work, etc.) and reflect the quantity of work each component requires in relation to the total quantity of work necessary to complete a full year of study in the program considered.<sup>5</sup>

Joint educational programs are formed on the same principles. As mentioned above, in most cases, such programs are implemented within the interuniversity agreements on the basis of jointly developed and implemented integrated curricula. The latter represent a collection of modules /

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<sup>5</sup> Bologna-an overview of the main elements. European University Association (<http://www.eua.be>)



courses offered by universities to students participating in joint program. In this part of the module should be mandatory in the development of the partner universities, and they are offset through the European Credit Transfer System (ECTS).

Joint programs based on the synergy of the unique experience of each University allow the development of programs aimed at forming particular groups of competencies that complement each other. In this case too narrow specialization of each partner also counterproductive, because it hinders the cooperation of teachers.

When planning and implementing programs of joint / double degree special focus should be on quality assurance in terms of its compliance with national procedures specific to each of the parties or with international organizations. One method is to assess the quality assurance of programs by internal or external experts (university professors, partners or representatives of the accrediting agencies). Integral part of the quality assurance system is the assessment of the program by teachers and students.

As one of the conclusions can be stated that the double degrees are usually awarded after a training program that meets all or at least most of the following characteristics:

- Programs are created and approved jointly by several institutions of higher education;
- Students from each university are part of the training in other universities;
- Study plans of participating universities are comparable in duration;
- Terms of training and passed exams at the partner universities are recognized fully and automatically;
- University teachers also participate in training in Partner University within a jointly developed curriculum and create a joint commission on enrollment and defense;
- After completing the full program, students receive diploma of each of the participating universities;
- Co-financing of the program should be also from the business side.



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