Department of Math and Sciences

The Department of Math and Science allows our graduates to go through a rigorous program that prepares them for a successful future not only in their university but also in their workplace. Our graduates will not only advance themselves regarding knowledge but will give back to their community. Our program covers all the main concepts of biology such as cell structure, cell function, metabolism, energy transformation, genetics, evolution, anatomy, and physiology of plants. Our graduates will be proficient in general chemistry, organic chemistry, geometry, pre-calculus, and physics.

YEAR 1

SEMSTER ONE

ENG 111 – General English I

This course teaches students how to write a wide range of academic and professional texts in English. The course covers the basics of correct sentence and paragraph structure before progressing to longer more complicated pieces. The aim of the course is to develop student's English language proficiency and provide them with writing skills they need in college as well as in the workplace. This course continues developing reading and writing skills in English at a tertiary level. It focuses on building vocabulary, grammar, and comprehension. It provides a structured and systematic approach to writing a variety of academic texts, including short essays. The ability to communicate information to an audience is an essential skill for all graduates. The course develops Technical English report writing, oral communication, and presentation skills to give students the confidence to present professional reports and to speak clearly, confidently, and effectively.

MTH 112 – Pre – Calculus I

The course covers polynomial equations in general, quadratic equations in particular, functions, counting techniques, permutations, combinations, the binomial theorem, the principle of mathematical induction, arithmetic, and geometric progressions.

SCN 113 – Introduction to Science

A course designed to cover fundamental scientific skills and to introduce basic concepts of science. Students acquire the ability to do scientific inquiry and learn how to think like scientist. This is of value to students wishing to go more in depth in the different fields of science.

ENG 114 –Academic Debate

The objective of this course is to have students to think critically, be able to write scientific reports, present their ideas in a conformable manner in front of an audience, use interpersonal communication skills, be able to evaluate, and practice speed reading.

KRD 115 – Kurdology

Kurdology is the study of Kurdish literature, history of language in general and geography of Kurdistan. It deals with history of Kurds and their religion also. The course implies theoretical work through two courses: course 1 and course 2 for both beginner and advanced groups. The beginner group contains two types of students: The students who were abroad and they are living in Kurdistan now and those students who did not take part in the final exam of Kurdish subject in grade 12 because they were free or not obliged to take Kurdish exam. First course deals with Kurdish language and its creeds in general. Second course contains history of Kurds and the religions that Kurds live in along the history. By the end of the course the students will increase their knowledge and be familiar with literature, history, language and religion of their nation as Kurds.

CSC 116 – Computer Skill

"Computer Skill" is a compulsory course aimed to provide students with transversal skills critically important to success fully develop both their academic process and their professional careers. The objective of this course is twofold. First, this course aims to provide the student with study skills including time management, library research, teamwork, and a short introduction to academic writing and management of information. Second, the aim of this course is improving students' computer skills and increasing their proficiency with commonly used business applications. Skills for developing effective communications and treatment of information are at the core of the course and will be achieved with practical applications and active student engagement.

SEMSTER TWO

ENG 121 – General English II

This course teaches students how to write and present a wide range of academic and professional texts in English. The course covers the basics of correct sentence and paragraph structure before progressing to longer more complicated pieces. The aim of the course is to develop student's English language proficiency and provide them with writing and presenting skills they need in college as well as in the workplace.

MTH 122 — Pre -Calculus II

The course focuses on trigonometric ratios, trigonometric functions, inverse trigonometric functions, trigonometric relations and identities, complex numbers, exponential and logarithmic functions, arcs and angles, secants and tangents, and matrix computations.

SOC 123 – Introduction to Sociology

This course introduces the basic concepts, theories, and perspectives in sociology and defines sociology as the scientific study of the influence of groups, institutions, and cultures upon individuals. The course focuses on identifying, explaining, and interpreting patterns and processes of human social relations. It is designed to teach students some of the major findings of sociology and to help master fundamental sociological skills.

ENG 124 – Academic Debate

The objective of this course is to have students to think critically, be able to write scientific reports, present their ideas in a conformable manner in front of an audience, use interpersonal communication skills, be able to evaluate, and practice speed reading.

KRD 125 – Kurdology

Kurdology is the study of Kurdish literature, history of language in general and geography of Kurdistan. It deals with history of Kurds and their religion also. The course implies theoretical work through two courses: course 1 and course 2 for both beginner and advanced groups. The beginner group contains two types of students: The students who were abroad and they are living in Kurdistan now and those students who did not take part in the final exam of Kurdish subject in grade 12 because they were free or not obliged to take Kurdish exam. First course deals with Kurdish language and its creeds in general. Second course contains history of Kurds and the religions that Kurds live in along the history. By the end of the course the students will increase their knowledge and be familiar with literature, history, language and religion of their nation as Kurds.

PSY 126 – Introduction to Psychology

This course introduces the vast and exciting field of psychology. It gives an overview of the major concepts, theories, and arguments in selected sub-areas of the discipline. By examining competing claims, students are encouraged to explore the complex interrelationships between biology, society, individuality, and the human mind.

YEAR 2

SEMSTER ONE

ENS 200 – English for Math and Science I

English for English for Math and Science I is English for Specific Purposes (ESP), English for Academic Purposes (EAP) and English for Professional Purposes (EPP) tailored to the needs of undergraduate Primary English Department at International University of Erbil at an introductory level. This course gives the students' knowledge in understanding and using English for academic and professional needs. The course materials include reading comprehension, structure, speaking, and listening, from the chosen topics related English for Math and Science and teaching English for Math and Science.

CRW 211 – College reading and writing

This course develops reading and writing skills in English for speakers of other languages. It covers six thematic areas from liberal arts. It focuses on developing vocabulary, grammar, and comprehension. It provides a structured and systematic approach to writing basic academic texts, including short essays.

MTH 212 – Geometry

The course provides an introduction to the definitions, methods, and logic of geometry. Topics include lines, angles, triangles, angle sum theorem, parallel lines, and transversals.

MTH 213 – Finite Math

The course covers systems of linear equations, linear programming, the simplex method, mathematics of finance, topics in probability, and statistics.

CSC 214 – Pre –Calculus III

Conic sections, polar coordinates, parametric curves, scalar and cross products of vectors, equations of lines and planes, organization and display of data, statistical measures, and probability are covered in this course.

CST 215 – Culture and Civilization

Along with a brief introduction into the study of History itself, the course aims to provide students with insights into why early human societies developed in the Prehistoric period and how this development eventually led to the emergence of ancient civilizations, in both western Asia and the Mediterranean, each of whom played an important role in the development of the modern world. Topics covered include: What is History?; the First Humans and the Prehistoric period; Mesopotamia and the first ancient civilizations; Ancient Egypt; the Phoenicians; Ancient Greece; and Ancient Rome.

SEMSTER TWO

ENS 201 – English for Math and Science II

English for English for Math and Science II is English for Specific Purposes (ESP), English for Academic Purposes (EAP) and English for Professional Purposes (EPP) tailored to the needs of undergraduate Primary English Department at International University of Erbil at an intermediate level. This course gives the students' knowledge in understanding and using English for academic and professional needs. The course materials include reading comprehension, structure, speaking, and listening, from the chosen topics related English for Math and Science and teaching English for Math and Science.

EPY 221 – Educational Psychology

This course comprises a study of the physical, cognitive, emotional, and linguistic development of the learner up to late adolescence, with emphasis on effective teaching and learning.

MTH 222 – Geometry II

The course looks into similar triangles, right triangles, quadrilaterals, circles, and geometric measurements.

BAT 223 – Basic Arithmetic

This course is a survey of pre-college arithmetic. Topics include whole numbers, fractions, decimal fractions, and simplification of numerical expressions. This course may not be used to satisfy any college requirement.

MAT 224 — Mathematic I

The course is a survey of pre-college algebra. Topics include integers, operations with algebraic expressions, solving linear equations in one variable, factoring, the Cartesian coordinate system, systems of first-degree equations in two variables solved by graphical and algebraic means, exponents and radicals, an introduction to quadratic equations, and stated problems.

CST 225 – Culture and Civilization II

The course aims to provide students with a broad understanding of the Medieval World. The initial part of the course, which covers the decline of the Roman Empire in the west and its rebirth in the east, is a prelude to the course proper and is designed to set the scene. The main part of the course addresses the major political, religious, social, economic, and cultural issues of the medieval period, not just in Europe, but also in the Byzantine and Islamic worlds. Topics covered include: The Roman World c.300-600 (the decline of the Roman Empire in and its rebirth in the east); the emergence of sibling cultures c.600-1050 (Byzantium; the Rise of Islam; and the development of European societies); and the growth of European power c.1050 -1500 (the Crusades; the Christian re-conquest of Spain; the Holy Roman Empire; Byzantium; the Islamic World; the Mongol Empire; the Ottoman Empire; the Hundred Years War; plague and the Black Death; religious division; peasant revolts; the growth of cities; the growth of trade; the voyages of discovery; and changes in society, art, culture, literature, and architecture).

YEAR 3

SEMSTER ONE

ENS 300 – English for Math and Science III

English for English for Math and Science III is English for Specific Purposes (ESP), English for Academic Purposes (EAP) and English for Professional Purposes (EPP) tailored to the needs of undergraduate Primary English Department at International University of Erbil at an upper-intermediate level. This course gives the students' knowledge in understanding and using English for academic and professional needs. The course materials include reading comprehension, structure, speaking, and listening, from the chosen topics related English for Math and Science and teaching English for Math and Science.

CDA 311 – Curriculum Development & Approach

The course examines the origins of the school curriculum and different types of curricula. It also looks into curriculum development, implementation, and course design in the modern era, leading to critical evaluation of curricula regarding their structural elements and assumptions regarding subject content and learning.

CHY 312 – Analytical Chemistry I

This course covers the principles of chemical equilibrium to solve problems in chemical analysis. It also discusses precipitation, acid-base equilibria and its application on titremetric methods of analysis, in addition to electrochemistry and oxidation-reduction reactions.

Lab sessions are required.

MTH 313 – Linear Algebra

The course introduces systems of linear equations, determinants, ranks, linear dependence and independence, matrices, vector spaces, eigenvalues, and eigenvectors.

BIO 314 – Introduction to Biology

This course introduces the major concepts of biology. Emphasis is placed on cell structure and function, metabolism, and energy transformation. Students will also be introduced to principles of genetics and evolution and will study the main features of organismal classifications to understand the diversity of life. A weekly lab session is essential for students to demonstrate the understanding of life at the molecular and cellular level in a practical way. This course is considered a prerequisite for any assigned biology course in the listing starting from year 2 to year 4.

CHY 315 – General Chemistry

This course introduces the fundamental principles of chemistry, kinetics, and the properties of solids, liquids, and gases. It also provides a review of essential topics: stoichiometry, solution-phase reactions, and chemical bonding that are essential for future course work in chemistry.

Lab sessions are required.

SEMSTER TWO

ENS 301 – English for Math and Science IIII

English for English for Math and Science IIII is English for Specific Purposes (ESP), English for Academic Purposes (EAP) and English for Professional Purposes (EPP) tailored to the needs of undergraduate Primary English Department at International University of Erbil at an advanced level. This course gives the students' knowledge in understanding and using English for academic and professional needs. The course materials include reading

comprehension, structure, speaking, and listening, from the chosen topics related English for Math and Science and teaching English for Math and Science.

MTH 321 — Ordinary Differential Equations

Linear equations, exact equations, homogenous equations, Laplace transforms, series solutions are the focus of this course

MEC 424 – Math for Early Childhood

Prospective teachers will learn to use manipulation and technology to create and develop effective and appropriate methods for teaching. They will study mathematical methods appropriate for K – 2 school curriculum with specific emphasis on developmental strategies. They will explore the concrete instructional models and connect with other subject areas. Problem-solving and critical thinking skills are emphasized. National and local curricular guidelines for mathematics will be discussed.

CSC 323 – Introduction to Biology II

This course is a continuation of BIO111. Students study the anatomy and physiology of plants and animals covering their structure, growth, reproduction, and development. Further emphases on evolutionary concepts are introduced, highlighting the adaptations and changes in different systems of major plants and animals groups. Lab sessions are taken on a weekly basis, whereby lab components will feature laboratory and field activities that complement studies in lecture.

CRE 324 – Classroom Exposure I

15 weeks at level appropriate schools in blocks of 5 weeks including 2 weeks of initial observation.

CSC 325 – Organic Chemistry I

This course introduces the basic principles and concepts of organic chemistry such as nomenclature, structure, and reactivity of saturated and unsaturated hydrocarbons and their functional derivatives including isomerism and stereochemistry.

Lab sessions are required.

YEAR 4

SEMSTER ONE

ENG 400 – English for Knowledge I

This course develops intermediate communicative ability in English for speakers of other languages. It covers vocabulary, grammar, reading, listening, writing, and speaking.

CDA 411 – Public Speaking

The ability to communicate information to an audience is an essential skill for all graduates. The course develops English oral communication and presentation skills to give students the confidence to speak clearly, confidently, and effectively.

LPE 412 – Management, Assessment, & Administration

The course provides an overview of the principles and practices of classroom management and administration. It looks at the principles, types, and practices of testing and assessment in education as well as the techniques and use of software for basic statistical analysis and record keeping.

IPY 414 –Introduction to Physics

This course is an introductory course in physics. Topics covered are motion, forces, energy, electricity, optics, and waves. The material covered and hands-on learning methods are very helpful for students planning to teach in elementary and middle school classes. This course is considered as a prerequisite for any assigned physics course. Extra Lab sessions are held on a weekly basis to complement class lessons.

ENG 414 – Classroom Exposure II

15 weeks at level appropriate schools in blocks of 5 weeks including 2 weeks of initial observation.

MTH 415 – Math for Intermediate Teachers

Students get another look at mathematics topics and problem-solving from the elementary school curriculum. They examine topics from an advanced perspective. Topics include arithmetic, algebra, geometry and geometric measurements, basic data concepts, number theory, and set theory.

SEMSTER TWO

ENG 401 – English for Knowledge II

This course develops intermediate communicative ability in English for speakers of other languages. It covers vocabulary, grammar, reading, listening, writing, and speaking.

SPJ 421 — Special Projects

This course is a combination of two subprojects:

Health Education and practice

The course is an introduction to the main theories on health behavior and health promotion. It also focuses on personal hygiene and good eating habits and their impact on physical and mental development and general well-being. The First Aid Certificate will form part of the Health Education course and is compulsory for all full-time students registered with International University of Erbil. Then each student must take what they have learned and use it in real-class.

Report

Each student must prepare a report stating on everything they learned and how they used it in-class situations.

PHE 422 – Philosophies of Education

The course offers an introduction to teaching profession and examines the historical, philosophical, and social foundations of education by focusing on key thinkers and educational innovators. It also examines some significant issues in contemporary education.

MTH 423 – Math for Secondary Teachers

Students get another look at mathematics topics and problem-solving from the secondary school curriculum. They examine topics from an advanced perspective. Topics include functions, radicals, solving equations, limits, and continuity.

IPY 214 –Introduction to Physics

This course is an introductory course in physics. Topics covered are motion, forces, energy, electricity, optics, and waves. The material covered and hands-on learning methods are very helpful for students planning to teach in elementary and middle school classes. This course is considered as a prerequisite for any assigned physics course. Extra Lab sessions are held on a weekly basis to complement class lessons.

SCN 425 – Science for Intermediate Teachers

Learning how to teach science material according to intermediate school programs. Students participate in classrooms to emphasize their communication abilities and teaching skills.