زانکۆی پۆلیتەکنیکی هەولێر
ERBIL POLYTECHNIC UNIVERSITY

Bologna Process

# ECTS
## Guideline for
# EPU

**2019 - 2020**

First Edition

# EPU
# GUIDELINE OF
# ECTS

This is the user's guide of Erbil Polytechnic University to introduce and implement the European credit transfer and accumulation system in the academic year 2019-2020.

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# PART ONE

# ERBIL POLYTECHNIC UNIVERSITY

## 1.1.Introduction

Erbil Polytechnic University (EPU) was accredited by the Kurdistan National Council in 1993 and was formally opened in 1996 as Foundation of Technical Institutes to administer all the technical institutes in the Kurdistan region of Iraq (KRI). In 2004, the name was changed to Foundation of Technical Education after establishing technical colleges. After the liberation of Iraq in 2003, the KRI witnessed development and progress in education, economy, business, agriculture, and almost all the sectors of life. This urged Kurdistan universities to develop and extend their education services to distant areas and enroll more students in universities. Therefore, the Foundation of Technical Education (FTE) started to establish more technical institutions besides to technical colleges. FTE in Erbil was divided into two universities; one is the Erbil Polytechnic University (EPU) to run all the technical institutes and colleges in Erbil governorate and the second is Duhok Polytechnic University to run all the technical institutes and colleges in Duhok governorate. Later, FTE was changed to Erbil Polytechnic University (EPU) in 2012.

Erbil Polytechnic University (EPU) is a public academic institution which aims at equipping undergraduates and postgraduates with up to date knowledge and necessary skills to meet the needs of the market. To achieve internationalisation, EPU has four strategies which are teaching, research and innovation, community engagement, and globalization. The University has advisory role to raise awareness on the significance of internationalization, student and staff mobility and high quality research. The University has developed the strategies to enhance itself through collaboration with local and international organizations in order to play an important role in advancing knowledge and solving problems of the community. To follow the ongoing globalization of higher education, EPU has developed its vision, mission, and objectives.

## 1.2.Vision

Ensuring creative and comprehensive technical education with international standards to provide market needs based on stakeholders' and urgent needs of the Kurdistan region of Iraq.

## 1.3.Mission

EPU plans to provide best technical education services to students and community. It focuses on developing technical and vocational education potential to supply market needs. Moreover, EPU involves new technology in learning and training. The university works on bridging technical institutions and colleges with private sector for summer internship and career opportunities to prepare talented graduates for international job market.

## 1.4.Objectives

EPU aims to provide international quality standards of technical education and graduate skilled and high qualified students. The university further aims to develop the curriculum of technical education parallel to contemporary development. Most important, EPU supports the independence of its entities. Regarding teaching methodology, EPU aims at implementing students-centred approach, focusing on practical methods and lab experiments.

## 1.5.Technical Colleges and Institutes of EPU

Since its establishment, the EPU could successfully enlarge its capacity to be able to enroll more students to study in different technical colleges and institutes. Generally, the university consists of three technical colleges and eight technical institutes as shown in table 1.

## Table 1: Technical Colleges and Institutes of EPU

| No. | Technical College/Institute | Year of | Departments |
|---|---|---|---|
| 1 | Erbil Technical Engineering College (ETEC) | 2003 | Civil, Mechanics and Energy, Information System, and Highway. |
| 2 | Erbil Technical Administrative College (ETAC) | 2012 | Business Management, Accounting, Media, and Financial Studies. |
| 3 | Erbil Technical Health College (ETHC) | 2014 | Medical Laboratory Technology (MLT), Physiotherapy, and Orthopedics. |
| 4 | Koya Technical Institute (KOTI) | 1996 | Health Prevention, Law Administration, Tourism Foundations Management, Accounting, Nursing, Business Management, Radiology, Medical Laboratory Technology (MLT), Petroleum (Chemical Analysis), Petroleum (Operation and Control), and Information Technology. |
| 5 | Shaqlawa Technical Institute (SHTI) | 1999 | Veterinary, Medical Laboratory Technology (MLT), Information Technology, Engineering Drawing, Nursing, Statistics and Information, Business Management, Construction, and Warehouse Administration. |
| 6 | Soran Technical Institute (SOTI) | 2001 | Medical Laboratory Technology (MLT), Midwifery, Nursing, Business Management, Information Technology, and Accounting. |

| No. | Technical College/Institute | Year of | Departments |
|---|---|---|---|
| 7 | Erbil Technical Medical Institute (ETMI) | 2007 | Optometry, Health Prevention, Midwifery, Radiology, Pharmacy, Nursing, and Dental Assistant. |
| 8 | Khabat Technical Institute (KHTI) | 2009 | Plant Production, Plant Protection, Law Administration, and Information Technology. |
| 9 | Erbil Technology Institute (ERTI) | 2010 | Electrical Power, Information Technology, Mechanics and Energy, Electronics and Communication, Construction, Highway, Automotive, |
| 10 | Erbil Technical Administrative Institute (ETAI) | 2010 | Tourism Foundations Management, Tourism Guide, Law Administration, Accounting, Media, Library and Information, Business Management, Marketing, and Information System Management. |
| 11 | Choman Technical Institute (CHTI) | 2010 | Information Technology, Business Management, and Customs Administration. |

## 1.6.Research Center and Laboratories

EPU has three academic centers. All of the centers are actively involved in different scientific and academic programs, projects and training courses. The centers are Language Center, Gender Studies Center, and Research Centre which consists of Biomedical Research Laboratory, Computer Science and Information Technology Research Laboratory, and Solar Energy Laboratory.

# PART TWO

# BOLOGNA PROCESS TUNNING AT EPU

## 2.1. An Introduction to Bologna Process

The Bologna Process is an intergovernmental cooperation of 48 European countries in the field of higher education. The process supports public authorities, universities, teachers, and students, stakeholder associations, employers, quality assurance agencies, international organizations, and institutions, including the European Commission, on how to improve the internationalization of higher education. It focuses on the three cycle system (bachelor/master/doctorate), strengthening quality assurance, and easier recognition of qualifications. Widely differing education and training systems in Europe have traditionally made it hard for Europeans to use qualifications from one country to apply for a job or a course in another. Increased compatibility between education systems makes it easier for students and job seekers to move within Europe

The Bologna Process also supports the modernization of education and training systems to make sure these meet the needs of a changing labor market. This is important as the proportion of jobs requiring high skills grows, and the demand for innovation and entrepreneurship increases.

A lot of progress has been made in implementing the reforms. In May 2018, the Education Ministers met in Paris and adopted a 'Communiqué' on their priorities for the coming years. The Paris Communiqué calls for:

- an inclusive and innovative approach to learning and teaching;
- for integrated transnational cooperation in higher education, research and innovation;
- for securing a sustainable future for our planet through higher education.

The Communiqué calls for stronger, better support for under-represented and vulnerable groups to access to and excel in higher education.
These ambitions are in line with the goals of the EU, which is going to step up efforts to support those who wish to be more ambitious, to move faster and do more to achieve the objectives of "recognition for all" and "mobility for all" by creating a European Education Area

## 2.2. Introduction to ECTS

EPU has started initiative work on introducing ECTS in August 2018. In November 2018, the university set up a senior committee to work on planning and implementing the system in the academic year 2019-2020. Since then, the committee members have participated and held more than 32 meetings and workshops in the Kurdistan region and abroad. Besides, there are junior committees set up to work on designing a database for the system, writing up ECTS guideline for EPU staff, medical programs, engineering programs, agricultural programs, human and social sciences programs, and students' booklet. European credit and accumulation transfer system (ECTS) was instituted in 1989. It is basically an academic credit system based on the student workload required to achieve the objectives and learning outcomes of a module or program of study. This system is necessary to recognize periods of study academically, to facilitate student mobility and credit accumulation and transfer among higher education institutions in Europe. ECTS is an important element of the Bologna process, and was addressed to Erasmus students for acknowledging courses and programs they studied while abroad.

by the supporting documents; course-book, learning agreement, transcript of records, and work placement certificate. It is worth mentioning that EPU will continue to apply the current system of quality assurance which is confirmed by the Ministry of Higher Education and Scientific Research of the Kurdistan region. To allocate appropriate time for the requirements of ECTS, EPU has set up a new academic calendar to allow students and lecturers meet the requirements and produce effective learning process (Appendix 1).

### 2.2.1. Advantages of ECTS for EPU Students

- Students have a central role in the learning process, i.e. the process is students-centered learning.
- The student can study for a Bachelor program in Erbil and a Master program in another city or country, as if the student studied both in the same country;
- Find work in any EU country the student is interested in, as the modules and programs of study will be easily recognized;
- If taking a joint-degree, studying a semester abroad, it will be easy for the student's home university to keep track of the study hours, with the help of 'credit transfers';
- Simplified academic paperwork;
- Easier to estimate the complexity of a study class, seminar, internship, thesis, etc., based on the number of credits it offers upon completion;
- Less differentiation between local and international students in universities;
- Even if the student drops out of a program, ECTS credits help the student to prove his academic achievements, so he doesn't have to take the same modules all over again;
- The degree will have the same number of credits, no matter what academic discipline the student pursues;
- EPU will be among the international universities which apply the ECTS worldwide. There are more than hundred countries which apply this system;
- Students will have better learning environment to produce effective learning.
- ECTS enhances lifelong education and leads to university autonomy.

### 2.2.2. Students' Exchange through ECTS

Erasmus exchange students should take into account only the ECTS credits. The normal workload for a semester is 30 ECTS credits. Restrictions, special conditions or prerequisites for modules do not apply to international exchange students. Students must instead get the approval of the department coordinator. It is very important that students consult with the department coordinator prior to course selection.

## 2.3. Generic Learning Outcomes

Learning outcomes are statements of what a student should know, understand and/or be able to demonstrate after completion of a process of learning. The achievement of learning outcomes has to be assessed through procedures based on clear and transparent criteria. Learning outcomes are attributed to individual educational components and to programs at a whole. They are also used in European and national qualifications frameworks to describe the level of the individual qualification.

### 2.3.1 How to Write Up Learning Outcomes?

- ✓ Learning outcomes should be clearly written so that they are understood by students;
- ✓ Focus on what are expected the students to demonstrate upon completion of the module or programme;
- ✓ Start with some expressions that show the result of the learning process like, "On successful completion of this module, students should be able to ……:";
- ✓ Avoid complicated sentences. Use sentences and details to clarify an outcome. Please see appendix 2 for more details.

### 2.3.2. Generic Engineering and Technology Programs Learning Outcomes

1.Apply principles of mathematics, science, and engineering;

2.Develop their competencies in selecting and applying knowledge, techniques, modern tools, and skills;

3.Design experiments and /or conduct standard tests and evaluate their results;

4.Acquire the skills to lead the relevant business and build productive leaders;
5.Ability to use logical and critical thinking;
6.Ability to analyze and synthesize ideas;
7.Ability to manage conflicts and crises;
8.Ability to formulate, develop and implement strategic, operational and tactical action plans;
9.Develop the capabilities of scientific research, innovation and creativity;
10.Employ various ICT tools;
11.Provide students with leadership skills, build effective and efficient teams;
12.Recognize ethical and professional principles.

### 2.3.5. Generic Agriculture Program Learning Outcomes

1.Ability to analyze data and draw appropriate statistical conclusions;
2.Ability to communicate effectively both orally and in writing;
3.Exhibit an understanding and appreciation of the ethical implications of decisions;
4.Understanding the importance of the impact of globalization and diversity in modern agriculture organizations;
5.Ability to engage in critical thinking to solve problems;
6.Ability to work effectively with others;
7.Analyze the current circumstances and their consequences on agriculture;
8.Recognize the input and output relationships in agricultural fields to make effective and profitable decisions;
9.Understand how all aspects of agriculture combine and are used by scientists, marketers, and producers;
10. Understand how employer characteristics and decision-making at various levels enhance the success of an agricultural enterprise;
11. Enhance problem solving skills in a variety of plant production systems;
12. Able to monitor the markets and the needs of stakeholders.

4.Analyze and interpret data of experiments and draw conclusions;

5.Design and/or implement engineering systems that meet specified needs;

6.Take into account the sustainability concepts in engineering operations;

7.Identify, formulate, and solve real-life engineering issues;

8.Communicate effectively using global languages and employ various ICT tools;

9.Recognize professional and ethical responsibilities;

10.Function effectively on a team and implementing engineering projects;

11.Acquire and apply new knowledge through engaging in life-long learning;

12.Think critically in dealing with engineering issues.

### 2.3.3. Generic Health Program Learning Outcomes

1.Ability to develop general knowledge;

2.Knowledge and understanding of the subject area and understanding of the profession;

3.Ability to identify, differentiate, pose and resolve problem;

4.Demonstrate the ability to think critically and solve problems in a laboratory setting;

5.Ability to apply knowledge in practice;

6.Ability to search for process and analyse information from a variety of sources;

7.Analysis of Specimens and Validation of Results;

8.Ability to act as ethical and responsible members of the health care team;

9.Demonstrates research skills to investigate, evaluate or problem solve;

10.Ability to make reasoned decision;

11.Ability to design and manage projects;

12.Capacity to generate new ideas (creative).

### 2.3.4. Generic Administrative Program Learning Outcomes

1.Apply knowledge and modern science in specialized fields;

2.Demonstrate effective communication and writing skills;

3.Motivate concepts of self-education and self-training;

### 2.3.6 Generic Information Technology Learning Outcomes

1.Apply the knowledge of math, science and computing in the core information technologies;
2.Analyze and resolve basic information technology problems through the application of systemic approaches;
3.Analysis, planning, and development of computer systems and networks;
4.Install, configure, and troubleshoot components of computer systems and networks;
5.Apply basic knowledge of software application development;
6.Apply basic knowledge of database connectivity issues and concepts;
7.Apply principles of data management to ensure the integrity of information;
8.Complete all work in compliance with relevant policies, practices, and procedures;
9.Participate as an effective individual and member of a team;
10.Interpret and present work-related information effectively and accurately;
11.Identify strategies to improve job performance and promote and professional growth;
12.Install, manage, and maintain web servers; design and develop websites.

## 2.4. Students' Workload

### 2.4.1. Allocation of Workload

Workload is an estimation of the time the students typically needs to complete all learning activities such as lectures, seminars, projects, practical work, and individual study required to achieve the defined learning outcomes in formal learning environments. The number of hours of student's work required to achieve a given set of learning outcomes (on a given level) depends on student's ability, teaching and learning methods, teaching and learning resources, curriculum design. These can differ among universities in one or different countries. Students' workload at EPU is 1500 hours per academic year which is corresponding to 60 ECTS credits. The workload of each week is 25 hours. Respectively, the total workload of a semester is

750 hours (30 ECTS credits). Students' workload can include any of lecturing, online learning, group work, independent study, preparation for exams, homework, preparation for class, presenting seminars, and attending exams as clarified in tables 2 and 3. There are other forms of student's workload designed for specific programs (appendix 3). To ensure that the students have enough time to learn, it is important to list up all activities involved in the module. The lecturer who teaches any module, should have complete idea about the time required to carry out each learning activity.

## Table 2: Students' Workload Form

Erbil Technology Institute
Program: Diploma (120 ECTS)
Total No. of Weeks/Semester: 16 weeks
Department name:
Module Name:
Module Code:

| X | Y | Z |
|---|---|---|
| 0 | 0 | 0 |

| | ECTS Workload Calculation Form | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Activity | S | Description | | Activity Type | No. | | Time Factor | Workload |
| Course | 1 | Theory | In class | C | 12 weeks | | X | #VALUE! |
| | 2 | | Or/and Online | C | | | | 0 |
| | 3 | Preparation (1.5 theory) | | H | 12 weeks | | 1.5 X | #VALUE! |
| | 4 | Practical | | C | 12 weeks | | Y | #VALUE! |
| | 5 | Preparation (0.5 practical) | | H | 12 weeks | | 0.5 Y | #VALUE! |
| | 6 | Tutorial | | C | 12 weeks | | Z | #VALUE! |
| Assignment | 7 | Homework | | H | 4 | | 1.5 | 6 |
| | 8 | Report | | H | | | 2 | 0 |
| | 9 | Seminar | | H | | | 3 | 0 |
| | 10 | Paper | | H | | | 8 | 0 |
| | 11 | Essay | | H | | | 6 | 0 |
| | 12 | Project | | H | | | 8 | 0 |
| Assessment | 13 | Quiz | | H | 4 | | 0.5 | 2 |
| | 14 | Mid Term | Theory | C | 1 | | 2 | 2 |
| | 15 | | Preparation | H | 1 | | 3 X | #VALUE! |
| | 16 | | Practical | C | 1 | | 1 | 1 |
| | 17 | | Preparation | H | 1 | | 2 Y | #VALUE! |
| | 18 | Final | Theory | C | 1 | | 2 | 2 |
| | 19 | | Preparation | H | 1 | | 3 X | #VALUE! |
| | 20 | | Practical | C | 1 | | 2 | 2 |
| | 21 | | Preparation | H | 1 | | 2 Y | #VALUE! |
| Class (C)/12 week | | | | | | Class hours (C) | | #VALUE! |
| Homework (h)/16 week | | | | | | Homework (h) | | #VALUE! |
| Total hours/16 week | | | | | | Total hours | | #VALUE! |
| | ECTS (Total hours/ 25) | | | | | | | #VALUE! |

# Table 3: Example of Students' Workload Form

**Erbil Technology Institute**
**Program: Diploma (120 ECTS)**
**Total No. of Weeks/Semester:** 16 weeks
**Department name:**
**Module Name:**
**Module Code:**

| X | Y | Z |
|---|---|---|
| 2 | 2 | 0 |

| ECTS Workload Calculation Form | | | | | | | |
|---|---|---|---|---|---|---|---|
| Activity | S | Description | | Activity Type | No. | Time Factor | Workload |
| Course | 1 | Theory | In class | C | 12 | 2 | 24 |
| | 2 | | Or/and Online | C | | | 0 |
| | 3 | Preparation (1.5 theory) | | H | 12 | 3 | 36 |
| | 4 | Practical | | C | 12 | 2 | 24 |
| | 5 | Preparation (0.5 practical) | | H | 12 | 1 | 12 |
| | 6 | Tutorial | | C | 12 | 0 | 0 |
| Assignment | 7 | Homework | | H | 4 | 1.5 | 6 |
| | 8 | Report | | H | 8 | 2 | 16 |
| | 9 | Seminar | | H | 1 | 3 | 3 |
| | 10 | Paper | | H | | 8 | 0 |
| | 11 | Essay | | H | 1 | 6 | 6 |
| | 12 | Project | | H | | 8 | 0 |
| Assessment | 13 | Quiz | | H | 4 | 0.5 | 2 |
| | 14 | Mid Term | Theory | C | 1 | 2 | 2 |
| | 15 | | Preparation | H | 1 | 6 | 6 |
| | 16 | | Practical | C | 1 | 1 | 1 |
| | 17 | | Preparation | H | 1 | 4 | 4 |
| | 18 | Final | Theory | C | 1 | 2 | 2 |
| | 19 | | Preparation | H | 1 | 6 | 6 |
| | 20 | | Practical | C | 1 | 2 | 2 |
| | 21 | | Preparation | H | 1 | 4 | 4 |
| Class hours (C)/12 week | | | 4.58 | Class hours (C) | | | 55 |
| Homework (h)/16 week | | | 6.31 | Homework hours (h) | | | 101 |
| Total hours/16 week | | | 9.75 | Total hours | | | 156 |
| ECTS (Total hours/ 25) | | | | | | | 6.24 |

### 2.4.2. Estimating Average Workload and Performance

There is a consensus though, that it takes time and a certain standard of preparation /background to acquire certain knowledge and skills. Therefore, time employed and personal background is the two elements that can be identified as variables in learning achievement with respect to a particular module or study program. In this context, pre-requisite knowledge when entering a given recognized qualification is a basic element. Its actual level/amount may measurably influence the workload of the student during the module program. Teaching staff normally has a rough idea of what it can ask a student to do in a certain amount of time in a certain program. Furthermore, teaching staff has a clear notion about quality standards. However, it is commonly accepted that if a typical student puts in more effort into preparing an examination the grade will probably be somewhat higher. Similarly, if a good student spends the expected amount of time to prepare an examination, he or she will be rewarded with a good grade.

If less time is spent, the grade will probably be lower. In other words, there is a relationship between the effort and the results of a student. Accepting the fact that the actual time that any particular student needs to spend in order to achieve the learning outcomes will vary according to the capacities of the individual student and be influenced by the degree of prior learning and to the mode of learning, the so-called notional learning time can be defined.

### 2.4.3. Methods of Calculating Workload

In practice, different approaches are used to calculate the student workload. Although there are differences due to the subject, common denominators can be identified, also. in the calculation of workload, the following items play a role:

- The total number of contact hours (class) for the module unit (number of hours per week * number of weeks);
- Prior preparation and finalizing of notes after class;
- The amount of further independent work required to finish the module successfully.

The last item is the most difficult one to calculate and depends mostly on the discipline concerned and the complexity of the topic. Independent work can contain the following items:

- The collection and selection of relevant materials
- Reading and studying that material
- Preparation for an oral or written examination
- Paper or dissertation writing
- Independent work in a laboratory

### 2.4.4. How to Improve Students' Perceptions of Workload?

A. Communicate learning outcomes and workload to students:

In addition to giving students the time to learn, lecturers should help students use their time right. In the beginning of the module clearly communicating to students the expectations and learning goals, how they should prepare and how much effort should be put into different activities, will help students understand the nature of the learning experience and control and balance their available time and avoid unnecessary stress. Students may also tend to use too much time on project work and the lecturer may during the module need to remind the students of the workload associated with each component of the course.

B. Coordination of workload within and between modules

Coordination within and between modules to distribute workload appropriately is also important and can have a significant positive impact on students' experience. Especially timing of larger projects and assessments should be distributed over the semester within and between modules.

C. Monitoring students' actual workload

Monitoring students' actual workload should be carried out on regular basis to get feedback if students' actual workload is too high or too low compared to the module workload.

This can be done easily by regularly asking students to fill out questionnaires after a learning process and gives the lecturer an opportunity to adjust the workload and the module content. It also shows if students are using the time resources in a proper way.

## 2.5. Credits and Hours

### 2.5.1. Distribution of Credits

Postgraduate studies consist of vocational higher diploma's, master's degree and doctorate degree programs. Table 4 shows hours and credits for each cycle of study. Desired learning outcomes refer to factual knowledge, analytical skills, practical skills, etc. Special attention should be paid to avoid the inclusion of inappropriate learning outcomes (e.g. too much detailed coverage of a given topic).

**Table 4: Allocation of Credits per Hour/Programme**

| Duration of Study/Degree Program | Studying Duration/Years | Credit | Hour |
|---|---|---|---|
| One Credit | N/A | N/A | 25 |
| One academic year (32 weeks) | N/A | 60 | 1500 |
| One semester of study (16 weeks) | N/A | 30 | 750 |
| Technical Diploma Program | 2 | 120 | 3000 |
| Technical Bachelor Program | 4 | 240 | 6000 |
| Master Program | 2 | 120 | 3000 |
| PhD | 4-Mar | 180-240 | 4500-6000 |

After the desired learning outcomes have been formulated, the next step is to decide how much time is required to reach each of these learning outcomes. This calculation is based on the estimate of what a typical student can do in a certain amount of time. It will probably mean that the learning outcomes have to be adjusted. If this exercise is executed correctly, it will show how much time is available for each teaching/learning activity in the module program (e.g. teaching block or module unit, thesis work, fieldwork, placement, comprehensive examination, etc). The credits allow calculation of the necessary workload and impose a realistic limit on what can actually be put in the whole module or in each academic year.

The total number of credits needed to complete a degree or a single academic year can be divided in various ways in order to facilitate the definition of modules of study and of the degree of flexibility allowed. For example, the necessary credits needed to complete a degree could be divided into different categories: e.g. those pertaining to mandatory 'core' module, auxiliary module or complementary module units or the like.

Such a distribution into categories of module will vary quite a bit from institution to institution. Indeed, institutions differ greatly as to the available teaching resources and as to the preparation of their students at entrance, and hence will need to distribute credits in an appropriate way in order to optimize the use of resources and the efficacy of the teaching learning activities. Usually, a module of 10 ECTS has approximately twice the workload of a module of 5 ECTS. The allocation of ECTS to each module can be decided by the university. Studying hours (also known as work hours) are estimates because students might spend much more time studying a module, which they are not so familiar with, but need lesser time to study another module, which is directly related to the student's interest. That means one of the 5 ECTS modules might require more work load than a 10 ECTS module even if both modules are of one program and at the same university.

### 2.5.2. Credits vs Module Level

While there is no suggestion within ECTS that credits measure level, it is apparent that, when credits are used within an accumulation system, the rules relating to the award of a qualification generally specify not only the number of credits required for the specific qualification but also a set of sub-rules in relation to the level at which those credits must be obtained as well as the type of module. If we talk about levels, we can distinguish the following ones:

- Basic level module (meant to give a introduction in a subject);
- Intermediate level module (intended to deepen basic knowledge);
- Advanced level module (intended to further strengthening of expertise);
- Specialized level module (meant to build up knowledge and experience in a special field or discipline).

The levels of modules offer us additional crucial descriptors. In order to make clear and immediately evident what learning experience the credits represent, one can imagine that a simple code system could be introduced. This system would include not only the amount of work done by the student in terms of credits, but also descriptors which give an indication of the level and the type of module unit.

## 2.6. Programs Eligible for Credit

Students are likely to receive credits for modules taken as a full-time program at an accredited degree-granting institution like EPU, provide that the student has:

- Completed at least two academic years (four semesters) of undergraduate study at one institute, but not more than three full academic years of study.
- Completed at least four academic years (eight semesters) of undergraduate study, but not more than five full academic years of study.
- Completed one academic year (two semesters) of postgraduate study (Vocational Higher Diploma), but not more than one year and six months of full academic year of study.
- Completed two academic years (four semesters) of postgraduate taught program, but not more than two years and six months of full academic years of study.

According to the Ministry of Higher Education and Scientific Research in the Kurdistan region, EPU is unable to grant credit for certain accomplishments. Typically, students cannot receive credits for:

- ✓ Online or distance education modules
- ✓ Modules taken on a part-time basis or for less than a full academic year.

## 2.7. Overall Curriculum Design

### 2.7.1. Role of Desired Learning Outcomes

In the quantitative framework assured by the use of credits, it would seem beneficial to developmodule programs on the basis of desired learning outcomes. Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a learning program. Experience with this approach has been recently built up by the Quality Assurance Unit.

By designing programs in this way, more transparency and coherence can be achieved. This approach makes it possible to develop cumulative programs, with specific entrance requirements for each of the cycles, the study years and levels as well as the module units. The learning outcomes foreseen for the first cycle and the second cycle must be clearly distinguished. Although the final outcomes and the competences to be acquired should be discipline/program related. More general objectives can be formulated also. In practice, two types of learning outcomes can be distinguished:

- General competences (transferable skills)
- Subject specific competences (theoretical, practical and/or experimental knowledge and subject related skills)

Both should have a recognizable place in the module program and should be verifiable at the end. The same learning objectives and competences can be reached by using different types of teaching and learning methods, techniques and formats. Examples of these are attending lectures, the performing of specific assignments, practicing technical skills, writing papers of increasing difficulty, reading papers, learning how to give constructive criticism on the work of others, chairing meetings (of seminar groups, for example), working under time pressure, co-producing papers, presenting papers, making précis or summarizing, doing laboratory or practical exercises, fieldwork, and personal study.

At first glance, it seems reasonable that the more general learning outcomes should be pursued in the first cycle. Some previous experience shows however that the “general” learning outcomes are to an extent subject dependent. According to qualification framework of Technical and

Vocational Education and Training (TVET), it is suggested that, at completion of the first cycle, the student should be able to:

- show familiarity with the foundation and history of his/her major (discipline);
- communicate obtained basic knowledge in a coherent way;
- place new information and interpretation in its context;
- show understanding of the overall structure of the discipline and the connection between its sub disciplines;
- show understanding and implement the methods of critical analyses and development of theories;
- implement discipline related methods and techniques accurately;
- show understanding of the quality of discipline related research;
- show understanding of experimental and observational testing of scientific theories.

The completion of the first cycle functions as entry requirement for the second cycle. The second cycle usually is the phase of specialization, although this is one of the possible models. The student who graduates must be able to execute independent (applied) research. According to the qualification framework of TVET, it seems that, with regard to the learning outcomes of the second cycle the student should:

- have a good command of a specialized field within the discipline at an advanced level. This means in practice being acquainted with the newest theories, interpretations, methods and techniques;
- be able to follow critically and interpret the newest development in theory and practice;
- have sufficient competence in the techniques of independent research and to be able to interpret the results at an advanced level;
- be able to make an original, albeit limited, contribution within the canons of the discipline, e.g. final thesis;
- show originality and creativity with regard to the handling of the discipline;
- have developed competence at a professional level.

### 2.7.2. Modular System

The modular system has obvious advantages, because it might prevent too much fragmentation and therefore avoids too many examinations. It also makes the transfer of credits easier. A modular system is not a precondition for overall curriculum designing, although in practice it facilitates the process. The negative aspect of a modular system is that it decreases the teaching freedom, when the amount of contact hours within the module is limited, but the positive aspect is that it increases the flexibility insofar as it becomes possible to build different curricula having points of contact between them.

In a modular system, the question of the allocation of credits can be approached from two sides: from the bottom and the top (each year of the study program, e.g. first, second, third and fourth) each module unit or teaching/learning activity. In a bottom-up approach the module unit or building brick is the central point of attention. In that situation, the position of the specific module unit within the overall curriculum is not clear. The risk involved in this approach is that teachers overestimate (or underestimate) the role of the module units they teach. This is reflected in the amount of work that a student is asked to do for a module. For students, this might mean that they will not be able to use their time in the most profitable way because their total workload is too heavy (or too light).

## 2.8. ECTS Grading Scale:

Besides the ECTS-credits, the European Commission defined an ECTS grading system, as well. Since there are nearly as many different grading systems as countries, its aim is to make grades more comparable to each other. The ECTS grading system is not replacing the local grading systems, but it's meant to be a supplement to local grades, for example, on a transcript of records.

Similar to the American grading scale, the ECTS is based on the class percentile. That means that the grade shows how a student performed compared to the other students in the same class. Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading scale is shown in table 5 while grade definitions are identified in table 6

## Table 5: Grade Scale

| Grading Scale | 4 Point Grading Scale | Percentage Values | Definition |
|---|---|---|---|
| A+ | ? 3.60-4 | ? 90 | DISTINCT |
| A | ? 3.40 - < 3.60 | ? 85 – < 90 | VERY GOOD |
| B+ | ? 3.20 - < 3.40 | ? 80 – < 85 | VERY GOOD |
| B | ? 3.00 – < 3.2 | ? 75– < 80 | GOOD |
| C+ | ? 2.80 – < 3.0 | ? 70 – < 75 | GOOD |
| C | ? 2.4 – < 2.80 | ? 60 – < 70 | Medium |
| D+ | ? 2.20 – < 2.40 | ? 55 – < 60 | Accept |
| D | ? 2.0 - < 2.20 | ? 50 – < 55 | PASS |
| E+ | < 2.0 | < 50 | FAIL |
| E | 0 | DZ | UNATTENDED |

**The same student can, therefore, achieve different grades within the same performance indicator, depending also on the class, in terms of how competitive it is. However, the ECTSgrading system is way more transparent than many national grading systems and it helps compare students' academic performance towards other students in Europe.**

## Table 6: Grade Definition

| Grade | Students' Percentage | Cumulative Percentage | Definition |
|---|---|---|---|
| A | 10 | 10 | outstanding performance without errors |
| B | 25 | 35 | above the average standard but with minor errors |
| C | 30 | 65 | generally sound work with some errors |
| D | 25 | 90 | fair but with significant shortcomings |
| E | 10 | ~100 | performance meets the minimum criteria |
| FX | | | Fail – some more work required before the credit can be awarded |
| F | | | Fail – considerable further work is required |

### 2.8.1. Grade Point Average (GPA)

The minimum grade requirement for acceptance (GPA) at EPU is, at least, 2 on an ECTS scale.
GPA is clearly illustrated in table 7:

1. The grades are represented by alphabetic A, B, C, D, and E;
2. The numerical equivalent is multiplied by the number of credits for the course;
3. The products of the module and credits are totaled;
4. The sum is divided by the total number of credits;
5. The quotient is calculated to three decimal points;
6. GPAs are not rounded up.

This is clarified in this example:
A student has finished a bachelor's degree of 30 modules. Each is valued at 6 ECTS credits.
The student has received A in 10 modules, B in 5 modules, and C in 15 modules.
To calculate the GPA:

1. Multiply the grade (A=4, B=3...) by the number of ECTS credits
2. Multiply the number of modules with the same grade and add them together;
   in this example (4x6x10) +(3x6x5) +(3x6x15) =600.
3. Divide the total by the total ECTS credits to find the grade per ECTS, the GPA -> 600/240=2.5.

## Table 7: GPA

| Module | Grade | Scale Point | Credit (ECTS) | Total |
|---|---|---|---|---|
| 1 | A+ | 4 | 6 | 24 |
| 2 | A | 3.5 | 4 | 14 |
| 3 | C+ | 2.9 | 4 | 11.6 |
| 4 | C+ | 2.9 | 8 | 23.2 |
| 5 | C+ | 2.9 | 7 | 20.3 |
| 6 | B | 3 | 8 | 24 |
| 7 | A | 3.5 | 6 | 21 |
| 8 | C+ | 2.8 | 7 | 19.6 |
| 9 | B | 3 | 6 | 18 |
| 10 | B+ | 3.3 | 5 | 16.5 |
| 11 | B | 3 | 6 | 18 |
| 12 | C+ | 2.8 | 8 | 22.4 |
| 13 | B | 3 | 4 | 12 |
| 14 | A | 3.5 | 6 | 21 |
| 15 | B | 3 | 4 | 12 |
| 16 | B | 3 | 5 | 15 |
| 17 | C+ | 2.9 | 6 | 17.4 |
| 18 | C+ | 2.9 | 6 | 17.4 |
| 19 | A | 3.5 | 8 | 28 |
| 20 | C+ | 2.9 | 6 | 17.4 |
| Total | | 120 | | 372.8 |
| GPA = Total/ECTS = (372.8/120) | | | 3.106 = Grade B | |

# PART THREE

## EPU OUTLINE OF ECTS IMPLEMENTATION

### 3.1. Introduction

This part introduces all the decisions and regulations set up by the EPU's senior committee of ECTS (appendix 4). The information provided here are based on requirements of Bologna process set up by the European Union and the meetings, workshops, and training programs which the committee attended (appendix 5).

### 3.2. Coding System

#### 3.2.1. University Modules Code

The four university modules, which are decided on by the Ministry of Higher Education & Scientific Research, KRG, and EPU, are:

1. Kurdology (History, Geography, Human Right, Gender Equality, Genocide)
2. English Skills:

   In the technical institutes: Language skills includes reading, speaking, listening, and writing.

   In the technical colleges: Language for Academic Purposes includes Language Skills, Academic Debate, Critical Thinking, Citation, Time Management, and Plagiarism.
3. Computer Essentials.

   As those modules are central and studied in every department at EPU, the ECTS High Committee at EPU decided the following codes, as letters, for the university modules, table 8:

**Table 8: University Modules Codes**

| University Modules | | First Semester | | | Second Semester | | |
|---|---|---|---|---|---|---|---|
| | | Code | Credit | Hour/week | Code | Credit | Hour/week |
| Kurdology | | KUR101 | 5 | 3 | Not applicable | | |
| English Skills | Institutes | ENS102 | 6 | 4 | ENS201 | 4 | 2 |
| | Colleges | EAP102 | 6 | 4 | EAP201 | 6 | 4 |
| Computer Essentials | | COE103 | 4 | 3 | Not applicable | | |
| Basic Module 1 | | | | | | | |
| Basic Module 2 | | | | | | | |

### 3.2.2. Other Modules Code:

In order to code any other modules as letters, except the university modules, there are three options:

1. If the module title consists of only one word, the first three letters must be written in bold and capitalized as shown in the example:
   Example: Histology is coded as HIS
2. If the module title consists of two words, the first two letters of the first word and the first letter of the second word must be written in bold and capitalized as shown in the example:
   Example: Traffic Engineering is coded as TRE
3. If the module title consists of three words, the first letter of each word must be written in bold and capitalized.
4. Example: Unified Accounting System is coded UAS
   Writing up each module code must be done by individual departments.
   The codes of all the departments and technical institutes and colleges are available in appendices 6 and 7.

### 3.2.3. Coding Modules per Semester

Each semester is numerically coded as a single digit (1 or 2) while each module is numerically coded as double digit (01, 02, 03, ...)

Example: KUR101

KUR: Kurdology

1: first semester

01: the first module in the department

### 3.3. Students' Advisor

Within the ECTS, EPU introduces a new process of guiding and following up students. A student's advisor is an academic staff who is guiding the student throughout the years of study. Every advisor should follow up the process of 15-20 students starting from the date of their enrolment in the concerned department to their graduation. Basically, the advisor can assist students in terms of their modules, file documentation, personal queries, and support students in any other aspects linked to their life on campus.

### 3.3.1. Roles and Responsibilities of Student's Advisor

- Inform first-year students at the start of the academic year on how a university works, where they can find the information they need, and give them advice about studying and living in a new environment. Meanwhile, advisors need to make sure that students sign a pledge form in the Legal Affairs Unit (Appendix 6). The advisor should be the first person for the students to go to with any question they might have and he can refer the students to another advisor or lecturer when necessary.
- Help students to select courses at the beginning of the academic year or a new semester if the student has failed in a module of the previous year.
- Help students define and develop realistic educational career plans through schedule planning for each semester and summer school, if appropriate. Each student should have an up-to-date academic schedule plan through to graduation.
- Meet at least once each semester with current students to plan for the coming semester (or summer) and to review/revise long range academic program schedules.
- Assist students in planning a program consistent with their abilities and interests.
- Monitor progress toward educational/career goals and meet at least once each semester to review the progress toward completing the proposed academic program and to discuss grades and other performance indicators.
- Discuss and reinforce linkages and relationships between instructional program and occupation/career.

- Follow-up with the students on any report of unsatisfactory work (notice of class probation for poor attendance, notice of failure, incomplete grades from past semester(s), etc.). Special attention should be paid to students who are placed on academic probation.
- Approve all designated educational transactions (e.g., pre-registration/registration schedule, drops/adds, withdrawals, change of major and advisor, waivers, graduation requirements, etc.).
- Try to make informal out-of-class/office contacts to underscore personal interest in the student as an individual.
- Maintain an up-to-date advising portfolio, with a summary record of performance to date (grade reports, transcript, requirements completed, etc.), notation of special circumstances, up-to-date information and details, etc.
- Inform and, if necessary, refer students to other institutional resources when academic, attitudinal, attendance, or other personal problems require intervention by other professionals.
- Proactively contact and be available for students' advice on a regular basis. Office hours should be posted on the advisor's office door and preferably given to the students early in the semester.

### 3.3.2. Student's Advisor's Characteristics

The advisor should have the following characteristics:

1. demonstrates a concerned and caring attitude toward students;
2. exhibits effective interpersonal and communication skills;
3. available to students;
4. frequent contact with students;
5. intrusive behavior with students;
6. knowledgeable of institutional regulations, policies, offerings, and procedures;
7. monitors student progress;
8. uses appropriate information sources and refers when necessary;
9. engages in developmental advising versus simply course scheduling.

### 3.4. Exams and Allocation of Marks

1. Overall passing grade and for each module is 50% (2 GPA). If a student got 60% without attending final exams, the students is considered as a successful student and has the right to pass to the next year of study.

2. Four credits are allocated to students' summer internship after year 3, sixth semester, of study in the technical colleges. No credits are allocated to students' summer internship in the technical institutes, but, it is a fundamental requirement to get technical Bachelor certificate. These credits should be recorded and registered by the student's supervisors. The summer internship lasts for 8 weeks and students must attend the internship 5 days per week, as shown below:

8 weeks * 5 days= 40 days

40 days * 4 hours= 160 hours

160/25=6,4 ~6 ECTS

3. The allocation of marks is shown in table 9:

**Table 9: Allocation of marks in exams**

| Student's Assignments | Mark (percentage) |
|---|---|
| Midterm Exam | 10% Practice<br>6% Paper Exam |
| Quiz | 4% |
| Assessment | 40% |
| Final Exam | 25% Lab |
| | 15% Paper Exam |

4. In the technical institutes, six credits are allocated to students' graduation paper during the final year of study. Research methods should be explained by supervisors during the paper writing supervision. Allocating credits for graduation papers in the technical institutes is decided on by the institute whether to implement it or reject it. In the technical colleges, six credits are allocated to students' graduation paper and this is a must do requirement.

5.Students' marks of midterm (out of %60) should be recorded and registered by the lecturer of each module. But, final exams' marks should be recorded and registered by Examination Committee.

6.If a student failed re-sitting exams of 2 modules in both semesters, he/she has no right to continue studying in the next year according to ECTS.

7.If a student failed re-sitting exam of one module, he/she can continue studying the next year unless that module is not a pre-request one.

8.If a student postponed his/her study in the first semester, he/she cannot move to the second semester.

9.If a student failed re-sitting exams of two modules in the academic year 2018-2019 which is annual system, he/she will resume studying the same year he failed in but according to ECTS.

10.If a student failed re-sitting exam of one module in the academic year of 2018-2019 which is annual system, such a case will be dealt with individually.

## 3.5. Students' Registration, Modules, Duration and Language of Study

1.Students of year 12 who successfully pass baccalaureate exams are allowed to register at EPU no later than 15th of October of each academic year. Students who register after that date, their study will be deferred to the next year.

2.Number of weeks during which students must attend university is 16 weeks per academic semester. Out of these 16 weeks, students must study for 12 weeks. Besides, 2 weeks is devoted for exams and another 2 weeks for final exam.

3.The minimum number of modules which students must study per semester is 5.

4.Hours of studying inside class per week should not be more than 20 hours, taking into consideration all the departments of administration and law.

In order to give students the choice of selecting what they are interested in to learn, EPU will apply selective module system since the academic year 2019-2020. This system can be applied according to the following:

- This system can be applied only in the third and/or fourth years of study;
- The minimum students' number in each selective module must not be less than 10;
- Each selected module should be approved by the scientific committee of the department while needs and mission of the department should be taken into consideration;
- An elective module is a support to a core module.

5. The scientific committee of departments is the one to distribute core, pre-request, and elective modules according to their semesters. The same committee should identify activities required for students' workload and then to be approved by the ECTS senior committee of the university.
6. In the departments of agriculture and administration, the language of teaching must be 50% English while 50% Kurdish or Arabic.
7. English language must be completely the language of teaching in all the department of engineering and medicine.
8. If a module can't be covered in one semester, significantly detailed, and covers a lot of subjects; it can be studied in two semesters or the number of hours allocated for such module can be decreased.
9. As mobility is one of the objectives of ECTS, students' transference from a technical institution /college to another should not cause any difficulties. All the students' marks, which they received in the former technical institute/college, should be considered in the latter technical institute/college.

# Appendices

## Appendix 1: Academic Calendar

### A. Academic Calendar for First Year Students

| Day | Date | Event |
|---|---|---|
| Sunday | 1st Sept. 2019 | Start of the academic year 2019-2020 |
| Tuesday | 1st Oct. 2019 | Start of academic programs |
| Sunday-Thursday | 17th-21st Nov.2019 | Mid-term exams of the 1st semester |
| Wednesday-Thursday | 25th Dec.2019-2nd Jan. 2020 | Christmas and New Year Holidays |
| Sunday | 5th Jan. 2020 | Resuming classes |
| Sunday-Saturday | 12th-25th Jan.2020 | Final exams of 1st semester |
| Sunday-Saturday | 26th Jan-1st Feb. 2020 | Exams results and appeal process |
| Sunday | 2nd Feb.2020 | Resuming classes of the 2nd semester |
| Saturday-Monday | 21st-23rd March 2020 | Newroz Holiday |
| Tuesday | 24th March 2020 | Resuming classes |
| Saturday-Thursday | 28th March-2nd April 2020 | Mid-term exams of the 2nd semester |
| Sunday | 5th April 2020 | Resuming classes |
| Saturday-Thursday | 9th-21st may 2020 | Final exams of the 2nd semester |
| Saturday-Monday | 13th-22nd June 2020 | Re-sitting exams of 1st & 2nd semesters |
| Wednesday | 1st July 2020 | Summer holiday |
| Tuesday | 1st Sept. 2020 | The new academic year 2020-2021 |

## B. Academic Calendar for Second, Third, and Fourth Year Students

| Day | Date | Event |
|---|---|---|
| Sunday | 1st Sept. 2019 | Start of the academic year 2019-2020 |
| Wednesday-Thursday | 25th Dec. 2019-2nd Jan. 2020 | Christmas and New Year Holidays |
| Sunday-Saturday | 12th-25th Jan.2020 | Mid-term exams |
| Monday | 27th Jan. 2020 | Resuming classes |
| Saturday | 21st-23rd March. 2020 | Newroz Holiday |
| Tuesday | 24th March 2020 | Resuming classes |
| Saturday-Thursday | 9th-20th May 2020 | Final exams |
| Saturday-Monday | 13th-22nd June 2020 | Re-sitting exams |
| Wednesday | 1st July 2020 | Summer internship & summer holiday |
| Tuesday | 1st Sept.2020 | The new academic year 2020-2021 |

## Appendix 2: Writing Learning Outcomes: A Practical Guide for Academics

### Introduction

This handbook is designed to:

- provide an introduction to the main concepts related to learning outcomes and course design, such as aims, goals, taxonomies, learning objectives, learning outcomes and constructive alignment;
- provide a succinct presentation of the most commonly used taxonomies of learning and their use in writing learning outcomes; and
- provide a guide to designing learning outcomes that are aligned with course aims, able to inform selection of content, development of teaching strategies, design and selection of teaching materials (and resources).

### Why Learning Outcomes?

An outcomes-based approach presents a range of advantages for those who teach and design courses. For example, they bring clarity, precision and transparency to curriculum design, teaching practice and assessment.

The shift to learning outcomes opens course design to better curriculum alignment and accountability in teaching and learning. Well-designed learning outcomes bring clarity of expectations for student performance, and open up new possibilities for increased student satisfaction.

Learning outcomes and taxonomies of learning are now central for teaching and learning. They provide possibilities to achieve what is commonly called 'curriculum alignment'. Curriculum alignment involves organizing curriculum in a coherent structure with aims, learning outcomes, teaching strategies, content and assessment all aligning in order to improve both the coherence of curriculum and student learning.

## What are Learning Outcomes?

As suggested by the terminology, learning outcomes are statements of desired results of learning that are expressed in words that make it clear how measurement can be achieved. Therefore, learning outcomes provide a basis for measuring and reporting on student achievement. Nusche described learning outcomes as 'personal changes or benefits that follow as a result of learning', noting that these changes or benefits 'can be measured in terms of abilities or achievements' (Nusche, 2008).

Learning outcomes can be succinctly defined as statements of what a learner is expected to know, understand, and/or be able to demonstrate after completion of a process of learning. The learning outcomes are constructed as a taxonomy of what graduates are expected to know, understand and be able to do as a result of learning. They are expressed in terms of the dimensions of knowledge, skills and the application of knowledge and skills.

## What are the Differences Between Aims, Learning Objectives and Learning Outcomes?

The structural distinction between learning objectives and learning outcomes is that learning objectives relate to learning from a teachers' point of view and are closer to a teacher-centered approach, while learning outcomes refer to what a student will be able to do as a result of learning, hence are sources of evidence in the student-centered approach. Aims or goals in teaching and learning are broad sentences reflecting general intentions and desired outcomes of an institution, program or course.

These important statements stay clearly distinct from learning outcomes. Aims serve the important function to indicate and promote the main values and general directions that guide the process of teaching and learning. Aims reflect vision and general intentions, and the overall desirable results.

Example: Curriculum and teaching practices aim to link students' learning

experiences to the world graduates will confront.

Learning objectives refer to teachers' intentions for learners, such as what students will be taught during the course or program.

It is important to note that learning objectives reflect what teachers do.

Example: Students will be taught the conceptual and theoretical tools used in reasoning and problem solving, such as statistics, probability, logic, and decision theory.

Learning outcomes are statements of what a student will be able to do or demonstrate at the completion of a certain sequence of learning (course, program).

Learning outcomes are mainly concerned with the achievements of the learner and less with the intentions of the teacher.

Learning outcomes inform students of what is expected of them in terms of performance, to achieve desired grades and credits.

Example: At the end of the course students will be able to demonstrate the ability to use mathematical and statistical techniques relevant to the business subjects taught.

## Learning Taxonomies and a List of Useful Verbs to Design Learning Outcomes

Taxonomies help us answer some key questions on learning, teaching and curriculum structure: 'What do we want students to learn?', 'Why do we want them to learn that?' and 'How can we know that they learn that?'. Learning taxonomies are the source of learning outcomes and facilitate the shift from a teacher-centered approach to a more student-centered approach, focused on learning.

The meaning of the term taxonomy originates from the Greek 'taxis' ('arrangement') and 'nomia' ('distribution'). In their current understanding, taxonomies represent 'distribution by categories' or, simply said, 'classifications'. Learning taxonomies are a

classification able to organize the knowledge, skills, values or behaviors that teachers aim to teach. Learning taxonomies are used to organize different stages of learning development, providing a practical framework for selecting the appropriateness of specific learning outcomes for courses at different levels of complexity.

In education, the most well-known taxonomy is that developed by Bloom in the 1950s with its three main domains: Cognitive, Affective and Psychomotor. The hierarchy of cognitive processes involved in learning has received most attention and was further developed to capture and organise the process of learning, in a hierarchical structure. Since Bloom published in 1956 his taxonomy of learning a number of scholars have developed different models which are hierarchical or cyclical.

Bloom's taxonomy of educational objectives has been repeatedly revised and developed over time, most notably in 2001 by Anderson and Krathwohl . This taxonomy is used to classify educational goals, learning outcomes and standards, and provides a framework suitable to structure learning and teaching in a more transparent and efficient manner. The example below reflects this taxonomy and useful verbs that can be used to design learning outcomes.

**Table 1. Bloom's Taxonomy**

| Type of learning | Verbs |
|---|---|
| Knowledge<br><br>(recalling facts) | state, identify, select, define, name, match, quote, cite, report, deliver, write, relate, perform, identify, indicate, list, name, recall, recognize, select, state, recount, illustrate |
| Comprehension<br><br>(capacity to see and understand relationships) | associate, convert, compare, outline, translate, summarize, arrange, defend, discuss, describe, distinguish, estimate, explain, interpret, infer, demonstrate, outline, report, restate, review, suggest |
| Application<br><br>(use of knowledge) | apply, determine, illustrate, restructure, solve, use, change, develop, employ, construct, demonstrate, discover, dramatize, employ, illustrate, interpret, investigate, conduct, modify, operate, organize, classify, practice, predict, prepare, produce, schedule, sketch, solve, translate. |

**Table 1. Bloom's Taxonomy**

| | |
|---|---|
| Analysis<br><br>(deconstruction and investigation of knowledge) | analyze, examine, differentiate, examine, distinguish, categorize, question, summarize, research, categorize, differentiate, compare, critique, relate, select, debate, determine, probe, structure, discriminate, experiment, distinguish, identify, question solve, test. |
| Synthesis<br><br>(combining information into a new connected unit of knowledge) | combine, assemble, compose, create, unify, formulate, design, integrate, propose, synthesize, adapt, rearrange, compile, construct, devise, explain, generate, plan, restructure, collate, systematize, propose, rearrange, reconstruct, systemize, relate, reorganize, revise |
| Evaluation<br><br>(judging the value or appropriateness) | evaluate, assess, critique, rate, score, conclude, criticize, judge, defend, validate, prioritize, disprove, criticize, discriminate, estimate, contrast, revise, grade, justify, interpret, measure, calculate |

## Practical Strategies for Writing Learning Outcomes

**There is no pre-determined structure for learning outcomes, as their final form is always dependent on what students are expected to achieve in every specific course or program. However, there are some key elements that should be observed in writing learning outcomes. Below are some suggestions that may assist in writing intended learning outcomes.**

## Steps of Writing Learning Outcomes:

- **Think about what students should be able to know or do upon successful completion of the course. The writer should focus on learning outcomes that precisely indicate what main skills, abilities and knowledge will be acquired by students at the completion of the unit of learning.**

- Start with a clear statement. The writer can start with the sentence: 'On completion of this (subject/course/program), students should be able to... (demonstrate/express/design etc.)'
- Write learning outcomes in the future tense and choose a verb, from taxonomy, able to describe most precisely the intended outcome. It is recommended to use only one verb appropriate both to the level and the discipline to structure each outcome.
- Avoid verbs susceptible to different interpretations of what actions they require. This type of verb indicates in general behaviors that cannot be objectively measured (e.g. Know, understand, become aware of, appreciate, learn, become familiar with, think etc.)
- Write clear, simple and concise sentences that can be understood by students, peers, internal and external bodies.
- In writing learning outcomes, it is important to keep in mind that we assess what is taught.

Find learning outcomes that are a source of objective data for assessment, indicating clearly what learners have to understand, know and/or be able to do. All learning outcomes have to be observable and measurable. Also consider whether the learning outcomes encourage the use of a diverse range of assessment methods and encourage both formative and summative assessment.

**Tip:**

- Use a verb able to lead to assessment tasks suitable to reveal for any objective evaluator what the student knows or is able to do or demonstrate at the required level (e.g. define, describe, compare, apply, determine, demonstrate, explain, analyze, question, critique, create, design, assess, test, generate, devise etc.);

- Look for learning outcomes that can collectively lead to the achievement of the aims of the program and are aligned with graduate attributes and university values.
- Ask colleagues or students to review your learning outcomes to ensure that they are clear, specific, and unambiguous and aligned to the course level.

**Some Common Issues**

In the complex task of learning and teaching, in planning a new course, subject or program it is possible to make some routine errors that will affect the function of learning outcomes and their positive impact. The list below addresses some common routine errors in writing learning outcomes able to guide teaching, learning and assessment:

- Learning outcomes are mentioned or written as learning objectives. Learning outcomes describe what students are able to do after the completion of a process of learning, while learning objectives relate to what teachers intend to do during and before the completion of this process;
- A learning outcome statement is too specific and fragmented for the course/subject level. The language may be too prescriptive and detailed, indicating various tasks related to a lecture rather than a course;

Example: 'Onsuccessfulcompletionofthiscoursestudentsshouldbeabletocommunicate findings using a common format in a poster session'. This is a specific task that can be placed under a general learning outcome which is relevant for communication skills.

- A learning outcome statement is composed of multiple sentences or includes many verbs (several learning outcomes are presented as one statement). This impact on the transparency and clarity of expectations. Learning outcomes should be clearly assessable, written in terms that enable testing of whether or not the student has achieved the specific outcome at the required standard. This problem can be addressed by finding a single verb that can optimally express the intended learning outcome.
- The use of a 'weak' verb for learning outcomes. Stating learning outcomes in high general terms such as 'learn' or 'understand' is not helpful to set up objective and effective assessment tasks.

Example: 'Students will be able to understand statistical indicators from planning reports and professional publications' can be reworded: 'Students will be able to explain the use of statistical indicators in the context of reports and professional publications'.

- State unrealistic learning outcomes. Learning outcomes should be balanced in terms of the time, level and resources available to students for successful completion.
- Include learning outcomes that will not (or cannot) be assessed. When writing learning outcomes, it is important that they should align with assessment: all learning outcomes should be assessed.

## How Many Learning Outcomes?

The number of learning outcomes will always vary according to the level of study, award-type and desired outcomes. Therefore, there is no set or good number of learning outcomes for a subject or course. The only valid criteria is to set the number of learning outcomes able to support and enhance learning and provide optimum alignment with content, resources (e. g. time allocated for study) and forms of assessment.

It is important to have a sufficient number of learning outcomes to secure adequate information for comprehensive assessment, able to demonstrate achievements in learning and provide information for improvements in teaching and course design. Too many learning outcomes can be a source of confusion for students in terms of specific expectations for the successful completion of a course/program and can diminish the capacity to orient teaching to achieve specific outcomes of learning. In conclusion, it is important to set a balanced number of learning outcomes, in line with your overall aims and the level of study.

## Learning Outcomes and Constructive Alignment

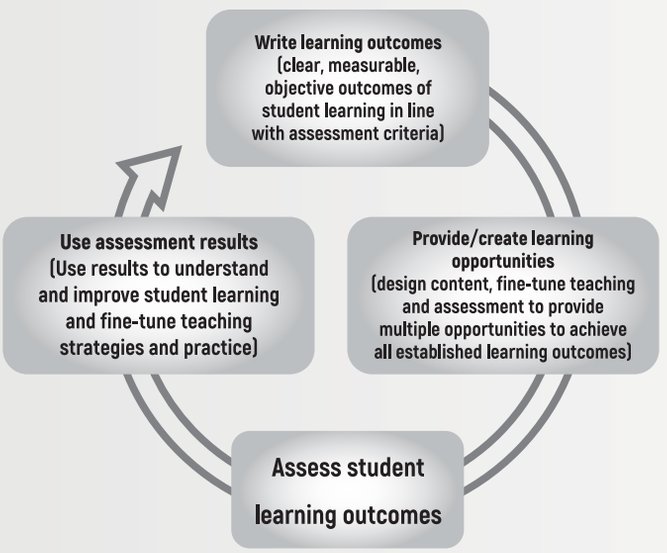
Statements of intended learning outcomes for each course of study are informed by the overall aims of an institution of higher education, program, subject or course. They are informed and should align with the generic skills and attributes required of graduates and their context within the field of study.

Standards or requirements for employment related to the field of study may inform the intended learning outcomes. Learning outcomes should relate to the assessment criteria and should be assessable. The clarity of learning outcomes not only impacts on student engagement, but also impacts on the perceived equity of assessments and student engagement in learning (on how students perceive assessment as being fair and equitable).

There is an intrinsic link between aims, teacher's goals, course content, learning experiences, teaching strategies and assessment. Teaching strategies are also designed in direct correlation to assessment processes. Course design and teaching should provide various opportunities to enable students to learn the knowledge and skills required to be successful in that course. The graphical representation below presents a model of this cycle that can be used by policy makers, course designers and teaching practitioners for quality assurance, improvement of course design and teaching practice for student engagement in learning. Constructive alignment reflects the shift to outcomes-based education. It facilitates the use of learning outcomes as an integral part of a cycle designed to secure an ongoing improvement of teaching and student experience and learning.

Assessment is effective if methods of assessment remain 'consistent with the learning outcomes being assessed, are capable of confirming that all specified learning outcomes are achieved and that grades awarded reflect the level of students' attainment. Therefore, it is important to design learning outcomes in alignment with assessment tasks and teaching strategies, and to create opportunities for students to use learning experiences to achieve measurable outcomes.

A graphical representation of how learning outcomes can be used in practice to fine-tune and enhance quality of teaching and learning is presented in the image below:




Practical Examples of Learning Outcomes

Level: Graduate (Research Higher Degree)

Upon completion of the degree the candidate will be able to:

- demonstrate a critical understanding and mastery of architectural and design theories
- demonstrate independent research methodologies at an advanced level
- develop and express their own design position in an effective and lucid manner
- exhibit an advanced understanding of the philosophical and ideological discourses underpinning design theories.

Level: Graduate (Master Programs)

On successful completion of this subject, students should be able to:

- Apply research skills and specialist knowledge in new contexts;
- Analyze leadership structures in a range of contexts from a variety of different Perspectives;
- Identify and develop key learning and leadership strengths in themselves and their peers;
- Communicate effectively to non-specialists.

On successful completion of this subject, students should be able to:

- Analyze and integrate the key findings from research findings into a coherent story about the major influences on student and teacher learning.
- Understand and apply how to reflect on the evidence of impact in a school
- Understand and apply program logic, degree of implementation, and evaluating effects of interventions
- Critically evaluate the empirical research that studies impact in schools
- Develop tools for using to evaluate impact in multiple situations

Level: Undergraduate

On completion of this course, students should be able to:

- define core economic terms, concepts and theories.
- demonstrate the ability to apply economic reasoning to contemporary social and economic issues.
- use quantitative and statistical techniques.
- analyze critically, evaluate and convey information on the use of complex financial products, services and financial instruments
- critically evaluate professional accounting and business issues emerging from strategic developments in practice and

Checklist to Self-evaluate Your Learning Outcomes

The following list of items can be used to self-evaluate a list of intended learning outcomes:

1.Learning outcomes are clearly stated, in clear and unambiguous language.

2.All learning outcomes clearly indicate what the students should learn.

3.All learning outcomes use one verb that is aligned to the level of the course/program.

4.The learning outcome is significant and meaningful in the long term.

5.Learning outcomes provide a guide for the development of learning activities, teaching and assessment.

6.All intended learning outcomes can be assessed effectively – you can envision assessment tasks able to achieve this.

7.Learning outcomes are aligned to the level of study, faculty and university strategic priorities and values.

# Appendix 3: Student's Workload Forms

Erbil Technology Institute

Academic Year 2019-2020

Program: Diploma (120 ECTS)

First/ second/ Third/ forth/ fifth/ sixth/ Seventh/ EighthSemester

Total No. of Weeks/Semester: 16

Department name:

Module Name:

Module Type: Theory & Computer

Module Code:

| Student Scores/ Semester | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Scores / Assignment (40%) | | | | | | | | | | | Scores / Assessment (60%) | | | | | | | | Total |
| S | Student Name | Homework (14%) | | | | Class Activity | Report | Seminar | Paper | Essay | Project | Quiz (4%) | | | | | | Mid Term | Final | |
| | | * | * | * | | 2% | *** 24% | | | | | * | * | * | * | | | 16% | 40% | 100% |
| 1 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |

Erbil Technology Institute

Academic Year 2019-2020

Program: Diploma (120 ECTS)

First/ second/ Third/ forth/ fifth/ sixth/ Seventh/ Eighth Semester

Total No. of Weeks/Semester: 16

Department name:

Module Name:

Module type: Theory + Practice

Module Code:

Student Scores/ Semester

| No | Student Name | Scores / Assignment (50%) | | | | | | | | | | | | | | | | | | Scores / Assessment (50%) | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Theory | | | | | | | | | | Practice | | | | | | | | Theory | | | | | | Practice | | |
| | | Homework | | | | Class | Report | | Seminar | Paper | Essay | Project | Lab. Reports & Activities | | | | | | | Quiz (Theory + Practice) | | | | Mid Term | Final | Mid Term | Final | |
| | | 14% | | | | 2% | ** 10% | | | | | | 14% | | | | | | | 4% | | | | 6% | 15% | 10% | 25% | 100% |
| | | * | * | * | | * | | | | | | | | | | | | | | * | * | * | * | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Erbil Technology Institute

Academic Year 2019-2020

Program: Diploma (120 ECTS)

First/ second/ Third/ forth/ fifth/ sixth/ Seventh/ Eighth Semester

Total No. of Weeks/Semester: 16

Department name:

Module Name: Engineering Drawing

Module type: Eng. Drawing

Module Code:

Student Scores/ Semester

| No. | Student Name | Scores / Assignment | Scores / Assessment | | | | Total |
|---|---|---|---|---|---|---|---|
| | | Sheets (Class + Home) | Quiz | | Mid Term | Final | |
| | | * 40% | 4% | | 16% | 40% | 100% |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |

Erbil Technology Institute

Academic Year 2019-2020

Program: Diploma (120 ECTS)

First/ second/ Third/ forth/ fifth/ sixth/ Seventh/ Eighth Semester

Total No. of Weeks/Semester: 16

Department name:

Module Name: Workshop Module type: Workshop

Module Code:

Student Scores/ Semester

| No. | Student Name | Welding (100%) | | | | | Turning (100%) | | | | | Carpentering (100%) | | | | | Casting (100%) | | | | | Milling (100%) | | | | | CNC Machine (100%) | | | | | Average 100% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## Appendix 4: ECTS Committees

## A. EPU Senior Committee of ECTS

| No | Name | Job Title | Role |
|---|---|---|---|
| 1 | Dr. Nageb Toma Batto | Vice-President for Scientific Affairs | Head of Committee |
| 2 | Asst. Prof. Aumed Arshad Hawezy | Dean of ETMI | Member |
| 3 | Dr. Botan Majeed Asinger | Dean of ERTI | Member |
| 4 | Asst. Prof. Dlawer Jalal Gharib | Deputy Dean of ETAI | Member |
| 5 | Asst. Prof. Dr. Hoshyar Ameen Ahmed | Director of Scientific Affairs | Member |
| 6 | Dr. Affan Othman Hussein | EPU Council Secretory | Member |
| 7 | Dr. Selar Othman Ali | Head of Grant & Fund Raising | Member |
| 8 | Mr. Kovan Omar Hasan | Director of Curriculum Development | Member |
| 9 | Mrs. Nian Basil | Director of Quality Assurance | Member |
| 10 | Mr. Nihad Khalid Abdullah | Director of Information and Communication Technology | Member |
| 11 | Asst. Prof. Dr. Bahman Omer Taha | Lecturer | Member |
| 12 | Asst. Prof. Dr. Twana Ahmed Mustafa | Lecturer | Member |
| 13 | Dr. Aras Kadir Khoshnaw | Lecturer | Member |
| 14 | Mr. Saad Hadi Chawishli | Lecturer | Member |

## B. EPU Committee of ECTS Guideline

| No | Name | Job Title | Role |
|---|---|---|---|
| 1 | Dr. Selar Othman Ali | Head of Grant & Fund Raising | Head of Committee |
| 2 | Asst. Pro. Dr. Twana Ahmed Mustafa | Lecturer | Member |
| 3 | Mr. Kovan Omer Hasan | Director of Curriculum Development | Member |
| 4 | Mr. Nihad Khalid Abdullah | Director of Information Technology | Member |

## Appendix 5: List of Workshops and Meetings Held on ECTS

### A. List of Workshops

| No | Date | Location | Country |
|---|---|---|---|
| 1 | 12th October 2018 | Erbil International Hotel | Kurdistan region, Iraq |
| 2 | 11th-13th November. 2018 | Rapareen University, Sulaimanyah | Kurdistan region, Iraq |
| 3 | 24th December 2018 | EPU Presidency, Erbil | Kurdistan region, Iraq |
| 4 | 16th January 2019 | EPU Presidency, Erbil | Kurdistan region, Iraq |
| 5 | 30th January 2019 | EPU Presidency, Erbil | Kurdistan region, Iraq |
| 6 | 18th-22nd February 2019 | Georg-August-University Gottingen | Germany |
| 7 | 8th-12th April 2019 | American University of Beirut | Lebanon |
| 8 | 15th-17th April 2019 | Cristal Hotel, Erbil | Kurdistan region, Iraq |
| 9 | 13th-15th May 2019 | Ramada Hotel, Sulaimanyah | Kurdistan region, Iraq |
| 10 | 7th-14th July 2019 | Okan University | Istanbul, Turkey |
| 11 | 9th-16th September 2019 | Okan University | Istanbul, Turkey |

### B. List of Meetings

| No | Committee | Date | Location |
|---|---|---|---|
| 1 | EPU Monitoring Committee of ECTS | 30th September 2019 | EPU Presidency |
| 2 | EPU Monitoring Committee of ECTS | 8th September 2019 | EPU Presidency |
| 3 | EPU Senior Committee of ECTS | 29th July 2019 | EPU Presidency |
| 4 | EPU Senior Committee of ECTS | 4th July 2019 | EPU Presidency |
| 5 | EPU Senior Committee of ECTS | 28th May 2019 | EPU Presidency |
| 6 | EPU Senior Committee of ECTS | 4th April 2019 | EPU Presidency |
| 7 | EPU Senior Committee of ECTS | 4th March 2019 | EPU Presidency |
| 8 | EPU Senior Committee of ECTS | 14th January 2019 | EPU Presidency |
| 9 | EPU Junior Committee of ECTS | 26th May 2019 | EPU Presidency |
| 10 | EPU Junior Committee of ECTS | 20th May 2019 | EPU Presidency |
| 11 | EPU Junior Committee of ECTS | 12th May 2019 | EPU Presidency |
| 12 | EPU Junior Committee of ECTS | 5th May 2019 | EPU Presidency |
| 13 | EPU Junior Committee of ECTS | 28th April 2019 | ERTI |
| 14 | EPU Junior Committee of ECTS | 31st March 2019 | ERTI |
| 15 | EPU Junior Committee of ECTS | 26th March 2019 | ERTI |
| 16 | EPU Junior Committee of ECTS | 25th March 2019 | ERTI |
| 17 | EPU Junior Committee of ECTS | 3rd March 2019 | ERTI |
| 18 | EPU Junior Committee of ECTS | 26th February 2019 | ERTI |
| 19 | EPU Junior Committee of ECTS | 19th February 2019 | ERTI |
| 20 | EPU Committee of ECTS Guide | 16th September 2019 | EPU Presidency |
| 21 | EPU Committee of ECTS Guide | 24th-25th July 2019 | EPU Presidency |
| 22 | EPU Committee of ECTS Guide | 17th-18th July 2019 | EPU Presidency |
| 23 | EPU Committee of ECTS Guide | 2nd-3rd July 2019 | EPU Presidency |
| 24 | EPU Committee of ECTS Guide | 14th May 2019 | EPU Presidency |
| 25 | EPU Committee of ECTS Guide | 9th May 2019 | EPU Presidency |
| 26 | EPU Committee of ECTS Guide | 30th April 2019 | EPU Presidency |

**C. Conference**

**Technical Education Reform in Kurdistan: Towards Bologna Process Implementation during 28th-29th August 2019 at Erbil Polytechnic University.**

## Appendix 6: Student's Commitment Form

Erbil Polytechnic University

Technical College/Institute: Date:

Legal Affairs Unit Ref:

### Pledge

I, ....., an enrolled student in the Department of ..... for the academic year....., pledge to finish my study during the specified period of time, get required credits, and attend all classes. Otherwise, I am ready to accept any legal procedures.

Student's Signature:

Student's name:

Student's ID No. Place and date of issuing the ID:

Address:

Mobile No.

Confirmation of the Pledge

I confirm that I have clarified and read the content of this pledge to the student, ....., who confirmed and signed it on .....

The Legist

.....

Head of Legal Affairs Unit

## Appendix 7: Code of Departments

**The codes of the departments are the same codes which are available in Students' Central Admission in the Ministry of Higher Education & Scientific Research:**

| 1. Erbil Technical Engineering College | |
|---|---|
| Department | Code |
| Civil | 1500 |
| Information System | 1501 |
| Highway | 1502 |
| Mechanics and Energy | 1503 |

| 2. Erbil Technical Administrative College | |
|---|---|
| Department | Code |
| Media | 1530 |
| Accounting | 1531 |
| Business Management | 1532 |

| 3. Erbil Technical Health College | |
|---|---|
| Department | Code |
| Medical Laboratory Technology (MLT) | 1520 |
| Physiotherapy | 1521 |

| 4. Erbil Technical Administrative Institute | |
|---|---|
| Department | Code |
| Tourism Guide | 1590 |
| Tourism Foundations Management | 1591 |
| Translation | 1592 |
| Media | 1593 |

| | |
|---|---|
| Law Administration | 1594 |
| Accounting | 1595 |
| Business Management | 1596 |
| Information System Management | 1597 |
| Marketing | 1598 |
| Library and Information | 1599 |

| 5. Erbil Technical Medical Institute | |
|---|---|
| Department | Code |
| Health Prevention | 1540 |
| Optometry | 1541 |
| Radiology | 1542 |
| Pharmacy | 1543 |
| Nursing | 1545 |
| Midwifery | 1546 |
| Dental Assistant | 1547 |

| 6. Khabat Technical Institute | |
|---|---|
| Department | Code |
| Law Administration | 1695 |
| Information Technology | 1696 |
| Plant Protection | 1697 |
| Plant Production | 1698 |

| 7. Shaqlawa Technical Institute | |
|---|---|
| Department | Code |
| Nursing | 1610 |
| Medical Laboratory Technology | 1611 |
| Warehouse Administration | 1621 |
| Engineering Drawing | 1622 |
| Construction | 1623 |
| Statistics & Information | 1624 |
| Veterinary | 1625 |
| Information Technology | 1626 |
| Business Management | 1627 |

| 8. Choman Technical Institute | |
|---|---|
| Department | Code |
| Customs Administration | 1690 |
| Information Technology | 1691 |
| Business Management | 1692 |

| 9. Erbil Technology Institute | |
|---|---|
| Department | Code |
| Automotive | 1570 |
| Mechanics & Energy | 1571 |
| Electrical Power | 1572 |
| Highway | 1573 |
| Construction | 1574 |

| | |
|---|---|
| Information Technology | 1575 |
| Surveying | 1576 |
| Petroleum Technology | 1577 |
| Oil Equipment | 1578 |
| Electronics & Communication | 1579 |

| 10. Soran Technical Institute | |
|---|---|
| Department | Code |
| Nursing | 1670 |
| Midwifery | 1671 |
| Medical Laboratory Technology | 1672 |
| Information Technology | 1680 |
| Business Management | 1681 |
| Accounting | 1682 |

| 11. Koya Technical Institute | |
|---|---|
| Department | Code |
| Nursing | 1640 |
| Medical Laboratory Technology | 1642 |
| Health Prevention | 1644 |
| Radiology | 1645 |
| Petroleum/Chemical Analysis | 1660 |

| | |
|---|---|
| Petroleum/Operation & Control | 1661 |
| Business Management | 1662 |
| Law Administration | 1663 |
| Accounting | 1664 |
| Information Technology | 1665 |
| Tourism Foundations Management | 1666 |

## Appendix 8: Codes of Technical Institutes/Colleges

**In order to code each technical institute/ college, write the first letter of each word; except for the technical institutes of Khabat, Shaqlawa, and Choman where the first two letters of the first word plus the first letter of the other words are written.**

| Technical College/Institute | Code |
|---|---|
| Erbil Technical Engineering College | ETEC |
| Erbil Technical Administrative College | ETAC |
| Erbil Technical Health College | ETHC |
| Erbil Technical Administrative Institute | ETAI |
| Erbil Technical Medical Institute | ETMI |
| Khabat Technical Institute | KHTI |
| Shaqlawa Technical Institute | SHTI |
| Choman Technical Institute | CHTI |
| Erbil Technology Institute | ERTI |
| Soran Technical Institute | SOTI |
| Koya Technical Institute | KOTI |

**To write the codes of a department within a technical institute/college, you need to write the code of the technical institute/college first. Then, write the department code. The department code is available in students' guide of Central Admission Centre.**

**Technical College/Institute code+ Department code**

**Example:**


**Erbil Technical  Engineering College**

**Civil Engineering Department**

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# ECTS
## Guideline for
# EPU
## 2019-2020

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