UNIVERSIDAD SAN FRANCISCO DE QUITO
SCHOOL: CIENCIAS E INGENIERíAS
COURSE: INA 3081E - Atmospheric Monitoring

COURSE DETAILS:

Credits: 3

Prerequisites: Verify prerrequisites in Banner academic system.

Co requirements: The course does not have Co requirements

COURSE DESCRIPTION:

This class is a practical aproximation to the environmental world measurements in the metereology and air quality fields. The student will learn routine atmospheric monitoring techniques and specialized tecniques to measure the composition of the atmosphere. We will learn the technical and practical instrumentation and data from the EMA (Estación de Mediciones Atmosféricas de la USFQ). In addition, we will learn to process large data sets using Matlab

COURSE LEARNING OUTCOMES:

#	Learning Outcomes	Level
1	Understand, execute and process meteorological measurements correctly.	Medio
2	Evaluate and interpret information related to field data.	Medio
3	Identify specific air monitoring techniques and calibration techniques.	Medio
4	Develop fluency and skills in the operation of measuring instruments and in the proper processing of data	Medio

COURSE CONTENTS:

- Part I: The basics of atmospheric measurements
- Part II: Physical meteorology and Matlab analysis
- Part III: Air quality Fundamentals of atmospheric chemistry

METHODOLOGY FOR THE INTEGRATION OF THEORETICAL AND PRACTICAL CONTENTS:

The teaching methodology used to teach all the course at USFQ follow the liberal arts philosophy: encourage dialogue and enable the learning construction through providing opportunities for ideas exchange among teachers and students. It is expected that all the theoretical content courses explore potential applications to the professional practice and work context where students are anticipated to perform through the integration of diverse activities and simulations that foster the contextualized understanding of concepts using reality and professional practice as frames of reference.

HOURS DESCRIPTION OF APPLIED PRACTICE

If this course has declared applied practice hours (laboratories, exercises, field trips, practicums, etc.); the instructor for the theoretical element is responsible for describing how the applied practices hours will be fulfilled and assessed during the semester.

Students must pass or fail both the theoretical and application practice components simultaneously.

All courses with declared applied practice hours must provide students with a written guide detailing the requirements for fulfilling the application practice component.

COURSE ASSESSMENT:

Each instructor is responsible for creating an evaluation scheme that corresponds to the learning outcomes declared for each course. The assessment scheme should be presented in a clear and direct manner, such as a chart that indicates the assessment categories and the elements included in each category; it must indicate the total weight that each category will have on the final grade. Category weights may vary, but under no circumstance can an individual element weigh more than 25% of the final grade. For example, it is acceptable for a “Homework” category to weigh 30% if it includes three tasks that weight 10% each. However, a “Final Exam” category that weighs 30% and only includes on element would be unacceptable.

Some academic areas or specific courses have pre-established assessment parameters. In these cases, all instructors assigned to these courses must follow the pre-determined scheme.

If this course has declared applied practice hours (laboratories, exercises, field trips, practicums, etc.) the assessment of these hours must be incorporated within the course’s general assessment scheme.

#	Category	Description	Percentage of final grade

MAIN BIBLIOGRAPHY:

[The main bibliography must be in library in physical or digital format]

COMPLEMENTARY BIBLIOGRAPHY:

[The complementary bibliography can be digital format]

POLICIES:

All students taking courses at USFQ must follow the ethics of learning, ethics of research and ethics of behavior rules detailed in the USFQ's Code of Honor and Coexistence. All the general policies for the courses offered at USFQ are detailed in the Student's Manual, it can be downloaded in Manual del Estudiante.

This syllabus (Syllabus) was reviewed and approved by the coordination of the academic area or department responsible, so all the parallels that are dictated must be governed by this program. If changes / adjustments to the study program are necessary, you should To the coordination of the academic area or department responsible so that the approved changes / adjustments are reflected in the system of Curricular design.'