

STUDY PLAN

MASTER IN (Curriculum and Instruction/Methods of Teaching Science) (Thesis Track)

Plan Number		2005	T
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I. GENERAL RULES CONDITIONS:

1. This plan conforms to the regulations of the Valid Regulations of programs of graduate studies.
2. Areas of specialty for admission in this program:
 - Holders of the Bachelor's degree in:
 - a- Any Scientific discipline
 - b- Science Education

II. SPECIAL CONDITIONS: None.

III. THE STUDY PLAN: (33) Credit Hours as follows:

1. Obligatory courses: (18) Credit Hours as follows:

Course No.	Course Title	Credit hrs.	Theory	Prac.	Pre-requisite
0801740	Research Methodology in Education	3	3	-	-
0802710	Curriculum Planning	3	3	-	-
0802760	Science: Its Nature and Teaching	3	3	-	-
0802761	Current Trends in Science Curriculum	3	3	-	-
0802762	Methods of Teaching Science	3	3	-	-
0802765	Evaluation of Learning and Teaching Science	3	3	-	-

2. Elective Courses: (6) Credit hours from the following:

Course No.	Course Title	Credit hrs.	Theory	Prac .	Pre-requisite
0802711	Theory and Research in Instruction	3	3	-	-
0802712	Curriculum Analysis	3	3	-	-
0802716	Learning Environment	3	3	-	-
0802764	Special Problems in Teaching Science	3	3	-	-
0802766	Technological Applications in Teaching and Learning Science	3	3	-	-
0802780	Computer in Education	3	3	-	-

3. Thesis: 9 Credit hours (0802799).

STUDY PLAN

MASTER IN (Curriculum and Instruction/ Methods of Teaching Science) (Non - Thesis Track)

Plan Number		2005	N
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IV. GENERAL RULES CONDITIONS:

3. This plan conforms to the regulations of the Valid Regulations of programs of graduate studies.
4. Areas of specialty for admission in this program:
 - Holders of the Bachelor's degree in:
 - a- Any Scientific discipline
 - b- Science Education

V. SPECIAL CONDITIONS: None.

VI. THE STUDY PLAN : (33) Credit Hours as follows:

1. Obligatory courses: (24) Credit Hours as follows:

Course No.	Course Title	Credit hrs.	Theory	Prac.	Pre-requisite
0801740	Research Methodology in Education	3	3	-	-
0802710	Curriculum Planning	3	3	-	-
0802712	Curriculum Analysis	3	3	-	-
0802760	Science: Its Nature and Teaching	3	3	-	-
0802761	Current Trends in Science Curriculum	3	3	-	-
0802762	Methods of Teaching Science	3	3	-	-
0802764	Special Problems in Teaching Science	3	3	-	-
0802765	Evaluation of Learning and Teaching Science	3	3	-	-

2. Elective Courses: (9) Credit hours from the following:

Course No.	Course Title	Credit hrs.	Theory	Prac.	Pre-requisite
0802711	Theory and Research in Instruction	3	3	-	-
0802716	Learning Environment	3	3	-	-
0802766	Technological Applications in Teaching and Learning Science	3	3	-	-
0802780	Computer in Education	3	3	-	-
0802782	Instructional Design	3	3	-	-

3. A comprehensive Exam (0802798).

080271 0 Curriculum Planning**(3 Credit hours)****Prerequisite: (None)**

Concept of curriculum and its different conceptions; explicit hidden and null curricula; Basic curriculum planning paradigms: the analytical (Tyier & Johnson models), the critical (Freire's model); curriculum designing: formulating curriculum goals and objectives, selection of content and learning experiences, organization of content and learning experiences, methods of instruction and learning; curriculum evaluation; curriculum implementation and curriculum quality control.

080271 1 Theory and Research in Instruction**(3 Credit hours)****Prerequisite: (None)**

Concepts and elements of instruction, teaching and learning; Instructional models: behaviorist, cognitive, social psychological, and humanistic; the constructivistic model; Research on instruction: the effectiveness model (process-product); Research on planning for instruction, instruction as decision making and adapting instruction to individual differences; Research on effectiveness of: teaching by inquiry, teaching by experience, project-based learning, problem solving, learning by cases and case history, simulations, role playing and team teaching; factors influencing instructional productivity: content, learners' and teacher's characteristic; learning environment; Evaluation of instruction.

080271 2 Curriculum Analysis**(3 Credit hours)****Prerequisite: (None)**

Concept and purpose of curriculum analysis; differences between Curriculum analysis and curriculum evaluation; Elements of curriculum analysis; curriculum logic and philosophy; analysis of goals; criteria of content selection, curriculum organization: organizing foci, principles of organization & organizational structures: Learning and instructional models; focus in curriculum, evaluation; curriculum coherence.

080271 6 Learning Environment**(3 Credit hours)****Prerequisite: (None)**

Concept of learning environment and its impact on learning; Dimensions of learning Environment; The physical environment and its effects on learning; The emotional/social climate; measuring social psychological environment; characteristics of positive learning environments; classroom management

and learning environment; Methods and styles of learning and teaching in relation to learning environment.

0802760 Science: Its Nature and Teaching

(3 Credit hours)

Prerequisite: (None)

Generating and developing scientific knowledge; Scientific Inquiry and its mutual relationship with scientific knowledge; types and characteristics of scientific knowledge; (facts, concepts) generalizations, laws and theories); Psychological and epistemological foundations for teaching and learning science; students' socio-cultural background and it's effect on teaching and learning Science.

0802761 Current Trends in Science Curriculum

(3 Credit hours)

Prerequisite: (None)

Conceptual perspective (content structure, concepts' development and alternative connects); science process skills perspective; science, technology, and society perspective; integrated perspective, learning outcomes perspective; standards perspective; constructivism perspective; Social constructivist perspective.

0802762 Methods of Teaching Science

(3 Credit hours)

Prerequisite: (None)

Methods and strategies in teaching science: Teaching by: inquiry, problem-solving, projects, lab, historical reference, discovery, demonstrations, fieldwork, dialogue and discussion, and self-learning.

0802764 Special Problems in Teaching Science

(3 Credit hours)

Prerequisite: (None)

Concentrating on knowledge rather than process; content does not accommodate children mental cognition development; lack of concentration on learners' diversity; some teaching science practices are not based on theory; focusing on lower levels rather than higher levels of thinking skills when evaluating; absence of the integrated perspective between science and other disciplines; science teacher preparation; and other problems and their proper solutions in solving teaching science problems.

0802765 Evaluation of Learning and Teaching Science

(3 Credit hours)

Prerequisite: (None)

Aims of assessing learning science (formative and summative); investigation of students' scientific concepts (free association, concept structuring analysis

technique, drawing, clinical interview, classroom discussion); evaluating of students': scientific knowledge development (conceptual maps, V-shape tests), scientific thinking skills (scientific thinking tests), scientific attitudes; scientific interests; aims of assessing teaching science; contemporary strategies and methods of the evaluation of teaching science (evaluation through action research and classroom research).

0802766 Technological Applications in Teaching and Learning Science

(3 Credit hours)

Prerequisite: (None)

This course is concerned with the concept of Technological Applications in science, Developing Technological Designs that relate science & Technology, and using Multimedia in Science learning & teaching.

0802780 Computers in Education

(3 Credit hours)

Prerequisite: (None)

This course deals with the concept of computer as a device; the role of computer technology in the learning and teaching process; Computer-Aided Instruction; Computer-managed instruction; Computer applications in education; Evaluating educational computer programs; Internet and its use in education; Data processing and statistical packages.

0802782 Instructional Design

(3 Credit hours)

Prerequisite: (None)

Using selected principles from behavior science (perception, memory, attitudes, concepts)s students analysis and design instructional message. A systematic process for instructional development is employed. Also this course aims to: Introduces the major components of the instructional systems development process from needs analysis through evaluation and implementation; provide the students with the technical and cognitive adequacies need for the design of teaching; enable the students to practice the design of effective and appealing instruction based on principles from instructional theory.

0801740 Research Methodology in Education

(3 credit hours)

Prerequisite (none)

This course deals with methodologies of educational research: identifying the research problem, questions and hypotheses, literature review, methods of sampling, research design, instrumentation, data collection and data analysis using descriptive statistics (frequencies, means, variance and standard deviation) and inferential statistics (chi-square, *t*-Test, regression and ANOVA etc.....).