

Subject: <b>INTRODUCTION TO ENGINEERING</b>		Acronym: <b>IWG-101</b>
Credits: <b>2</b>	Prerequisites: <b>First year admission</b>	Exam: <b>Does not have</b>
Lecture hrs. per week: <b>4</b>	Asst. hrs. per week:	Lab. hrs. per week:

**GOALS:**

By passing the subject, the student will have achieved an adequate degree of understanding of the Engineering career in its general aspects, its historical development, its methods, its objectives as a profession, its social, economic and personal development scope; of the study plan, of different components and their integration, of the different specialty options, of personal participation in achieving the objectives of that plan and of the demands that as a student must face.

**CONTENTS:**

1. Definition of Engineering. Historical evolution. Intuitive concept. Scope of the definition.
2. Engineering and Society. Profession concept. Social function of Engineering. Code of professional ethics. Engineering student ethics. Current challenges. Global issues. Regional, at the national and local level. Challenge of sustainable development.
3. The engineer as a person. Personal values. Balance in training. Autonomy and permanent training. Teamwork.
4. Study and training plans. The practical, the scientific, the economic and the human. Structure of study plans, subjects, activities, practices, degree work. “Hard and “soft” engineering; traditional areas and derived areas. Specialties and mentions at USM. The contribution of the different aspects of knowledge: basic sciences, engineering sciences, economic and administrative sciences, Humanities and Physical Education area.
5. Continuous training. Undergraduate, postgraduate, postgraduate activities. the workshops. University Practices, Seminars, Congresses, and special events to help with training.
6. Engineering Methods. Problem solving, understanding the problem, models, laws of behavior, solution plan, structuring the solution, block diagrams, realization, verification. The technical report, presentations, presentation tools.

**BIBLIOGRAPHY:**

- UTFSM curricular documentation.
- Course Notes (Technical report, problem resolution)
- Workshop on the Engineer Profile, UTFSM, 1995.

Elaborated:	Observations:
Approved: CC.DD Agreement 52/96.	Replaces IWG-100.
Date: 01/15/97.	