

## Architecture 525 “Computer Application in Environmental Technology”

**Credit Hours:** 3 (Seminar)

**Pre-requisite:** 5th year standing and permission of instructor

**Time:** 8:30 ó 11:30. Tuesdays including the laboratory times

**Location:** Art & Arch. Bldg. Room 2213. The first day of class is Tuesday, Jan 14<sup>th</sup>, 2020.

**Laboratory:** Building Technology Computer Laboratory

**Faculty:** Mojtaba Navvab, Ph.D., FIES,

**Office:** Art & Arch. Bldg. Room 1205D.

**Description:** Selected advanced topics in the environmental system design of buildings along with the latest computer simulation and virtual reality applications.

### Objectives:

1) The application of computers in the environmental system design of buildings. 2) To provide an understanding of environmental technology and design techniques through the use of computers.

**Methods:** 1) Seminars relating to the application of newly developed computer programs for design and building performance evaluation. 2) Individual or team study in design, research, and use of computer simulation on one of the selected advanced topics in environmental system design. 3) Case studies in building system design with an emphasis on computer application and use of other simulation facilities such as virtual reality laboratory within the UM campus.

**Areas of research and or design studies:** 1) Design alternatives: This area permits the students to study their own or proposed design project to investigate the implication of each design alternative. 2) Evaluation of existing design solutions: This area provides students an opportunity to explore and examine existing architectural design awarded buildings. 3) Design for environment: This area allows students to apply and test the application of new technologies and building energy use standards toward LEED compliance & certification of a building following the International Building Code and Green Building Council.

