



COLLEGE OF EDUCATION

ADMISSION REQUIREMENTS:

- UAE secondary school certificate or its equivalent as approved by MOE with a minimum grade of 60%
- Applicants should pass:
 1. Al Ain University English Language Placement Test with a score equivalent to 500 on the TOEFL.
 2. The “teacher selection interview” organized for COE applicants.

GRADUATION REQUIREMENTS:

General Education	College Core Courses	Professional Courses	Academic Major		Free Electives	Total
			Comp	Elec		
33	15	18	48	6	6	126

College of Education

1- College Core Courses (15 C.H.)

Code	Course	C.H	Semester	Pre-requisite
COEC 100	Educational Psychology	3	1,2	---
COEC 101	Teaching Diverse Students	3	1,2	COEC 100
COEC 201	Curriculum and Instruction	3	1,2	COEC 101
COEC 202	Foundations of Education	3	1,2	---
COEC 203	Educational Technology*	3	1,2	COEC 201
Total		15		---

- 3 C.H. = 2C.H (Theory) + 2 Lab hours

2- English Teacher Compulsory Professional Courses (18 C.H.)

No.	Code	Course	C.H	Pre-requisite
1	COEP 302	Classroom Assessment & Environment	3	COEC 201
2	COEP 407	Teaching Methods of "English" in the Prep. & Sec. School	3	---
3	COEP 417	Capstone Course	3	COEP 407
4	COEP 427	Student teaching at the Prep. and Secondary School.	9	COEP 407
	Total		18	

3- IT Teacher Compulsory Professional Courses: (18 C.H.)

No.	Code	Course	C.H	Pre-requisite
1	COEP 302	Classroom Assessment & Environment	3	COEC 201
2	COEP 408	Teaching Methods of "IT" in the Prep. and Sec. School	3	---
3	COEP 418	Capstone Course	3	COEP 408
4	COEP 428	Student teaching at the Prep. and Secondary School.	9	COEP 408

	Total		18	
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English Teacher Program

Program Requirements (54 C.H)

1- Compulsory Specialization Courses (48 C.H.)

No.	Code	Course	C.H.	Pre-requisite
1	ENGL 201	Basic Grammar and Usage	3	---
2	ENGL 202	Reading Comprehension	3	---
3	ENGL 203	Listening and Speaking 1	3	ENGL201
4	ENGL 204	Listening and Speaking 2	3	ENGL203
5	ENGL 206	Introduction to Literature	3	---
6	ENGL 207	Writing 1	3	---
7	ENGL 208	Writing 2	3	ENGL207
8	ENGL 301	Advanced Writing	3	ENGL208
9	ENGL 303	Survey of English Literature	3	ENGL206
10	ENGL 304	Introduction to Linguistics	3	---
11	ENGL 305	Survey of American Literature	3	ENGL206
12	ENGL 306	Teaching Composition	3	ENGL 201
13	ENGL 311	Advanced Grammar	3	ENGL201
14	ENGL 403	Major British/American Author	3	ENGL206
15	ENGL 404	English Phonetics	3	ENGL303
16	ENGL 409	Teaching Literature	3	ENGL206

1- Electives Courses (Student is required to select 6 C.H.)

No.	Code	Course	C.H.	Pre-requisite
1	ENGL 302	Introduction to criticism	3	ENGL 206
2	ENGL 313	English Translation	3	ENGL 201
3	ENGL 405	Anglophone Literature	3	ENGL 206

4	ENGL 406	Language and Society	3	ENGL 304
5	ENGL 407	Phonology and Morphology	3	ENGL 404
6	ENGL 411	Applied Linguistics	3	ENGL 304
7	ENGL 413	Contrastive Linguistics	3	ENGL 304

3- Free Electives Courses (6 C.H)

No.	Code	Course	C.H	Pre-requisite
1				
2				

English Teacher Education Program Study Plan

Course No.	Course Title	Cr. Hs.	Pre-requisite Course No	Course No.	Course Title	Cr. Hs.	Pre - requisite Course No
First Semester		15		Second Semester		15	
GNED 120	Computer Literacy	3	---	COEC 101	Teaching Diverse Students	3	COEC 100
GNED 112	Islamic Culture	3	---	COEC 202	Foundation of Education	3	---
GNED 102	Communication skills in Arabic	3	---	ENGL 203	Listening and Speaking (1)	3	ENGL 201
COEC 100	Educational Psychology	3	---	ENGL 201	Basic Grammar & Usage	3	---
GEND 103	Effective Communication in English (1)	3	---	GEND 104	Effective Communication in English (2)	3	GNED 103
Third Semester		15		Fourth Semester		15	
GNED 111	Thinking Skills	3	---	GEND 240	Research Skills	3	---
ENGL 204	Listening and Speaking (2)	3	ENGL 203	GNED 115	General Psychology	3	---
ENGL 202	Reading Comprehension	3	ENGL 203	COEC 201	Curriculum and instruction	3	COEC 101
ENGL 207	Writing (1)	3	---	ENGL 208	Writing (2)	3	ENGL 207
XXX	Free elective (I)	3	---	ENGL 206	Introduction to Literature	3	---
Fifth Semester		15		Sixth Semester		18	
COEC 203	Educational Technology	3	COEC 201	ENGL 305	Survey of American Literature	3	ENGL 206
ENGL 303	Survey of English Literature	3	ENGL 206	COEP 302	Classroom Assessment & Environment	3	COEC 201
ENGL 301	Advanced Writing	3	ENGL 208	XXX	Free Elective (2)	3	---
ENGL 304	Introduction to Linguistics	3	---	ENGL 311	Advanced Grammar	3	ENGL 201
ENGL 306	Teaching Composition	3	ENGL 201	XXXX	Academic elective (1)	3	---
				GNED	Elective from group B	3	---
Seven Semester		18		Eighth Semester		15	
ENGL 404	English Phonetics	3	ENGL 303	GNED xxx	Elective from group C	3	---

COEP 407	Tech. Meth. Of English in the Pre & Secondary School	3	ENGL 311	COEP 417	Capstone Course	3	COEP 407
ENGL 403	Major British/ American Author	3	ENGL 206	COEP 427	Student Teaching	9	COEP 407
ENGL 409	Teaching Literature	3	ENGL 206				
XXXX	Academic Major Elective (2)	3	---				
GNED xxx	Elective from Group A	3	---				

It Teacher Education Program

Program Requirements (54 C.H)

1- Compulsory Courses: (48 C.H.)

No.	Course No.	Course title	C.H.	Pre-requisite
1	INTE 206	Discrete Structure	3	---
2	INTE 202	Introduction to Programming*	3	GNED 120
3	ITSE 201	Data Structure & Algorithms	3	INTE202+ INTE 206
4	ITSE 202	Computer Architecture	3	---
5	ITCS 203	Digital Logic Design*	3	INTE 206
6	ITCC 306	Operating Systems*	3	ITSE 202
7	ITCC 201	Object Oriented Programming*	3	INTE 202
8	ITCC 204	Foundation of Software Engineering	3	---
9	ITCS 301	Computer Organization & Assembly Programming*	3	ITCS 203
10	ITTE 201	Introduction to Information Technology	3	---
11	ITTE 302	Internet in the Classroom*	3	INTE 202
12	ITTE 402	Integrating Technology into School Curriculum*	3	ITCS 411
13	ITCS 411	Multimedia Technology*	3	ITSE 201
14	ITTE 401	Networks for Educators*	3	ITCS 301
15	ITTE 303	Social Aspects of Computing	3	---
16	ITTE 404	Leadership in Educational Technology	3	---
	Total		48	

2-Electives Courses (Student is required to select 6 C.H.)

No.	Course No.	Course title	C.H.	Pre-requisite
1	*ITTE 304	Computer –Based Education	3	ITCC 201
2	ITCS 405	Introduction to Computer Graphics	3	ITSE 201
3	ITSE 501	Software Evaluation and Maintenance	3	ITCC 204
4	ITCS 308	Introduction to Artificial Intelligence	3	ITCS 202

5	ITCS 403	Special Topics in Computer Science	3	Senior Standing
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3- Free Electives: (6 C.H)

No.	Code	Course	C.H.	Pre-requisite
1				
2				

- 3 C.H. = 2C.H (Theory) + 2 Lab hours
- Dean of C.O.E. & Dean of IT college agreed on teaching the * courses with lab to C.O.E. IT Teacher Education Program

IT Teacher Education Program Study Plan

Course No.	Course Title	C.H.	Pre-requisite	Course No.	Course Title	C. H.	Pre-requisite
First Semester		15 credits		Second Semester		15 credits	
GNEC 100	Islamic Culture	3	---	GNEC 103	Effective Communication in English (1)	3	---
GNEC 102	Effective Communication in Arabic	3	---	ITTE 201	Introduction to Information Technology	3	---
GNEC 120	Computer Literacy	3	---	INTE 202	Introduction to Programming	3	GNEC 120
COEC 100	Educational Psychology	3	---	COEC 202	Foundations of Education	3	---
INTE 206	Discrete Structures	3	---	COEC 101	Teaching diverse Students	3	COEC 100
Third Semester		15 credits		Fourth Semester		15 credits	
GNEC 104	Effective communication in English (2)	3	GNEC 103	GNEC 240	Research Skills	3	---
GNEC 111	Thinking Skills	3	---	GNEC 115	General Psychology	3	---
ITCC 201	Object Oriented Programming	3	INTE 202	ITSE 202	Computer Architecture	3	---
ITSE 201	Data Structure & Algorithms	3	INTE 202 + INTE 206	ITCS 203	Digital Logic Design	3	INTE 206
XXX	Free elective (1)	3	---	COEC 201	Curriculum and Instruction	3	COEC 100
Fifth Semester		15 credits		Sixth Semester		18 credits	
COEC 203	Educational Technology	3	COEC 201	GNEC	Elective from group (A)	3	---
ITTE 303	Social Aspects of Computing	3	---	COEP 302	Classroom Assessment & Environment	3	COEC 201
ITCS 301	Computer Organization & Assembly Programming	3	ITCS203	XXX	Academic elective (1)	3	---
ITCS 411	Multimedia Technology	3	ITSE 201	XXX	Free elective (2)	3	---
ITCC 204	Foundation of Software Engineering	3	---	ITTE 401	Networks for Educators	3	ITCS 301
				ITCC 306	Operating Systems	3	ITSE 202
Seventh Semester		18 credits		Eighth Semester		15 credits	
GNEC	Elective from group (B)	3	---	GNEC	Elective from group (C)	3	---
ITTE 402	Integrating Technology into School Curriculum	3	ITCS 411	COEP 418	Capstone Course	3	COEP 408
ITTE 404	Leadership in Educational Technology	3	---	COEP 428	Student Teaching at the Prep. and Secondary School	9	COEP 408
ITTE 302	Internet in the Classroom	3	INTE 202				
COEP 408*	Teaching Methods of "IT" in the Prep. and Secondary School	3	ITCC 306				
XXX	Academic elective (2)	3	---				

الدبلوم المهني في التدريس

متطلبات البرنامج (24 ساعة معتمدة)

1- المساقات الاجبارية (21 س.م)

الساعات المعتمدة	اسم المساق	رقم المساق
3	النمو والتعلم الإنساني	EDU522
3	تقنيات التعليم	EDU 523
3	الإدارة المدرسية و الصفية	EDU 524
3	المنهج المدرسي والمنهج في الإمارات	EDU 525
3	التعليم في بيئة متنوعة وتعليم ذوي الاحتياجات الخاصة	EDU 526
6	التدريب الميداني	EDU551

2-المساقات الاختيارية (3 س.م)

يختار الطالب مساق واحد فقط من المساقات الآتية

الساعات	اسم المساق	المساق
3	طرق تدريس التربية الإسلامية	EDU531
3	طرق تدريس اللغة العربية	EDU532
3	طرق تدريس اللغة الإنجليزية	EDU533
3	طرق تدريس الرياضيات	EDU534
3	طرق تدريس العلوم	EDU535
3	طرق تدريس الاجتماعيات	EDU536
3	طرق تدريس تكنولوجيا المعلومات	EDU537

الخطة الدراسية لبرنامج الدبلوم المهني في التدريس

رقم المساق	س.م	اسم المساق	المتطلب السابق	رقم المساق	س.م	اسم المساق	المتطلب السابق
الفصل الدراسي الأول (15 ساعة معتمدة)				الفصل الدراسي الثاني (9 ساعات معتمدة)			
EDU522	3	النمو والتعلم الإنساني	---	EDU551	6	التدريب الميداني	---
EDU523	3	تقنيات التعليم	---	---	3	مساق اختياري	---
EDU524	3	الإدارة المدرسية و الصفية	---				
EDU524	3	المنهج المدرسي والمنهج في الإمارات	---				
EDU526	3	التعليم في بيئة متنوعة وتعليم ذوي الاحتياجات الخاصة	---				

Brief Course Description of College Core Courses

COEC 100 Educational Psychology

3 C.H

Prerequisite: None

This course provides students with knowledge about the psychology of learning. It discusses a wide range of learning theories and their implications to teaching and learning. The course emphasizes the social constructivist view of learning and provides examples of how instruction should be planned and implemented accordingly.

COEC 101 Teaching Diverse Students

3 C.H

Prerequisite: COEC 100

This course is designed to provide students with theoretical knowledge regarding students with special needs. It covers topics such as: characteristics and primary diagnosis of the different kinds of special needs students. It also deals with the adaptation of materials and teaching strategies to suit all students.

COEC 201 Curriculum and Instruction

3 C.H

Prerequisite: COEC 101

This course introduces students to basic principles of curriculum and instruction. It covers a wide range of topics including curriculum design, adaptation, evaluation, and implementation. It also, deals with basic principle of instruction.

COEC 202 Foundations of Education

3 C.H

Prerequisite: None

This course aims at orienting students to the cultural, philosophical, social and educational foundations of education. It covers topics such as: school, curriculum, and school role and teacher responsibilities.

COEC 203 Educational Technology

3 C.H

Prerequisite: COEC 201

This course discusses issues related to integrating technology in education, and ethical and security concerns regarding the use of technology. It also, provides students with laboratory experiences with communication, research, and productivity tools. These experiences include presentation applications, spreadsheets, and web design.

Brief Course Description of Professional Courses

COEP 302 Classroom Assessment & Environment

3 C.H

Prerequisite: None

This course is designed to help students build, implement, and analyze assessments of their students. It covers topics such as test development, test characteristics, and alternative assessment. It discusses assessment tools such as portfolios, observation, concept maps, projects, and other forms of performance-based assessment. The course discusses also, strategies for activating students through creating an attractive classroom environment

COEP 407 Teaching Methods of English in the Prep. and Sec. 3 C.H

Schools I

Prerequisite: None

This course introduces the current trends in English education with special emphasis on national international standards. It discusses different approaches to English teaching. It also discusses the acquisition of language and the development of linguistic skills.

COEP 417 Capstone Course (English)

3 C.H

Prerequisite: COEP 407

This course is designed to help students integrate what they learned during their program. It is also an opportunity for them to reflect on their experiences, strengths, and weaknesses which enables them from planning for future professional development. The course is to be taught by a team of faculty members.

COEP 418 Capstone Course (IT)

3 C.H

Prerequisite: COEP 408

This course is designed to help students integrate what they learned during their program. It is also an opportunity for them to reflect on their experiences, strengths, and weaknesses which enables them from planning for future professional development. The course is to be taught by a team of faculty members.

COEP 408 Teaching Methods of "IT" in the Prep. and Sec. Schools 3 C.H

Prerequisite: None

This course introduces the current trends in Computer education with special emphasis on national international standards. It discusses different approaches to Computer teaching. It also discusses the hands-on approach for teaching computer applications.

COEP 427 Student Teaching at the Prep. And Secondary Level 3 C.H (English)

Prerequisite: COEP 407

The course aims at introducing student teachers to teacher responsibilities and school functions while presenting them with opportunities to practice teach in classrooms. Student teachers are supervised by faculty members who provide them with feedback and assessment.

Brief Course Description / Academic English Courses

Program Specialization Courses (48 C.H.)

ENGL 201 Basic Grammar and Usage

3 C.H

Prerequisite: None

This course is designed to activate the beginning student's passive language base and make him/her more conscious of the basic formal workings of grammar in English. Emphasis is on grammar in action for the purposes of oral and written communication.

ENGL 202 Reading Comprehension

3 C.H

Prerequisite: None

The course provides practice for intensive and extensive reading at an advanced level. Texts are selected with a view of their variety of subject matter and style, in addition to being relevant to the students' interests and needs.

ENGL 203 Listening and Speaking I

3 C.H

Prerequisite ENGL 201

This course helps students to use correct grammatical structures in spoken English; to develop a speaking vocabulary useful for their academic work in the department; to use standard pronunciation useful for an international setting; and to develop listening and speaking strategies useful to academic settings. Where cultural settings of discourse are unfamiliar to Arab students, the course teaches the basics in effective communication for that strategy.

ENGL 204 Listening and Speaking II

3 C.H

Prerequisite: ENGL 203

This is a continuation of Listening I with the four main concerns remaining. A higher level of fluency is expected in completing the course. However, this course includes more intensive practice in communications which are likely to be cross-cultural. Some of these are for academic settings, focusing especially on literature and linguistics as discussion topics, but some of these settings are appropriate to the business, education, and political worlds as well, including, for example, telephone communications, consensus group problem solving, argumentation and debate.

ENGL 206 Introduction to Literature

3 C.H

Prerequisite None

This is the initial course in the core of the literature courses. It introduces literature and the nature of literary language including critical commentary on the social, literary, and cultural influences which have shaped it. By introducing student readers to its three major genres (poetry, fiction, and drama), the course analyzes the diverse elements of literature as a field of study and also urges the beginning student to familiarize himself/herself with different aspects and forms of literature before taking more complex and more intellectually demanding upper-level literature courses.

ENGL 207 Writing I

3 C.H

Prerequisite: None

An introduction to the composition process from the sentence on to the paragraph via various approaches, with emphasis on editing and revising for format, usage, punctuation, spelling, and capitalization. The student is taught to employ sentence patterns and methods of sentence formation into a sequence conveying a central idea of thought in the composition of descriptive, comparative, and explanatory paragraphs.

ENGL 208 Writing II**3 C.H**

Prerequisite: ENGL 207

This is the second course in the writing sequence. It integrates the methods of Writing I into more complex writing strategies to give students a solid grounding in writing techniques and skills (analysis, comparison/contrast, cause-effect, argumentation, narrative, description, and critique. There is particular attention here to the use of self-expressive, communicative and rhetorical methods in the organization and development of longer and more challenging paragraphs. In addition, the course offers classroom analysis and discussion of professional models of expository prose, followed by written exercises in long paragraph writing with some individual attention.

ENGL 301 Advanced Writing**3 C.H**

Prerequisite: ENGL 208

The third course in the writing sequence emphasizes the techniques and methods essential to a thoughtful, carefully written, and well-designed essay. The course is envisaged as comprising three main foci in terms of the principal structural stages of the unified essay: the beginning, the body, and the conclusion. The course outline adheres to that sequence.

ENGL 303 Survey of English Literature**3 C.H**

Prerequisite: ENGL 206

This is a survey course of the main literature genres in British and American literature (poetry, fiction, and drama) from the beginnings to the late 20th century. A general treatment covers major authors and their work in a historical context with selections from such works. The course is geared towards the courses in literature offered by the department and acts as a background to authors and ages covered in those courses. This course is a prerequisite for all other Literature courses.

ENGL 304 Introduction to Linguistics**3 C.H**

Prerequisite: None

An introductory course in the field of modern linguistics. It covers the basic ideas concerning the scientific study of Language as a system of communication and a form of human behavior. It also introduces the student to linguistic analysis by solving problems from English. Finally, this course covers the interrelationship between linguistics and other disciplines such as psychology, sociology, and anthropology.

ENGL 305 Survey of American Literature**3 C.H**

Prerequisite: ENGL 206

This course is designed to introduce students to American literature from the 17th through the twentieth centuries, focusing on major figures, differing literary genres, and shifting definitions of national identity.

ENGL 306 Teaching Composition**3 C.H**

Prerequisite: ENGL 201

This course aims at helping students learn how to teach the writing skill. It covers controlled writing, guided writing and essays. Emphasis is placed on writing activities suitable for young adults in the UAE public schools. The course involves field experiences.

ENGL 311 Advanced Grammar**3 C.H**

Prerequisite: ENGL 201

An in-depth study of grammatical categories (the noun/verb phrase, adjectives/adverbs, and prepositions). The course will also focus on the main sentential phenomena such as the simple, complex, and compound sentence with relative and other subordinate clauses. Regular exercises follow each topic presented with a view toward improving the student's use of English.

ENGL 403 Major British / American Author**3 C.H**

Prerequisite: ENGL 206

This course concentrates student's efforts on the work of one major British or American writer to be selected by the instructor each time the course is offered. The course is designed to enable students to do extensive research on a well-defined body of work and use that research to produce an extensive and original paper.

ENGL 404 English Phonetics**3 C.H**

Prerequisite: ENGL 303

A study of the sound system of the English language treating the production and perception of sounds and clarifying the concepts of 'contrast' and 'distribution'. Drills in pronunciation and transcription accompany this.

ENGL 409 Teaching Literature**3 C.H**

Prerequisite: ENGL 206

This course aims at teaching literature to young adults. It covers teaching poetry, short stories, short novels, plays, mythology and science fiction. Emphasis is placed on reading for pleasure and on enhancing students' skills of independent reading.

Specialization Electives Courses (6 C.H.):**ENGL 302 Introduction to Criticism****3 C.H**

Prerequisite: ENGL 206

This course sets out to introduce and study a set of major issues in literary criticism including essays written by prominent and significant critics both in the USA and UK, and it presents models of practical criticism to be imitated by students. Through the examination of the premises of the critical practice of major critics, this course, therefore, attempts to familiarize students with the literary tradition and its criticism in order to instruct them in the process of reading and writing about literature.

ENGL 313 English Translation**2 C.H**

Prerequisite: ENGL 201

The course initially introduces students to the major principles of translation theory in order to provide them with a solid background integral to the development of their translation skills. Within the theoretical framework advocated by translation specialists, students are introduced to different types of translation and acquainted with controversial issues such as the question of equivalence and untranslatability. Students are exposed to a variety of translated texts and are required to translate substantial text from Arabic into English and vice versa utilizing the theoretical knowledge they acquire as the course proceeds. Students are equally required to take part in class discussions, participate in team/group work exercises, present homework assignments on regular basis and submit a translation project under the supervision of the instructor.

ENGL 405 Anglophone Literature**3 C.H**

Prerequisite: ENGL 206

This course will examine twentieth-century and contemporary literature produced in such locations as Ireland, India, the Caribbean, Canada, or Africa, by writers who are both participating in and reacting against the conventions and assumptions of English and American Literature.

ENGL 406 Language and Society**3 C.H**

Prerequisite: ENGL 304

This course looks at how language is used in social contexts. It covers the impact of social class, gender, age and ethnicity on language variation.

ENGL 407 Phonology and Morphology**3 C.H**

Prerequisite: ENGL 404

This course is intended to cover two major linguistic levels: phonology and morphology. The first part of the course is confined to the phonological analysis of the sound system of English and how these sounds 'structure' and 'function'. The second part deals with word formation in English, its rules, and constraints in the perspective of inflection, derivation and other processes. It ends with the phonology-morphology interface within the grammar of English.

ENGL 411 Applied Linguistics**3 C.H**

Prerequisite: ENGL 304

A study of the application of linguistic theory in the fields of group communication, inter-cultural communication, translation, lexicography, language acquisition/learning, and teaching.

ENGL 413 Contrastive Linguistics**3 C.H**

Prerequisite: ENGL 304

The course deals with the techniques of contrasting languages, and it applies them to Arabic and English with reference to the various components of grammar in addition to cultural variables of contrast. The findings of the course are applied to the areas of second language learning, translation, and other modes of inter-cultural language use.

Brief Course Description / IT Teacher Education Program

Specialization Courses:

ITNE 206 Discrete Structure

3 C.H

Prerequisite: -

Number systems: Natural numbers, Radix r representation of integers, mathematical induction. Logic: Propositional logic, predicate logic. Boolean algebra; sets; recursion; relations, and functions. Combinatory: counting principles; permutation groups. Graphs: graphs; diagraphs; trees; Euler's formula and coloring of graphs. Formal machines: automata and regular expressions; register machines; turning machines.

ITNE 202 Introduction to Programming

3 C.H

Prerequisite: GNED 120

A first course in programming: variables; simple types; operators and expressions; conditional and repetitive statements; input and output; study of fundamental concepts of object-oriented programming such as classes objects, and methods using an object-oriented language such as Java, C# or C++.

ITSE 201 Data Structures & Algorithms

3 C.H

Prerequisite: INTE 202 & INTE 206

Basics of algorithm design. Data abstraction & Abstract Data Types (ADT). Linear structures: Multidimensional arrays and their storage organization. Lists, stacks, and queues. Recursion. Nonlinear structures: trees, and graphs. Binary trees. Tree Traversal algorithms. Graphs: representation of a graph and applications of graphs. Elementary sorting and searching methods: bubble sort, quicksort, sequential search, and binary search algorithms. B-tree and B+-tree structures and hashing techniques.

ITSE 203 Computer Architecture

3 C.H

Prerequisite: - -

Fundamentals of computer organization and machine architecture; data representation; the machine language execution cycle; microprogramming; addressing modes; symbolic assembly level of language; memory; I/O; fundamental notions of an operating system.

ITCS 204 Digital Logic Design

3 C.H

Prerequisite: - -

This course presents the theory of digital circuits and systems, stressing techniques for the analysis and synthesis of combinational and sequential logic systems. The Lab. covers the operations of basic logic gates, example of some combinational and sequential circuits such as adders, subtractors, decoders, encoders, flip-flops, counters and shift registers.

ITCC 303 Operating Systems**3 C.H**

Prerequisite: ITSE 203 & ITSE 201

History of operating system concepts. Process: inter-process communication, process scheduling, and deadlocks. Input/output: principles of I/O hardware and software, disks and clocks. Memory management: swapping, paging, virtual memory and page replacement algorithms. File systems. Some examples of operating systems will be introduced such as Unix, Linux, etc.

ITCC 206 Object Oriented Programming**3 C.H**

Prerequisite: INTE 202

Study of object-oriented design and programming to solve problems. Topics include classes, inheritance, polymorphism, design notations, development environments, and a survey of languages. Programming language will be in JAVA, the language of the Internet. The course will cover a history of the rapid development of Java as a computer language for "write once, run anywhere".

ITCC 301 Foundation of Software Engineering**3 C.H**

Prerequisite: ITCC 206

Principles of software development and maintenance. Overview of the software lifecycle models and deliverables: requirements analysis and specification, architectural and detailed design, implementation, verification, inspections and testing. Process issues, project management.

ITCS 302 Computer Organization & Assembly Programming**3 C.H**

Prerequisite- ITCS 204

This course introduces the basic concepts of computer organization and hardware. Instructions executed by a processor and how to use these instructions in simple assembly-language programs. Stored-program concept. Data path and control for multiple implementations of a processor. Performance evaluation, pipelining, caches, virtual memory, input/output.

ITTE 201 Introduction to Information Technology**3 C.H**

Prerequisite- --

This course provides the student with the concepts behind information technology, the organization in the digital economy, inter organizational and global information systems and provides experience with micro-computer based applications, including database management systems, and an introduction to the Internet basics and technical view of systems analysis and design.

ITTE 302 Internet in the Classroom**3 C.H**

Prerequisite- ITCC 205

This course is designed to explore a wide range of educational resources and K-12 curriculum and instructional materials available on the Internet that can be used in the classroom. Teachers will develop better competencies using the Internet including email, bulletin boards, list serves, web searching, and Internet resources. In addition, teachers should be able to evaluate web resources to decide which ones they can use in their classes. Teachers should develop projects and curriculum pages that require direct involvement with students in their classrooms.

ITTE 402 Integrating Technology into School Curriculum **3 C.H**

Prerequisite- ITCS 406

This course aims towards helping school teachers to integrate technology into different subject areas to enhance student learning. It will help teachers to plan and design affection learning environment.

ITCS 406 Multimedia Technology **3 C.H**

Prerequisite- ITSE 201

Basic concepts of multimedia, applications, building blocks. Image compression, data security concepts, example ciphers. Image Database: feature-based retrieval, content-based retrieval. Audio Signal Processing: speech analysis, music analysis and synthesizing. Teleconferencing and Video compression.

ITTE 401 Networks for Educators **3 C.H**

Prerequisite- ITCS 302

This course aims to provide basic knowledge about computer networks and about the communication protocols and techniques underlying the Internet. It aims at providing the teachers with necessary skills need to build a LAN or WAN network. The course focuses on theoretical and practical aspects of networks.

ITTE 303 Social Aspects of Computing **3 C.H**

Prerequisite- --

This course deals with trends, social, human Issues and problems in Information Technology. This course also discusses the impact of existing and emerging technologies on the educational system, explains areas related to ethics, and discusses the role of teachers in addressing them. Advanced topics in the theory, selection, production, and utilization of technology-based education will be covered.

ITTE 404 Leadership in Educational Technology **3 C.H**

Prerequisite- --

Education leaders have significant and timely issues to deal with in the school environment and need to be socially responsible leaders for a rapidly changing, technologically-rich world. This course examines the role of leadership as it relates to the implementation of educational technology in schools. Students will be provided theory, gain knowledge, and develop skills necessary to use, evaluate, plan, and implement technologies effectively within a school system. Students will also examine broader administrative issues, including security and ethics, associated with computers and other technologies.

Elective Courses

ITTE 304 Computer Based Education **3 C.H**

Prerequisite- ITCC 206

This course is designed to prepare students to make decisions regarding the role of technology in support of content standards, learning, and assessment in early childhood through 12th grade classrooms. Students become proficient in beginning, intermediate, or advanced skills and specialized content area/grade level applications. They select, operate, and use media, computing, Internet, and related technologies to facilitate

teaching/learning, communication, professional development and productivity to meet the educational needs of diverse groups of learners.

ITCS 402 Introduction to Computer Graphics

3 C.H

Prerequisite: ITCS 202 / ITSE 201

Computer graphics concepts. 2-D geometric transformations and viewing. 3D transformations modeling and viewing. Hidden line and hidden surface removal and computer animation.

ITSE 501 Software Evaluation and Maintenance

3 C.H

Prerequisite: ITCC 301

Concepts and advanced technologies in software evolution: program comprehension; configuration and change management; construction of reusable software; separation of concerns; techniques for reverse engineering and re-engineering software; design for change, layered design and incremental refinement; legacy systems.

ITCS 308 Introduction to Artificial Intelligence

3 C.H

Prerequisite: ITCS 204

Students will learn about computer systems that exhibit intelligent behavior, in particular, perceptual and robotic systems. Topics include human computer interfaces, computer vision, robotics, game playing, pattern recognition, knowledge representation, planning, and machine learning.

ITCS 403 Special Topics in Computer Science

3 C.H

Prerequisite: Senior Standing

This course involves special topics in computer science.

COEP 428 Student Teaching at the Prep. And Secondary Level (IT) **3 C.H**

Prerequisite: COEP 408

The course aims at introducing student teachers to teacher responsibilities and school functions while presenting them with opportunities to practice teach in classrooms. Student teachers are supervised by faculty members who provide them with feedback and assessment.