

Computer Applications In Music

Frank Markovich

Fall 2006

Revision A

August 27, 2006

Some Class Information

- You are not allowed to eat or drink in the computer or keyboard (piano) area.
- Please keep food and drink over by the window area. I love coffee and even require it but this is the rule in this room (dept rule not mine).
- You need to turn off the keyboard and computer once you have finished working in here!
- The equipment may not function properly due to others not following the rules. I expect you to work on fixing any down equipment until you have exhausted your abilities. I do keep this in mind on the scheduling.
- Don't put off the assignments to the last minute – if you do and then have a technical problem you are in trouble. Try to stay at least up with the class.
- I want you to learn and have fun! I really enjoy the combining of technology with music and hope that you will get to that point also. Life is far too short to not enjoy what you are doing. I will try to make this class a learning and enjoyable experience. You cannot escape technology in music.
- Class runs from 8:00 AM until 9:15. I am available only before class as my regular day job is in Morgan Hill and I must be there by a little after 10:00 on Tuesdays but on Thursdays I don't work in Morgan Hill. What I would like to do is end class by just after 9:00 on Tuesdays but work out a schedule for Thursday where we use the lab until about 10:30. May split class into 2 groups.
- At times I may have to take a call – I will keep that to a minimum.

My Background

- Graduated from San Francisco State University in Music, Grad School at Lone Mountain (now part of USF), Masters in Education specializing in music.
- Professional performing musician for over 40 years – still play professionally.
- Director of Guitar Studies at Skyline College, San Bruno CA.
- Also taught at Contra Costa Community College, Jefferson High School District and at various music stores (private students).
- Run a jazz camp for advanced students each summer.
- Earned a second degree in Electrical Engineering.
- Worked for Ampex Corporation doing audio and video engineering both digital and analog.
- Have a home studio and have been using MIDI since early 90's.

Text book for this term

- Experiencing Music Technology by David Brian Williams and Peter Richard Webster – includes a DVD ROM. Publisher is Thomson – Schirmer, ISBN 0-534-17672-0.
- You will need this by the next class. Bookstore is stocking it.
- Assignments and projects will be a combination of ones from the text and ones that I have developed.
- First assignments will be mine.

Programs and equipment used this term

- A large part of the class is learning notation programs. Will be focusing on Finale, other programs can also be used – will work on translations etc.
- Sound forge – as an introduction in H/D (Hard Disk) recording and the concept of DAW (Digital Audio Workstation).
- ProTools – High end audio DAW.
- Mixers – Mackie
- Soundcards
- Piano keyboards and workstations
- Converts (Wave to MPEG etc.)
- Audition
- ADAT format
- Sequencing – not sure which program yet.
- Loup composing (Fruity Loupes)
- Virtual instruments (Reason etc.)

All of these are possibilities and will at least be touched on although not all will be used in H/W and Class demonstration.

Misc. before starting

- I know that 8:00 AM is very early that is why on Thursday we will meet until 10:30 so some of you can sleep in one day. On Tuesday's I will leave right at 9:15. I am also thinking about the 1st ½ hour each day as a time of lab where I can work with who is there – Let's discuss this!!!

How has technology changed music?

- Let's start by listing how technology has changed the way music is today. I will leave it wide open.

How might this affect you?

- How will artists (musicians, composers etc.) be compensated in the future?
- How has piracy affected the music industry?
- How has the response from the large music distributors and RIAA affected music?
- Is downloading MP3's wrong or illegal?

Syllabus

- Redoing this so following is a sample.
- Should have it all completed in a couple of weeks.
- First 4 weeks are solid right now.

COMPUTER APPLICATIONS IN MUSIC
(MU 093/193/593, 1-3 units)

Syllabus for Fall 2006

OBJECTIVES:

The goal of the course is to examine how technology supports music, with particular emphasis on computers and sound synthesizers. Students will use technology as tools for music instruction, music sequencing, music notation, print communication, and electronic communication. Previous experience singing, playing an instrument, and using a word processor is helpful.

Computer Applications in Music is open to non-music majors for general education credit (3 units) and to music majors for elective credit (1-3 units). The 3-unit course is a general education requirement for students in the Bachelor of Music and Bachelor of Fine Arts in Musical Theatre programs.

See the following pages for detailed course topics and schedules.

Student Information

- I will be posting class assignments etc. to my Skyline College website. It isn't set up yet but will be next week.
- Please fill out the student information sheet – due on Monday (Labor Day).

Student Information Sheet – Please Print Name _____

Note that the first 4 questions are for contacting you. Most important are the first 2 questions:

1. Email address: _____

2. Evening phone #: _____

3. Daytime phone #: _____

4. Address: _____

5. List previous musical experience:

6. What is your major? _____

7. Can you read music notation? Yes/No

8. Reason for taking this class.

9. Any special problems that you may have? _____

10. Computer experience: _____

11. Comments: _____

PROCEDURES:

The entire class meets on Tuesdays and Thursdays , 8:00 am-9:15am, in the Music Skills Lab, Music Room 1. The class also meets in lab sections at times to be determined. You are expected to attend every class meeting and section meeting, regardless of whether assigned work is ready. If you are absent, you should take responsibility for finding out what material was covered in class and what makeup work is due.

You are expected to complete assignments when they are due and to send email messages to the instructor by noon every Monday, confirming completion of assignments. If your assignments and emails are received on time, they will be evaluated by the instructor for the following Tuesday or Thursday meetings. A grace period of two days (by Wednesday noon) is allowed for late assignments or emails; however, if your assignments or emails are late, there is no guarantee that they can be evaluated the same week. If an assignment or email is presented more than two days late (after Wednesday noon), the grade for the assignment will be dropped one letter. If an assignment or email is presented more than one week late (after the following Monday noon), the grade for the assignment will be dropped two letters. Any assignment which has received an initial grade may be revised and resubmitted for a higher grade by 5:00 pm on October 19 for the first half of the semester or December 14 for the second half of the semester.

You will receive a midterm grade and a final grade representing achievement in the various activities of the course. Attendance and promptness will count as 20% of your grade.

You will need to supply a three-ring notebook to assemble handouts for use in the course. You will also be charged a \$10.00 course materials fee.

Contacting Instructor

Frank Markovich, the instructor, has office hours in Music Room 1 by appointment. He can be reached by voicemail at 408-425-2625. Messages can be left in his mailboxes in the Music Office, or in the music practice room corridor; or can be sent by email to fmarkovich@fts-ate.com.

To contact me

fmarkovi@pacbell.net – preferred email address!!

frank@frankmarkovich.com

fmarkovich@paramit.com

Phone 650-378-7301 ext 19246

Website for handouts:

<http://www.smccd.net/accounts/markovich/>

Also please write it down in your notebooks for now! When you go to the website you will then link onto Comp Applications to get the handouts. I suggest that you check this on a regular basis. I will have links to manuals that you need etc. I am using this as my main site as it is easier to manage just one site than multiple (as I have done in the past).

About Instructor

- **Summary:** Assistant professor of music at Skyline College in San Bruno since 1976. Built program to over 90 students per semester in three main classes. Secondary Teaching, and lifetime Community College Teaching Credentials. Performer with over 35 years of experience in jazz, classical, rock, country, Christian and ethnic music styles. Over 35 years of professional teaching experience in a variety of venues. Currently at College of Notre Dame de Namur in Belmont teaching Computer Applications in Music.

Associate Professor of Music Guitar Studies. Currently teaching beginning guitar, intermediate guitar, advanced guitar, improvisation, blues guitar and special projects. Have also taught classical guitar at the college. Following are some accomplishments at Skyline College:

- ? Wrote course of study for each of the classes taught.
- ? Over 75% of the students participate in recital at the end of the term.
- ? Program has grown steadily, year after year. Must turn down students due to limitations of room size.
- ? Music Theory is an integral part of each course.
- ? Regular nationally known guest artists (at least once per semester) – Have had Pat Kirlty – National Fingerpicking Champion, Jim Nichols known for Jazz and Country, Chet Atkins Appreciation Society Lead artist and others.
- ? Wrote reference book used in class.
- ? Very low dropout rate.
- ? First part time teacher at school to learn the ‘Web Smart’ system and wrote the instructions for the Continuing Education department on how to use the program.
- ? Member of department selection committee for a new hire.
- ? Attend NAMM every year. Up to date on new equipment and applications.
- ? Have assisted MIDI instructor and department in equipment and S/W purchases for MIDI lab.
- ? Use computer to generate all the materials used in various classes. Have used Finale for notation since V1.0. Further use such programs as Band in a Box, Slowgold, Vision etc. in the classroom.

Performance and Leadership

A member of the Central Peninsula Worship Team. Key individual performing at Church Services and special occasions. Have led the worship team when called upon. Play electric guitar, acoustic guitar, keyboard and bass at services. When church lost worship leader, rotated leading worship with 2 other

Computer Applications in Music: Expectations for Fall 2006

WHAT SHOULD THE STUDENT EXPECT?

WHAT SHOULD THE INSTRUCTOR EXPECT?

"A person using technology is *the* most important component of a computer music system. Whatever great achievements flow from the process of using technology in music making, it is not the machines that should earn the credit. Rather, it's the human mind and creative spirit that are responsible." *

Class activities will be divided between theory and practice, with plenty of hands-on experience and individual assessments.

You will complete written and computerized assignments and tests, small group activities, and independent creative projects in which you will program your own computer and sound synthesis elements and refine your own music skills, using computer-assisted-instruction, sequencing, and notation programs. You will also use networking software and technology to create a personal website.

Throughout the course, you will gain familiarity with "five important streams of information going in and out of your computer: local storage, network, printing, MIDI, and audio." At the same time, you will come to recognize that "today's technology provides wonderful tools, but they must be used by good musicians."*

By the end of the semester, you will integrate technology and comprehensive musicianship, so that you, your pupils, and your audiences may better recognize a musical experience as a vibrant and personal form of communication.

What items do you need

- A few floppy disks to store information on.
- 5 or 6 blank CD-R's so I can give you programs. Bring by 2nd week of class.
- Folder or 3-ring binder for your work.
- Access to a computer or the lab computer.
- Come to class prepared with note paper and a pen or pencil.
- Access to a computer outside of school would really help.
- Some of the programs are such that you can work from home. For example, you can use Finale Notepad for much of your work and then do the final work with Finale. Notepad is a free program. For recording there are programs that are shareware that can get you started and then work on the final mix at the school.
- You can also get a student discounted rate on many of these programs.
- Textbook.

Specific topics of the course will be organized into seven areas:

1. *Use of computer materials* (such as operating systems, software, and hardware) for input, process, output, and storage of data.
2. *Use of sound synthesis materials* (such as keyboards, sound modules, CD-ROMs, and other audio, digital, and MIDI devices) for input, process, output, and storage of data.
3. *Use of computer-assisted-instruction programs* (such as drill-and-practice, flexible practice, simulation, and multimedia) to evaluate and improve musical work in beginning music experiences, music theory and musicianship, music history and literature, and music composition and performance.
4. *Use of sequencing programs* to compose, edit, save, and perform musical works. We will most likely incorporate that into the hard disk recording section.
5. *Use of notation programs* to transcribe, edit, playback, save, and print musical works. A large part of this course will be based upon not only entry but on using this to help with practice etc.
6. *Use of networking technology* (such as electronic mail and world wide web) to facilitate collaborative communications among musicians.
7. *Importance of integrating* the needs of people and the needs of music when using all of the above technology. As always the human element will be paramount to this. Music that is just computer generated does not have the emotion that human composed music has.
8. *Use of recording on the computer* the needs of people and the needs of music in producing recorded music. This will be the 2nd most important part of the course. You will learn not only recording but mastering.
9. *Use of devices to slow down or alter the sound* the needs of people and the needs of music to help with ear training, melodic and rhythmic training.

* The instructor is indebted to David Brian Williams and Peter Richards Webster for their ideas in *Experiencing Music Technology: Software, Data, and Hardware*, second edition, (NY: Schirmer Books, 1999), pages 7, 37, and 447.

Extra Credit

There will be opportunities for people to earn extra credit in the course.

- Lab Technician
- Setting up
- Tearing down class
- Other tasks
- Tutoring other students

Don Giovanni Act I, Scene 5

Wolfgang Amadeus Mozart

One example from
a previous term.

Clarinet in B \flat

Soprano
Donna Elvira

Ah chi mi di - ce ma - i quel bar - ba - ro dov'

Violin I

Violin II

Viola

Violoncello

p

p

p

The musical score is presented in a standard orchestral layout. It features six staves: Clarinet in B \flat , Soprano (Donna Elvira), Violin I, Violin II, Viola, and Violoncello. The key signature is three flats (E-flat major/C minor) and the time signature is common time (C). The Soprano part includes the lyrics 'Ah chi mi di - ce ma - i quel bar - ba - ro dov''. The string parts (Violin I, Violin II, Viola, and Violoncello) are marked with a piano (*p*) dynamic. The Clarinet part is mostly silent, indicated by rests.

SPANISH DANCE NO. 2

ANNA KALTCHIEVA

FLUTE

$\text{♩} = 100$

Staff 1: Flute part, measures 1-6. Includes a tempo marking of quarter note = 100. The key signature has two flats (B-flat and E-flat). The time signature is 3/4. The staff contains eighth and sixteenth notes with slurs and accents.

Staff 2: Flute part, measures 7-12. Continues the melodic line with slurs and accents.

Staff 3: Flute part, measures 13-17. Ends with a double bar line.

Staff 4: Flute part, measures 18-20. Contains rests.

Staff 5: Flute part, measures 21-23. Contains rests.

MONDAYS: Assignments and Emails Due by 12:00 noon	TUESDAYS: Class meeting topics 8:30 am – 10:00 am	THURSDAYS: Section meeting topics [times tba]
 	 	Sept 2, 2004 Intro to #1 Class information Becoming familiar with the computer. Email setup
SEPTEMBER 6: Nothing due - holiday	SEPTEMBER 7: Intro to #1 and #2 and #3 Email setup Background Computer architecture – why use computers	SEPTEMBER 9: Work on #1 and #2 and #3
SEPTEMBER 13: #1: Signatures and Inbox Emailing class This may be deleted if class expertise is high enough.	SEPTEMBER 14: Intro to #2 Computer/music software File management	SEPTEMBER 16: Work on #1 and #2 if needed
SEPTEMBER 20: #3: Addresses and Folders #4: Windows Explorer and MS Word: File Management	SEPTEMBER 21: Intro to #5 Computer/music hardware MIDI	SEPTEMBER 23: Work on #5
SEPTEMBER 27: #5: Music Tech Lab: MIDI	SEPTEMBER 28: Intro to #6 and #7 Notation: layout; real-time entry	SEPTEMBER 30: Work on #6 View Finale tutorial
OCTOBER 4: #6: Finale: Tutorial	October 5: Tutorial	OCTOBER 7S: Team work on #6

Note that these may be stretched out or hopefully compressed a little depending upon the computer proficiency of the students in this class.

1st Full Assignment – from textbook

PROJECT 1: INTERVIEW PROFESSIONALS WHO USE COMPUTERS

Objectives

- Learn about professionals (music or nonmusic) who use computers in their work.
- Build a collection or database of interviews for a community group or class to share.
- Gain initial experience with computers by entering information into a word processing application.

Directions

- 1.Find someone in your community or on your campus who uses computers as part of their professional work. On campus, this person might be a faculty or staff member in the music unit or in another part of the college or university. In the community, this person might be a staff member of the local public library or someone who works for a local computer store. Use the Professional Interview form provided as a guide. Ask additional questions if you wish. Interview more than one person if you have the time.
- 2.Load the interview file provided into a word processor, type in the interview information, and print out the interview. Note: You will need to take care to maintain the format of the document. Delete any extra spaces that may appear after you've typed in the information. You should be able to type an "X" directly into the check boxes; for the attitude items, underline the appropriate choice.
- 3.Share the report with friends, a community group, or a class as a way for others to get to know about professionals in your community and their technology expertise.
- 4.If your group or class has access to a web server, and someone knows how to work with web pages, create an online database of the professional interviews. You can convert these files from the word processor to HTML files and post the interviews on the web as part of a class home page. (You may be able to password protect the files if you only want the group to read them.)

Resources Needed

The Professional Interview form for Project 1 is available in two formats, a Microsoft Word file ([professional.doc](#)) and an RTF file ([professional.rtf](#)) which should be readable by most word processors (e.g., Word, Word Perfect, or AppleWorks).

Hint: hold the mouse down on these files, choose "Save Link As.." and download the files to your desktop or hard drive. You can then open the file from within your word processor.

The Professional Interview form can also be viewed as an Adobe Acrobat file. Click to view the [Professional Interview Form](#) (professional.pdf) directly from those Web browsers that will automatically display Acrobat files.

In addition

- I will send out a list of students and their email address to each of you once I have them all assembled.
- Please send an email to each of the students and copy me.
- In the email, please indicate your musical background. A mini-resume.
- List the styles of music that you enjoy.
- List at least a couple of performers that you like to listen to and what it is about them that you like.
- This is so that we can all get to know each other and what our background in music is.
- This is also due on the 6th of Sept.
- I may be bringing a guest in – will let you know later.

Due date

- These are all due by Monday the 11th of Sept.