# *Course Syllabus*

**Course Information**
Fall 2013
ATEC 2385 Sound Design

Location: ATEC 3.601

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**Professor Contact Information**
**Frank Dufour**
**Frank.dufour@utdallas.edu**

**Office**
Office hours: on demand

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**Course Pre-requisites, Co-requisites, and/or Other Restrictions**
*None*

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**Course Description**

General objectives of the class:

This class serves as an introduction to the Sound Design program in ATEC and will present the basic aspects of the technique, theory, and aesthetics of sound design.

Class Methodology

The class will use:
Lectures, debates, presentations, exercises, and several individual projects pertaining to various domains of application of sound design: film, game, interactive application, and music production.
This class is organized around the accomplishment of a final project; theoretical contents and technical skills are presented according to the progression of this project. This organization implies a strict discipline regarding the attendance to class.

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**Student Learning Objectives/Outcomes**
**Knowledge:**
Students will understand the basic principles of mechanics, physiology, and acoustics implied in the generation, propagation, and perception of sound.
They will be informed of the various professional applications of sound design in the industry and the skills and knowledge necessary in the daily performance of these professions.
Students will also acquire a basic knowledge of music history and music principles.

Students will acquire and use a detailed vocabulary pertaining to the description of the perception of auditory contents.

**Design capacities:**
Students will be able to identify, describe and generate the sonic components used in movies, animations, games, and interactive applications.
They will understand the relationships between sound, music and the visual, narrative, and functional dimensions of these applications and audiovisual products.

**Practical and technical skills:**
Students will be able to:
-Use digital recording equipment to record various types of sounds including: voices, ambiences, and musical instruments
-Edit, process, and publish digital sounds
-Synchronize digital sounds to movie clips
-Combine sounds together to form a coherent and meaningful ensemble.
-Use digital (MIDI) music software to edit, arrange and mix music.
-Students will acquire a sense of quality for sound and will be able to implement the technical choices leading to high quality production.

The technical training will use ProTools

**Personal skills:**
-Students will learn to LISTEN, to analyze the contents of their auditory perception and to describe these contents.
- Students will develop critical listening ability and they will understand the role of sound in direct and mediated communication.

**Required Textbooks and Materials**

- No textbook is required for this class.

- The following online book is used to support the presentation of music principles:
Brandt, Anthony. *How Music Makes Sense*. Connexions.
http://cnx.org/content/m12953/latest/?collection=col10214/latest

- Students are required to provide Headphones, and a USB drive (4 gigs or more) for use in class.

**Headphone Recommendations:**
Budget ($20-$40): Sennheiser HD201 or HD202
Midrange ($50-$100): Shure SRH240, Sony or Sennheiser in this range are good as well
***No earbuds or noise cancellation*.**

**Assignments & Academic Calendar**

**Session 1:**

Syllabus handout/online/file on server

**Introduction (1 ½ hour):**

Presentation of the class: calendar, assignments and projects.
Presentation of the classroom, the editing room, the sound booth, the workstations and applications, the ATEC server and other electronic resources used in class.
Reminder and recommendation about required personal equipment.
Presentation of the final project, explanation of the objectives pertaining to this project and outline of the planning
Listening to examples of previous projects
Presentation of several texts used in the final projects.
Students are required to present the chosen text for the final project during **Section 3**.

**Hearing the world around us: the sound environment (1 ½ hour):**

Listening to examples of soundscapes collected by Felix Blume.

The various types of sound in the environment and our modes of interaction with them
The sounds we can control.
The sounds that mean something
The sounds we like and the sounds we dislike. Why do we like or dislike sounds?
What are the emotional, physical, and intellectual effects of pleasant sounds and unpleasant sounds?
What words are used to describe sounds?
What types of sounds are best described by a verb, the name of an object, an adjective?
Can we identify categories of sounds based on the types of words used to describe them?

Screening of *Listen*, by David New, a short film on R. Murray Schafer
http://www.nfb.ca/film/listen/

**First Assignment**: Listening, describing, visualizing.
A recording of a soundscape is given to the students, they have to analyze and visualize it. Examples of analyses and visualizations are provided. Tools for visualization are presented in class. These tools are free and available online.
Audacity
http://audacity.sourceforge.net/

Spear
http://www.klingbeil.com/spear/

Photosounder (demo version)
http://photosounder.com/

Tapestrea:
http://taps.cs.princeton.edu/

Objectives of the first assignment:
Developing analytical listening
Understanding and using techniques of visualization
Understanding qualities of sounds (frequency, spectral organization, dynamics...)

Creating categories of sounds relevant to the description of a soundscape
Understanding relationships between visual representation and auditory qualities
Students will combine in 1 electronic document of their choice (pdf, PowerPoint, JPG etc...) 1 (or more) visual representation(s) of the selected soundscape with the description/identification of the sounds.
Criteria for the evaluation of the assignment:
1: the file is uploaded on time (before the beginning of session 2) 1/0
2: the document contains at least 1 visual representation of the soundscape 1/0
3: the individual sounds of the soundscape are identified and described 1/0
4: the document is easily understandable
0:F 1:D 2:C 3:B 4:A
This assignment is due the next session.

**Session 2:**

**Review and feedback on Assignment 1 (15 minutes)**

**Acoustics and electroacoustics 1 (1 hour):**
Acoustics Set 1: *Frequency*

**Music 1:**
Symmetry, repetition, variation and organization.
http://cnx.org/content/m12953/latest/?collection=col10214/latest
The content will be briefly presented in class. Students study this chapter at home.

Listening to Contemporary electroacoustic Music ( Alvin Lucier, *Still lives*). Discussion. Sine Waves and complex musical tones from the piano.

**Second Assignment (1 hour)**:
Using the visualization of spectrum and waveform to assist in the editing of a musical piece.
Performed in class.
Suggested piece *Still Lives.*
Criteria for the evaluation of the assignment:
The delivered file is in the right format: Wave, Stereo, 16 bits, 48kHz: 1/0
The file is uploaded in time (at the end of class): 1/0
The editing is technically perfect and indiscernible 1/0
The editing is musically valid and/or plausible: 1/0
0:F 1:D 2:C 3:B 4:A

**Final Project (15 minutes):**
Discussion on the texts. Reminder that the text is due for review the following week.

**Session 3:**

**Final Project (1 hour):**
Review and reading of the proposed texts.
The in class reading is meant to:
Experiment with duration
Identify the difficulties presented by the text
Suggest editings
Start working on the identification of the voice talents
Give tips about pacing and articulation

**Third Assignment (1hour ½) :**
Composing a soundscape.
Students are given a description and/or a visualization of a soundscape together with a set of sounds. They are required to create the corresponding soundscape.
To be performed in class.
This assignment will be used to introduce the following
**Software instruction:**
ProTools routing Signal
Audio Tracks Mono and stereo
I/O
Master Fade
Inserts
Subs
Auxiliary Input Track
Volume and panoramic automations

Criteria for the evaluation of the assignment:
The delivered file is in the right format: Wave, Stereo, 16 bits, 48kHz: 1/0
The file is uploaded in time (at the end of class): 1/0
The sound effects are associated with dynamic pans and volume changes: 1/0
The soundscape is realistic: 1/0
0:F 1:D 2:C 3:B 4:A

**Music 2:**
Patterns and variations:
http://cnx.org/content/m12954/latest/?collection=col10214/latest

**Session 4**

Listening to Styles of Throat singing. Harmonics and resonance.

**Acoustics and electroacoustics 2 (1 hour):**

Acoustics Set 2 on harmonics and spectrum.

**Acoustics and electroacoustics 3 (1 hour):**

Acoustics set 3: Intensity.

The human voice.

**Music 3:**

Musical Emphasis

http://cnx.org/content/m13861/latest/?collection=col10214/latest

Listening to: *Tristis es Anima Mea*. Anonymous XIth century. The Deller Consort.

Observing how tempo and form are in harmony with the space and the reverberation of the space.

## Session 5

**Final Project (30 minutes):**
Defining the voices for the project (narrator and characters)
Examples of voices in Film, Opera, and Radio plays
Students get organized to perform the recordings due for the next session (**Fourth assignment**)

**Acoustics and electroacoustics 4 (30 minutes):**
Microphones and Loudspeakers

**Music 4:**
Test on Musical Emphasis **(40 minutes)**
http://cnx.org/content/m13862/latest/?collection=col10214/latest
Listening to:
Traditional Persian Music. Faramarz Payvar & Ensemble: *Dastgah Segah*

**Software instruction (30 minutes):**
Setting up a recording session and explaining the organization of a recording session (multiple takes, notes, naming files, managing files)
Several groups of students actually set up a recording session.
The set up is repeated until every student feels comfortable performing this task.
At the end of class, students schedule the recording for their projects. All recordings and notes from the recording session are due the following week.

**Session 6**

**Music 5:**
Musical Form
http://cnx.org/content/m11629/latest/?collection=col10214/latest

**Acoustics and electroacoustics 5(1 hour):**
Acoustics Set 4: Propagation.
**Software instruction:**
Assigning reverberation
Automating parameters of Effects

**Final Project and fourth assignement (1 ½ hour):**
Review of the recordings
The main goals of the review are to validate the recording and to clearly identify what is usable and what sections have to be re-recorded.
Criteria for the evaluation of the recordings:
The delivered files are in the right format: Wave, Mono, 16 bits, 48kHz: 1/0
The files (audio and notes) are uploaded in time (before the beginning of class): 1/0
The overall intensity of the recording is correct (no clipping, no under modulation): 1/0
The notes are helpful in preparing the selection of the files and editing of the recordings: 1/0
0:F 1:D 2:C 3:B 4:A

Some of the re-recordings can be done at the end of the class if time permits, if not, students will schedule new recording sessions.

**Session 7**

**Final Project:**
Editing of the recordings
**Fifth assignment (1 hour**).
The editing is performed in class and the resulting file is uploaded at the end of class.
Special attention is paid to pacing, breathing, silences and pauses.

**Music 6 (40 minutes):**
Musical Form, test:
http://cnx.org/content/m11630/latest/?collection=col10214/latest

Listening to:
Missa Nasce la gioja mia: Kyrie. Palestrina (1525-1594). Renaissance Polyphony.

**Acoustics and electroacoustics 6 (20 minutes):**
Acoustics Set 5: The hearing system

## Session 8

**Final Project and Fifth assignment (1 hour ½ - 2 hours):**
Review of the editings.
Criteria for the evaluation of the fifth assignment (recording and editing of the voices):
The delivered file is in the right format: Wave, Mono, 16 bits, 48kHz: 1/0
The intensity is correct and consistent: 1/0
The pacing is correct (pauses and silences): 1/0
The editing sounds natural: 1/0
0:F 1:D 2:C 3:B 4:A

Definition and description of the ambient sounds.
Listening to various examples of ambient sounds in film.
Students prepare a list of the auditory components necessary for the composition of the ambient sound.
They are expected to come back to class the following week with all these components available as wave files.

**Music 7:**
Expository and developmental
http://cnx.org/content/m13842/latest/?collection=col10214/latest

**Acoustics and electroacoustics 7 (1 hour ½):**
Electroacoustics Set 2: Dynamics
Managing dynamics.
Software instruction: the effects pertaining to dynamics.
The use of an audio compressor

## Session 9

**Final Project (1 hour):**
Creation of the ambient Sounds
Finalization of the ambient sounds and layering with the voices (**Sixth Assignment)**
Edited voices and ambient sounds are combined together in ProTools session. This session with all the necessary linked files are saved together in 1 folder to be uploaded for the next session.

**Music 8 (30 minutes):**
Test on Expository and Developmental
http://cnx.org/content/m13843/latest/?collection=col10214/latest

**Acoustics and electroacoustics 8 (1 hour):**
Electroacoustics Set 3: Equalizing
Software instruction and practice about the different types of equalizers in ProTools.

## Session 10

**Final Project (1 hour):**
The sixth assignment is reviewed in class
Criteria for the evaluation of the sixth assignment (ambient sound combined with edited voices)
The folder contains all the necessary components to properly open the ProTools session on the teacher's workstation. 1/0
The ambient sounds create the desired sensation of space: 1/0
The dynamic relationship between ambient sound and voices is correct 1/0
Transition between spaces and pacing is correct: 1/0
0:F 1:D 2:C 3:B 4:A

**Music 9:**
Overall Destiny
http://cnx.org/content/m11607/latest/?collection=col10214/latest

**Acoustics and electroacoustics 9:**
Electroacoustics Set 4: The auditory space and its rendition
Listening to the recordings of several types of stereo techniques.

## Session 11

**Final Project (1 hour ½):**
List and description of sound effects
Creation of sound effects (**Seventh Assignment due for session 12**)
Listening to examples of sound effects in films and video games
Spotting a film: selecting the meaningful sound effects
Creating sound effects (materials, gestures, timing)

**Music 10:**
Tests on Overall Destiny
http://cnx.org/content/m11631/latest/?collection=col10214/latest

**Acoustics and electroacoustics 10 (1 hour ½ ):**
Digital Sound Set 1

## Session 12

**Final Project (1 hour ½ ) :**
Review of sound effects
Sounds effects are implemented in the project and combined with voices and ambient sounds

Choice and editing of Music (**Eighth Assignment**)
Music in film: review of examples. The different roles/functions of music in film. The relationship to the other auditory components of the soundtrack.
One of the goals of this sequence is to bring the students to think of music mostly in terms of auditory qualities in relationship to other elements of the soundtracks, instead of purely emotional or evocative functions.

**Eighth Assignment:**
Students upload the selected music files before next session (13) with a text file describing the expected effect and the relationship to the other components of the soundtrack.
Criteria for the evaluation of the assignment:

**Music 11:**
Time's effect on the material
http://cnx.org/content/m11434/latest/?collection=col10214/latest

**Acoustics and electroacoustics 11 (1 hour):**
Digital Sound Set 2
Software instruction: MIDI functionalities in ProTools.

**Session 13**

**Acoustics and electroacoustics 12:**
Digital Sound Set 3

**Final Project:**
Students work in class on the first draft of the mix.
First draft of the mix is due by the end of the class. (**Ninth Assignment**)

**Session 14**

**Final Project:**
Review and critique of the first draft of the mix
Goals: identifying problems in the mix pertaining to intelligibility, loudness, pacing...

**Music 12:**
Test on Time's effect on the material
http://cnx.org/content/m11625/latest/?collection=col10214/latest

**Session 15**

**Final Project:**
Presentation of the final projects in class and grading.

**Music 13:**
Making Music Modern
http://cnx.org/content/m13845/latest/?collection=col10214/latest

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**Grading Policy**

| Attendance and participation to the class | Assignments 5 points per assignment | Final project |
|---|---|---|
| 30 | 45 | 25 |

100 – 90 A
89 – 80 B
79 – 70 C
69 – 60 D
59 - 0 F

Evaluations of the assignments and of the final project are based on a list of criteria that will be presented, discussed, and explained during the class.

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**Attendance**

Exceptional absence will be excused only by a 24 hour notice sent by email prior to class, or a 24 hour mail after the missed class.
Unexcused absence will result in a drop of 2 points in the attendance criterion.

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**Course & Instructor Policies**

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**Field Trip Policies**
**Off-campus Instruction and Course Activities**

*Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.*

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**Student Conduct & Discipline**

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

**Academic Integrity**

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

## Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

## Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

## Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

## Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

## Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

## Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative

intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

***These descriptions and timelines are subject to change at the discretion of the Professor.***