Technology Institute for Music Educators

TI:ME COURSE 2A
Music Notation Software

Syllabus, Workbook, and Appendices
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*See the file, Scores for TIME 2A.pdf or use the scores provided by your instructor for these projects.
Syllabus

Course Objective:
The objective of Music Notation Software (TI:ME 2A) is to impart practical skills and knowledge to In-Service Teachers (Students) to allow them to integrate music notation software effectively into teaching and learning. The course covers in-depth skills in music notation software, and students will learn MIDI theory pertaining to music notation software input and playback. Students will leave with the necessary knowledge to make critical judgments about the appropriateness of selected music software and hardware for particular educational applications and various computer platforms. The format of course alternates between presentations and class activities, many of which serve to assess student progress. Satisfactory participation in class activities and successful completion of multiple final projects are required for certification.

Additional Information:
Music Notation Software (TI:ME 2A) is offered as either a two-credit or three-credit graduate course. Topics indicated as “optional” need not be included in the course when it is offered for two graduate credits only. The instructor of the course must be an approved TI:ME instructor, indicating expertise in teaching music notation software to in-service music teachers. It is strongly recommended that the class size be limited to allow for one student per computer and no more than sixteen students per instructor. Additional students may be accommodated if computer workstations and assistants are available. Each student will need approximately 20 hours working alone on a workstation in order to complete the final projects and class activities. The outline is designed for 25-hour units on music notation software within a 2-credit graduate workshop. Items in UPPERCASE can be added if the course is offered for 3 graduate credits.

Hardware Requirements:
A computer lab/classroom consisting of multimedia computers connected to MIDI keyboards/controllers is the standard recommended configuration. Printers must be available for output of projects. The teacher's station should have a projection device and sound system to allow the instructor's screen to be viewed by the entire class. When possible, a sound system connecting all devices in the room should be used to allow for class activities.

Software Requirements:
Notation and sequencing software designed for professional musicians and educators should be used. As of this writing, Finale and Sibelius are the most powerful and most used programs by educators and composers/arrangers. The full version of one of these programs
is recommended for this course. Demonstration versions of “lite” software packages offered by Sibelius and Finale, designed for young students or amateurs, should be used only in presentations to show the options that are available. Full and “lite” versions of these are listed in Appendix A.

Please Note:
The activities in this syllabus often specify the use of specific scores that are provided in the course materials. Instructors may substitute other similar pieces for these activities and/or allow students to select their own examples provided they cover the notation concepts presented.

Textbooks:
The instructor may specify appropriate required text(s) in addition to the supplied TI:ME course resources.

Titles for Finale books: http://www.musicprep.com/makemusic/

2. Finale Power - by Mark Johnson
3. Finale Primer, The - "Mastering the Art of Music Notation with Finale" 2nd Ed. by Bill Purse

Titles for Sibelius books: http://www.musicprep.com/sibelius/#notationbooks

2. Mastering Sibelius 6 - by Gabriel Cobas

SIBELIUS SOFTWARE BOOKS : KINDLE EDITIONS

3. Mastering Sibelius 6 - Kindle Edition - by Gabriel Cobas

Recommended Reference Texts:


See Appendix B for a bibliography of printed resources and Appendix C for a list of related web sites.

**Prerequisites:**
The prerequisites for this course are basic computer skills some exposure and experience in the use of any music notation software is recommended but not required. TI:ME Course 1A Notation, Music Production, and Electronic Musical Instruments is recommended as a prerequisite.

**Learning Objectives:**
Students will experience and demonstrate the following declarative and procedural knowledge during this course.

**Declarative Knowledge:**
The student will describe several ways to use music notation software to enhance teaching and learning. The student will demonstrate this by creating two lesson plans that incorporate the MENC National Standards for music. (See “Lesson Plans” in the members-only section of ti-me.org for examples.)
Procedural Knowledge (accomplished via course projects):
Students will demonstrate skills in using music notation software to transcribe standard repertoire from the public domain and create new arrangements or compositions. The skills to be acquired include the following:

1. Score Setup
   a. Using the Setup Wizard (Finale) and the Score Setup (Sibelius)
   b. Using Templates (Finale) and Manuscript papers (Sibelius)
   c. Adding and Removing Instruments/Staves
   d. Score Navigation Shortcuts

2. Note Entry
   a. Mouse point and click
   b. Typing the letter keys on the computer keyboard
   c. Step-time entry with a MIDI Controller
   d. Real-time entry
   e. Entering polyphony on a single staff (Layers in Finale; Voices in Sibelius)
   f. Grace notes and cue notes

3. Entering Music Symbols
   a. Dynamics
   b. Articulations
   c. Shapes (Slurs, Hairpins, etc.)
   d. Lyrics (including copying from the web into notation software)
   e. Chord symbols and chord diagrams (fretboards)
   f. Repeats and DS al Coda
   g. Text blocks

4. Editing
   a. Key signature changes
   b. Time signature changes
   c. Transposition (diatonic and chromatic)
   d. Clef changes
   e. Copy/paste
   f. Using copy/paste filters
   g. Assigning MIDI playback information to music symbols

5. Playback
   a. Computer soundcard playback
   b. Using software synthesizers
   c. Optional: Using MIDI hardware
   d. Enhanced playback options (Human Playback (Finale) and Live Playback (Sibelius))

6. Page Layout
7. Saving, Exporting and Printing
   a. Parts (Dynamic Parts (Sibelius) and Linked Parts (Finale))
   b. Standard MIDI files (SMF)
   c. Digital audio (.wav, .aif, .mp3)
   d. Graphics (export pages/export selection)
   e. Music XML

8. Automatic Arranging/Orchestrating Features and Musical Ideas (building blocks)

9. Special Notation
   a. Percussion and drumset
   b. Tablature
   c. Unusual noteheads such as stemless notes, noteless stems, slash notation and rhythmic notation

10. Importing Standard MIDI files

11. Scanning Music

12. Plug-ins

13. Creating Tests and Worksheets for Choral, Instrumental and Classroom Activities
   a. Built-in, ready-to-use worksheets (Sibelius and Finale)
   b. Saving notation graphics for use in word processing files
   c. Importing graphics into music notation software layouts
   d. Advanced layout procedures for worksheets
   e. Using music font(s) in a word processor document

14. Getting Help
   a. User manual
   b. Online help
   c. Blogs and Other Resources
      i. Tom Rudolph’s notation Blog
         http://tomrudolph.berkleemusicblogs.com/
      ii. Daniel Spreadbury’s Sibelius Blog http://www.sibeliusblog.com/about/
      iii. Finale blog: http://www.finalemusic.com/blog/

15. Classroom Applications
   a. Creating readiness exercises for students
   b. Creating flash cards
c. Using software to teach compositional devices (inversion, ostinatos, augmentation, diminution)
d. Teaching students to compose and arrange music
e. Teaching the rules of music notation
f. Using music notation software to capture musical performances for student self-evaluation
g. Creating SmartMusic accompaniments (Finale Only)

16. Other
   a. Repertoire
   b. Working with MIDI files
   c. Adding audio (Finale); using ReWire (Sibelius)
   d. Scoring to video
   e. Sharing music
Projects

Projects for this course include:

1. **Lead Sheet**
   The Lead Sheet project must be a complete song with a minimum of 32 measures. Melody and chords symbols are required. Lyrics are optional. Students may use either a selection supplied by the instructor or any selection approved by the instructor. Suggested projects include *Auld Lang Syne* and *Scarborough Fair.* (See Appendix N, Project 1)

2. **Small Ensemble Score**
   The Small Ensemble Score project must include a minimum of 3 and a maximum of 5 staves. This could be a vocal SATB with piano; small jazz or rock combo, or a brass, string, or woodwind quartet or quintet. Students may use either a selection supplied by the instructor or any selection approved by the instructor. Suggested projects include *Dona Nobis Pacem; Fa Una Canzona;* and Mouret’s *Rondeau.*

3. **Piano, Drum Set or Harp part that includes polyphony (stems up and stems down in the same staff)**
   This project must be a complete song with a minimum of 24 measures. Students may use either a selection supplied by the instructor or a selection approved by the instructor. Suggested projects include *Gymnopédie* arranged for piano and drum set; *Star Spangled Banner;* and *Minuet in G.*

4. **Full Score: Orchestral, Band, Choral, or Jazz Full Score & Printed Parts**
   The Full Score project may be a complete work or any portion of a large work with a minimum of 32 measures. The work must have eight or more staves and at least one transposing instrument. This project will be submitted with a full score as well as some or all individual parts in their appropriate transpositions. Students are free to select their own projects that meet the criteria and instructor’s approval. Suggested projects include *Largo* for Beginning Band; *Largo* for Strings and rhythm section; *Bill Bailey* for Jazz Ensemble; Haydn’s *Surprise Symphony,* excerpt from Movement II.

5. **Readiness Exercises or Flash Cards. This project requires that the student create one of the following:**
   a. Practice exercises for a performing group extracting exercises from a score to be performed. Several notation styles should be employed including noteless stems,
stemless notes, and rhythmic notation. Suggested project: *Largo* for Beginning Band Readiness Exercises

b. A series of flash cards for use in the elementary or middle school classroom including noteless stems, stemless notes, and rhythmic notation. Suggested project: Key signature flashcards (Sibelius); 6307 Classroom Rhythms (Finale).

6. **Search for, save and print two or more worksheets and/or Repertoire from Finale or Sibelius.**
   a. Review the offerings in the area of worksheets and repertoire that are offered in Finale 2010 and later and Sibelius 4 and later.
   b. Select two worksheets that could be used in a teaching situation of your choice.
   c. Select two pieces of repertoire that could be used in teaching.
   d. Optional: Edit or create from scratch a custom worksheet for student use.

7. **Lesson Plans.**
   The following two lesson plans must be completed:

   a. The student must search the Web for music notation lesson plans and select one that could be used in their teaching situation or one that they can envision using in a teaching situation. This should include a web link to the lesson plan and a brief description of how the lesson could or would be used in your teaching. See Appendix D for a list of recommended websites for music notation lesson plans including [www.ti-me.org](http://www.ti-me.org) in the members section and [www.soundtree.com](http://www.soundtree.com).

   b. The student will create one lesson plan that describes how music notation software could be used to enhance teaching and learning. Each student will demonstrate this knowledge by creating a lesson plan that incorporates the MENC National Standards for music. The “Lesson Plans” page in the members-only section of ti-me.org has hundreds of lesson plans to serve as examples. There you will also find a guide to creating good lesson plans and an online form to help you create nicely formatted lesson plans. The lesson plan must include at least two musical examples exported from the notation software in the course.
Course Introduction

1. The instructor may consider sending reading or other assignments to students prior to the beginning of class.

2. The instructor will review the course description as stated in the brochure, college catalog or other publicity.

3. The instructor will provide an overview of the course.

4. The instructor will review the purpose of the course.

5. The instructor will explain TI:ME’s Technology Strategies for Music Educators and how this course contributes to the overall goal of music technology literacy for music educators.

6. The TI:ME Areas of Competency in Music Technology are:
   http://www.ti-me.org/index.php/professional-development/competencytech-areas
   a. Notation
   b. Production
   c. Electronic Instruments
   d. Instructional Software
   e. Multimedia
   f. Productivity Tools, Classroom and Lab Management

7. The instructor will explain the purposes of notation software.

8. The instructor will introduce the notation software used in this class.

9. The instructor will explain the projects that will be completed in class.

10. If there are other assignments to be completed with this class that are unique to the location (reading assignments, papers, etc.), the instructor will explain those.

11. The instructor will give any special instructions required in the lab or classroom (logging into computers, where the software is found and how it is launched, etc.)

12. The instructor will explain any navigational issues specific to their software, hardware, and/or location.
Topic 1: Lead Sheet – Project 1

A. Description:
The Lead Sheet project must be a minimum of 32 measures. Melody and chords symbols are required. Lyrics are optional. Students may complete one or both of the suggested projects including *Auld Lang Syne* and *Scarborough Fair* (see Appendix N, Project 1) or any selection approved by or supplied by the course instructor.

B. Procedures:
1. Create a blank lead sheet using the score setup feature of the notation program.
2. Add title and composer text.
3. Enter an initial tempo marking at the beginning of the score.
4. Add a pickup measure, if applicable.
5. Enter notation via point and click and using the Computer Typewriter keyboard (no MIDI).
6. Delete and correct input errors; insert notes and rests.
7. Enter notation in step time using a MIDI controller/keyboard.
8. Enter notation to include:
   a. Various note and rest values
   b. Ties
   c. Slurs
9. Enter lyrics
   a. Optional: enter lyrics
   b. Optional: enter block lyrics at the bottom of the score
   c. Optional: enter multiple verses of lyrics
   d. Optional: enter melismas (two or more notes assigned to the same syllable)
10. Enter chord symbols
    a. Optional: display chord diagrams (Sibelius); guitar fretboards (Finale)
11. Lay out the page with a custom number of measures per system.

C. Evaluation
1. Save the score in Finale or Sibelius format.
2. Play the lead sheet to check for mistakes (doing any setup necessary to play with various virtual or hardware instruments).
3. Print the lead sheet with your name on the first page.
4. Print the lead sheet in PDF format.
D. Discussion:

1. List how to get answers to questions using:
   a. The User manual from the Help menu
   b. The Finale or Sibelius help section of the website

2. How to submit a question to Finale or Sibelius tech support.

3. How to save as PDF and why are PDF files a good choice for sending to students?

4. Review Appendix E which discusses music notation software project management and share your thoughts.
Topic 2: Music Notation Conventions – Lecture/Discussion

A. Description:
   Review and discuss the nature of standard music notation and how its rules and conventions impact the design of music notation software.

B. Procedures:
   1. Read Appendix F - the rules of conventional music notation that are followed by Finale and Sibelius.
   2. Read the notation guidelines provided by the Music Publishers Association.

C. Materials:
   2. MPA guidelines for choral music notation.
      http://www.mpa.org/music_notation/choral_standards
   3. OPTIONAL: REVIEW SECTIONS FROM THE TEXT: MUSIC ENGRAVING TODAY BY STEVE POWELL (http://wwwnpcimaging.com/books/Powell.htm)

D. Evaluation:
   1. Students will download, open and review the materials from the MPA Web site.
   2. The students will list some of the rules used in conventional music notation.

E. Discussion:
   1. Describe how this topic can be integrated into student lesson plans and how it fits with MENC National Standard # 5, Reading and Notating Music.

   2. Optional: Discuss the historical developments in music notation as presented in Appendix G.
Topic 3: Small Ensemble Score – Project 2

A. Description:
   Small Ensemble Score
   The Small Ensemble Score project must include a minimum of 3 and a maximum of 5 staves. This could be a vocal SATB with piano; small jazz or rock combo; or a brass, string, or woodwind quartet or quintet. Students may input projects including Dona Nobis Pacem; Fa Una Canzona; and Mouret’s Rondeau (see Appendix N, Project 2) or a selection supplied by the instructor.

B. Procedures:
1. Create a multi-stave score with 3 to 5 staves. (Optional: include at least one transposing instrument such as Bb trumpet or Eb Alto Saxophone).
2. Enter notation in real time using Flexi-time (Sibelius) or Hyperscribe (Finale).
3. Enter articulations, dynamics, ornaments and text expressions (adding them in a musical manner if they are not present in the score).
4. Entering text instructions such as fingerings.
5. Enter staff and system text expressions ($mp$, $mf$, $f$, and so forth)
6. Display staff names and abbreviated staff names.
7. Add grouping marks such as brackets and braces.
   a. Optional: enter multiple verses of lyrics
   b. Optional: Search the web for lyrics and copy and paste them to save time entering lyrics.
8. Reduce the print size of the music on the page (Finale – resize to 75%, Sibelius – change staff size from 0.28 inches to 0.23 inches).
9. Use Scroll View (Finale) or Panorama View (Sibelius) to enter notation.
10. Reduce and enlarge the view size of the music.
11. Enter a time signature change and/or a key signature change.
12. Enter a DS al Coda or a DC al Fine that plays back properly.
13. Create a custom tempo-map to be used when playing the song.

C. Evaluation:
1. Save the score.
2. View the the score in portrait and landscape view to determine the most appropriate page orientation.
3. Print the score.
4. Print one or more individual parts.
5. Save the file in MIDI format.
D. Discussion:

1. Discuss the pros and cons of the various notation techniques:
   a. Point and click
   b. Typing using the computer keyboard
   c. Step entry using a MIDI controller/Keyboard
   d. Real time entry

2. What are the steps for recording a custom tempo map in your notation program?
Topic 4: Polyphony – Project 3  
Stems up and stems down in the same staff (Finale: Layers, Sibelius: Voices)

A. Description:
   Piano, Drum Set or Harp part that includes polyphony (stems up and stems down in the same staff)
   This project must have a minimum of 24 measures. Student may enter one or more of the examples in Appendix N, Project 3. Students may also use a selection approved by the instructor.

B. Procedures:
   1. Enter polyphony in two or more staves using Voices (Sibelius) or Layers (Finale).
      a. Optional: Enter cross staff notation in a piano or harp staff.
      b. Optional: Enter a drum set part with bass, snare and drums.
   2. Enter phrase markings.
   3. Enter rehearsal marks.
   4. Enter articulations such as accents and staccato marks.
   5. Enter repeats with first and second endings.
   6. Reduce the printing size of the score to fit more systems per page.

C. Evaluation:
   1. Save the score in Finale or Sibelius format.
   2. Print the score with your name on the first page.
   3. Export the file in MIDI format.
   4. Export the file in Audio format
   5. Optional: convert file to MP3
D. Discussion:

1. List pros and cons of the various ways to enter notation: point and click, typing, step entry via MIDI, and real time via MIDI.

2. Discuss the advantages of saving notation files in MIDI and audio formats and how they could be used for student practice.
Topic 5: Full Score: Orchestral, Band, Choral, or Jazz – Project 4

A. Description:
Full Score: Orchestral, Band, Choral, or Jazz Full Score & Printed Parts: The Full Score project may be a complete work or any portion of a large work with a minimum of 32 measures. The work must have eight or more staves and at least one transposing instrument. This project will be submitted with program notes, a full score as well as individual parts in their appropriate transpositions. Suggested projects include Largo for Beginning Band; Largo for Strings and rhythm section; Bill Bailey for Jazz Ensemble; and Haydn’s Surprise Symphony, excerpt from Movement II (see Appendix N, Project 4). Students may select their own projects that are approved by the instructor.

B. Procedures:
1. Select an appropriate template for the ensemble, customize it as necessary, and save it as a custom template for future use.
2. Create a cover page including program notes and a picture of the composer.
3. Enter notes using any of the methods covered to this point.
4. Enter all tempo and dynamic expressions including terraced and graduated marks.
5. Enter articulations such as accents and staccato marks.
6. Enter rehearsal marks.
7. Enter repeats with a coda.
8. Reduce the printing size of the score to fit more systems per page.
9. Optional: Review the various transposing instruments and how to enter notation in concert and transposed view (see Appendix H).
10. Optional: Discuss appropriate score order (see Appendix I).

C. Evaluation:
1. Save the score in Finale or Sibelius format.
2. Play the score to check for mistakes.
3. Print the score in concert key.
4. Print the score with instruments transposed to the correct key.
5. Print at least one part in the transposed key for the instrument.
6. Export the score in Music XML file (for use with another notation program). XML exporting is built in to Finale; to export an XML file in Sibelius the Recordare plug-in is required (http://www.recordare.com/)
D. Discussion:

1. The advantage of using linked parts (Finale) or dynamic parts (Sibelius) vs. extracting individual parts.

2. The advantages of saving notation files in Music XML format and how they could be used with other programs.
Topic 6: Automatic Arranging Features – (Lecture/Demonstration)

A. Description:
The instructor will demonstrate the arranging and orchestrating features of the software (Finale/Sibelius) to create enhanced arrangements and orchestrations.

B. Procedures:
1. Teacher demonstration of how to create a harmonic accompaniment or drum part.
2. Teacher demonstration of how to create a piano reduction of the small ensemble arrangement (from topic 3, project 2) and add the reduction to a piano staff at the bottom of the score.
   a. Finale – Implose
   b. Sibelius – Arrange > Piano Reduction
3. Teacher demonstration using a full score arrangement of the small ensemble arrangement (from topic 3, project 2).
   a. Finale – Explode, Copy and Paste
   b. Sibelius – Arrange > Explode, Arrange > Other Options
4. Explore musical ideas (existing melodic and rhythmic fragments and/or building blocks).
   a. Finale – Creating a score into which musical fragments and ideas can be copied and pasted during the composition of a piece.
   b. Sibelius – Window > Ideas.
5. Add and remove instruments from the score.
6. Change the instrument with which a staff is played.
7. Select a range of measures.
8. Complete the notation program’s various copy and paste operations.
C. Discussion:

1. List the advantages and disadvantages of using automatic arranging/orchestration features.

2. Review the quality and convenience of automatic arranging features.

3. Discuss techniques for obtaining the most creative results from the automatic arranging features of the software.

4. Review ways to use music notation software to teach students to arrange music, fulfilling the MENC National Standards, especially standard 4 (composing and arranging music within specified guidelines).
Topic 7: Music Notation Software Programs for Music Education – Lecture/Discussion

A. Description:
Students will review notation software options, their features, and which would best to meet their personal and educational needs. See Appendix A for a list of music notation software programs.

B. Procedures:
1. Review professional-level programs by showing a brief overview how each works.
   a. Finale
   b. Sibelius
2. Review entry-level programs and describe their features.
   a. Finale Reader
   b. Finale NotePad
   c. Finale PrintMusic
   d. Finale Allegro
   e. Sibelius Student
   f. Sibelius First
   g. NoteFlight (online notation program)
   h. MuseScore (open source software)
3. Optional: Review music production software such as GarageBand, Logic, and ProTools, which have notation features including viewing, editing, and printing.
4. Optional: Review music production programs such as Band-In-A-Box which permit viewing, editing, and printing of slash notation.

C. Evaluation:
1. Using an online notation program, enter a melody and export the song as a MIDI file and a Music XML file.
2. Using a professional-level notation program, such as Finale or Sibelius, open the MIDI file and the Music XML file and save as a Finale or Sibelius file.
3. Download demonstration versions of various notation programs.
4. Optional – Using various software options, students will enter and save a children’s song such as Are You Sleeping.
D. Discussion:

1. List the advantages and disadvantages of professional-level, entry-level, open source, and online notation programs.
   a. Which support the necessary features for a full band or orchestra score (enough staves, enough articulations, page layout)?
   b. Which do music publishers support?
   c. Which require Internet access?
   d. Which have support communities?
   e. Which are seeing ongoing development?
   f. Pricing including education discounts and site-licenses?
   g. Which include educational worksheets, warm-ups and repertoire?

2. Discuss the advantages and disadvantages of music production programs with music notation features.

3. List which programs support importing Music XML and those that import and export of Music XML.
4. Based on the student’s goals for using notation software, which would be the best choice?

E. Additional Discussion:
   Review and discuss the various software options considering the following:
   1. How much does the software cost? Is there an educational discount?
   2. Are there third-party books or videos that can shorten the learning curve?
   3. Does the software have a page-oriented display. Can you edit and input music data in the page view?
   4. How many staves can you use? Can you create staves of more or less than five lines? Are staff sizes variable?
   5. What is the smallest rhythmic value you can use (32nd, 64th, 128th)?
   6. How many clefs are available (G, F, alto & tenor)?
   7. Can you create alternate note heads (harmonics, grace notes, slash and X)?
   8. Can you create custom key signatures? Can you have different key signatures in different parts simultaneously?
   9. Can you create custom time signatures? Can you have different time signatures in different parts simultaneously?
  10. Can you use diagonal beaming? Is beaming handled automatically?
  11. How many independent voices can be displayed on each staff?
  12. How many music input options does the software allow
      (MIDI, point-and-click, typing, step-time, real-time)?
  13. Can you play your score with MIDI hardware or a choice of virtual instruments? Are articulations, dynamics and expressions reflected in MIDI playback?
Topic 8: Readiness Exercises and Flash Cards – Project 5

A. Description:
The student will create Readiness Exercises or Flash Cards. This project requires that the student create one of the following:

1. Practice exercises for a performing group extracting exercises from a score to be performed. Several notation styles should be employed to include noteless stems, stemless notes, and rhythmic notation. Suggested project: Largo for Beginning Band Readiness Exercises

2. A series of flash cards (7 minimum) for use in the elementary or middle school classroom to include noteless stems, stemless notes, and rhythmic notation. Suggested project: Key signature flashcards (Sibelius); 6307 Classroom Rhythms (Finale).

B. Procedures:
1. Worksheets
   a. Browse and search the database of worksheets from Finale and Sibelius.
   b. Browse and search the database of repertoire from Finale and Sibelius.
   c. Review the materials and identify those that could be used for teaching.
   d. Optional: Review techniques for creating students worksheets starting with a blank score and editing them for student use.
      i. Removing cautionary clef changes.
      ii. Removing cautionary time-signature changes.
      iii. Removing cautionary key-signature changes.
      iv. Assigning final and other bar lines at the end of a system.
      v. Customizing the placement of measures and systems within the score.
      vi. Creating stemless notes.
      vii. Creating noteless stems.
      ix. Creating rhythmic notation.
      x. Printing in color
2. Exercises
   a. Using available program options, create warm-ups or other exercises for vocal or instrumental ensembles.
   b. Optional: Edit or create from scratch warm-ups for vocal or instrumental ensembles.
      i. Removing cautionary time-signature changes.
      ii. Removing cautionary key-signature changes.
      iii. Assigning final and other bar lines at the end of a system.
      iv. Applying (or copying and pasting) patterns of articulations such as slur-two, tongue-two (Finale: Exercise Wizard, Sibelius: Copy and Paste).

C. Evaluation:
   1. Save and print two pieces of repertoire that could be used in teaching.
   2. Save and print one warm-up or other exercise for a performing ensemble.
   3. Optional: Edit or create from scratch a custom worksheet for student use.
   4. Optional: Edit or create from scratch a custom warm-up or other exercise a performance ensemble including parts for each voice or instrument.

D. Discussion:
   Discuss the scope and usefulness of worksheets contained within current versions of Finale and/or Sibelius.
Topic 9: Repertoire – Lecture/Discussion

A. Description:
Students will review the repertoire included with Finale and Sibelius and select and print materials that are useful in their classroom.

B. Procedures:
Search for, save and print selected repertoire included with Finale and Sibelius.

C. Evaluation:
1. Select and print two worksheets that could be used in a teaching situation of your choice.
2. Select and print two pieces of repertoire that could be used in teaching.

D. Discussion:
Review the offerings in the area of repertoire that are offered in Finale 2010 and later and Sibelius 4 and later. What are some ways the built-in repertoire be used in education?
Topic 10: Notation Lesson Plans and Curriculum Integration
– Project 6

A. Description:

Curriculum Integration: Ideas for curriculum integration will be discussed.

Lesson Plans: The following two lesson plans will be completed:

1. The student will search for music notation lesson plans and select one that could be used in their teaching situation or one that they can envision using in a teaching situation. This should include a web link to the lesson plan and a brief description of how the lesson could or would be used in your teaching. See Appendix C and D for a list of recommended websites for music notation lesson plans including www.ti-me.org in the members section and www.soundtree.com.

2. The student will create one lesson plan that describes how music notation software could be used to enhance teaching and learning. Each student will demonstrate this knowledge by creating a lesson plan that incorporates the MENC National Standards for music. The “Lesson Plans” page in the members-only section of ti-me.org has hundreds of lesson plans to serve as examples. There you will also find a guide to creating good lesson plans and an online form to help you create nicely formatted lesson plans. The lesson plan must include:
   a. Text
   b. At least two musical examples exported from the notation software you are using in the course.

B. Procedures:

1. Search existing databases of lesson plans that use music notation software to teach musical concepts and select one that could be used in your teaching, or one that you can envision using. See Appendix C for a list of recommended websites for music notation lesson plans (including www.ti-me.org in the members section and www.soundtree.com).

2. Review curricular materials that use music notation software to teach music (including Technology Strategies, Teaching Music With Technology, Composing Music with Notation). See Appendix B for a list of recommended materials.

3. Review guidelines for creating effective lesson plans. See the TI:ME web-site, members-only, lesson-plan section. There you will also find a guide to creating good lesson plans and an online form to help you create nicely formatted lesson plans.
4. Create a lesson plan tailored for the music classroom.
5. Export graphics from notation software to be included in a lesson plan created with a word processing document.

C. Evaluation:
1. In a word-processing program, describe a lesson plan found on the Internet and how it could be used in your music classes. Include a link to the lesson plan.
2. In a word-processing program, or using the TI:ME Lesson Plan Creator (http://www.ti-me.org/members only section under lesson plans), create and save one lesson plan that uses musical notation to address one or more of the MENC National Standards for music. The lesson plan will incorporate two musical graphics exported from a notation program and inserted into the word processing document.

D. Discussion:
Discuss the advantages and disadvantages of using music notation software to teach musical concepts.
1. Discuss the advantages and disadvantages of using notation software in the following scenarios:
   a. Class work using a projector or interactive whiteboard.
   b. Independent work by students in a lab.
   c. Independent work by students for homework.

2. Discuss benefits of adding musical graphics from notation software into word processing documents.
3. List additional curriculum integration ideas.

   a. Using music notation software to teach compositional devices
      i. Inversion
      ii. Ostinatos
      iii. Augmentation
      iv. Diminution
   b. Using music notation software to teach students to arrange music
   c. Using music notation software to capture musical performances for student self-evaluation
   d. Using music notation software to demonstrate the rules of music notation.
   e. Using notation software to demonstrate the relationship between sound and symbol.
   f. Using music notation software to create handouts and exercises.
   g. Using music notation software to create composition forms with copy/paste.
   h. Using music notation software to create blank manuscript paper.
   i. Using music notation software to demonstrate the ranges of instruments.
Topic 11: Notation and Word Processing – Lecture/Discussion

A. Description:
Using the comparison chart in Appendix J, the instructor will lead a class discussion of the similarities and differences between word processing software and music notation software.

B. Procedures:
1. Copy and paste musical materials from one section to another.
2. Edit entered materials creating variations of all elements of music:
   a. Melody
   b. Rhythm
   c. Harmony
   d. Form
   e. Expression (tempo, dynamics, articulations, etc.)
   f. Style

C. Evaluation:
1. Using the original lead sheet assignment, copy and paste the song into another section, doubling the length of the piece.
2. Edit the second copy producing a theme with one or more variations and save the score.

D. Discussion:
1. List two or more instances where you would begin the project in a word processor and incorporate graphics from notation software.

2. List two or more instances where you would begin the project in a notation and incorporate text within the notation software score.
Topic 12: Page Layout – Lecture/Discussion

A. Description:
Although today’s notation software is increasingly good laying out scores, there are still times when too much white space is left on the page, or when small adjustments would result in a significant improvement to the appearance of a score. Likewise, software does not account for the fact that many publishers want their music to be on exactly one page, or two pages, or an even number of pages, etc. In each of these cases, it is necessary to override the default page layout settings of the software.

B. Procedures:
1. Adding and deleting extra measures.
2. Change the paper size.
3. Customize the number of measures on a system.
   a. Forcing a system break at a measure
   b. Forcing measures into a system
4. Customize the number of systems on a page.
5. Customize the size of the music on the page.
6. Changing staff and system spacing
7. Adjust staves for choral music (Finale: Optimize Staves, Sibelius: Hide Empty Staves)
8. Changing the size of text used for various items in the score (titles, lyrics, expressions, etc.)
9. Customize the number of pages in a score.
10. Measure numbers
11. Page numbers

C. Evaluation:
Students will demonstrate through hands-on activity that they can do the page layout demonstrated by the instructor.
D. Discussion:
Students will spend time experimenting with each of the demonstrated page-layout techniques.
Topic 13: Advanced Techniques 1 – Lecture/Discussion

A. Description:
Students will review and apply advanced editing techniques (1).

B. Procedures:
1. Setting the music to swing.
2. Playing recorded MIDI instructions (Finale: Human Playback; Sibelius: Live Playback).
3. Customizing stems, note heads, and beams.
4. Creating custom beaming patterns for asymmetric meter (5/8 = 2+3 and 3+2).
5. Hiding notes and other elements of a score.
6. Customizing the number of lines on a staff.
7. Advanced key signature operations: transposing key without moving notes, transposing notes without moving key, etc.
8. Advanced time signature and/or measure operations: entering a mid-measure repeat, pickup notes in the middle of a piece.
9. The difficulties of working with transposing scores and instruments.
   a. How do you change between concert and transposed views of instruments in a score?
   b. How do you enter music into a score from a part in concert key, and from a part that is transposed?
10. Slash notation.
11. Grace notes and cue notes.
13. Using music font(s) in a word processor document.
14. Adding audio (Finale); using ReWire (Sibelius).
15. Scoring to video.

C. Evaluation:
Students will demonstrate through hands-on activity that they can enter the indicated advanced items on a musical score.

D. Discussion:
Discuss when alternate notation and alternate note heads are appropriate.
Topic 14: Advanced Techniques 2 – Lecture/Discussion

A. Description:
Students will review and apply advanced editing techniques (1).

B. Procedures:
1. Beaming across barlines
2. Cross-staff notation
3. Reverse stems
4. Exploding and imploding music
5. Multi-measure rests
6. Pedal markings
7. Changing staff and score size percentages for printing
8. Creating tablature
9. Tremolo
10. Cesura
11. Working with seconds in inner voices
12. Working with different fonts – Jazz, Opus, Sonata, Seville, aestro, etrucci Kidnote, Golden Age, Handbell Notation, Engraver, Tambouro, Microtonal, Ghent percussion font and various other esoteric fonts visit http://www.music-notation.info/en/compmus/musicfonts.html for more font information
13. Difference between vocal music notation and instrumental
14. Removing empty staves/optimizing systems
15. Ossia staves
16. Custom percussion and drumset notation
17. Find and replace
18. Optional: Create a SmartMusic Accompaniment (Finale only)
19. Optional: Create a web-page with an embedded score (Sibelius only, using the Scorch plug-in)

C. Evaluation:
Students will demonstrate through hands-on activity that they can enter the indicated advanced items on a musical score.

D. Discussion:
List techniques in Topic 13 and 14 that are most relevant to your teaching.
Topic 15: Plug-Ins – Lecture Discussion

A. Description:
Students will learn to use the plug-ins found in their notation program and explore two plug-ins. The instructor will demonstrate appropriate plug-ins.

B. Procedures:
1. Finale: The instructor will demonstrate several of the following plug-ins.
   a. Rhythm Generator
   b. Drum Groove
   c. Band-In-A-Box Autoharmonizing
   d. Latin Percussion
   e. Change Noteheads
   f. Resize Noteheads
   g. Check Range
   h. Chord Analysis
   i. Find Parallel Motion
   j. Auto-Dynamic Placement
   k. Auto-Slur Melismas
   l. Slash Flagged Grace Notes (and remove)
   m. Mid-Measure Repeats
   n. Create Coda Systems
   o. Smart Page Turns
   p. Canonic Utilities
   q. Process Extracted Part
   r. Create Handbells Used Chart
   s. Cross Staff
   t. Piano Reduction

2. Sibelius: The instructor will demonstrate some of the following plug-ins
   a. Boomwhacker® Note Colors
   b. Add Brass Fingering
   c. Add Note Names
   d. Add Note Names to Note Heads
   e. Respell Flats and Sharps (and vice versa)
   f. Add Drum Pattern
   g. Add Simple Harmony
   h. Fit Selection to Time
   i. Remove Dangling Ties
   j. Straighten Written-Out Swing
k. Check for Parallel 5ths/8ves
l. Retrograde
m. Invert
n. Halve Note Values
o. Double Note Values
p. Make into Tuplet
q. Add Tonic Sol Fa
r. Cres./Dim. Playback
s. Ornaments Playback
t. Export Each Staff as Audio

C. Evaluation:
Students will review selected plug-ins.

D. Discussion:
1. Identify plug-ins that address a weakness in the notation program.

2. Identify plug-ins that accomplish something that the program’s competitor does well.

3. Identify plug-ins that provide support not available in the program’s competitor?

4. What are the steps to get additional plug-ins?
Topic 16: Copyright and Music Notation Software – Lecture/Discussion

A. Description:
The instructor will review the U.S. copyright law and how it applies to music notation software. They will review the process for anyone to copyright their original compositions.

B. Procedures:
1. Students will review various web sites that address copyright law including the following:
2. Students will review publications on copyright including the following:
3. Students will review web sites which provide information on works in the public domain, including the following (See Appendix K):

C. Evaluation:
1. Students will affix appropriate copyright notices to scores previously created.
2. Students will affix appropriate copyright notices to any original scores.

D. Discussion:
1. Discuss the purpose of copyright:
   a. Protect the works of creative individuals
   b. Give them time to benefit financially from their work
   c. Eventually release those works into the public domain, for the good of all.
2. Describe how copyright impacts each of the following items:
   a. Purchasing music
   b. Duplicating music
   c. Replacing lost parts
   d. Displaying music in the classroom.
   e. Performing in concert.
   f. Recording concerts.
   g. Selling recordings of the concert.
   h. Simplifying parts
   i. Arranging and creating derivative works
   j. Using music in virtual and electronic classrooms
   k. Using music on public web sites.

3. The pros and cons of using public domain music.

4. Protecting original music under copyright law
   a. Affix copyright notice
   b. Register copyright
Topic 17: MIDI File Import/Export – Lecture/Discussion

A. Description:
   The instructor will demonstrate how to download MIDI files from the Internet and open the files in a notation program. They will also review the steps for saving a file in MIDI format.

B. Procedures:
   1. Download MIDI files from the internet
   2. Import those files in a professional-level notation program, adjusting import settings for the best results.
      a. Quantize
      b. Track names and order
      c. Polyphony (Finale: multiple layers, Sibelius: multiple voices)
   3. Edit typical errors that occur during the transcription of MIDI files (adjustments for MIDI files recorded using production software, and for oddities in the way the MIDI file was saved or transcribed by the notation software)
      a. Correcting rhythmic errors
      b. Eliminating duplicate tracks
      c. Reordering tracks in the score, if necessary
      d. Reassigning instruments, if necessary
      e. Accounting for errors caused by polyphony (Finale: multiple layers, Sibelius: multiple voices).
      f. Replacing missing notes
   4. Students will open one of their previous projects as a MIDI file, then reopen it with the same program and describe the changes.
      a. Piece title and composer
      b. Lyrics
      c. Expression markings (dynamics, tempo, articulations)
      d. Rehearsal numbers
      e. Page layout

C. Evaluation:
   1. Save a MIDI file downloaded from the Internet which has been opened, and edited in professional-level notation software.
   2. Save a notation file of an existing piece imported from a MIDI file.
D. Discussion:
1. What information is saved in a MIDI file, and what is not?

2. Why do some MIDI files import well into notation programs while some do not?

3. What are the most common notational errors encountered when importing MIDI files into notation software?

4. Besides importing music into a notation program, what other uses are there for MIDI files?

5. Optional: Review and complete the MIDI worksheet in Appendix L.
Topic 18: Scanning Music – Lecture/Discussion

A. Description:
The instructor will scan music into a graphic file format such as .tif or .pdf and will import those files into a professional-level notation program. The instructor will edit and save a copy of the score and will explain the differences in features between the “lite” and full versions of scanning software.

B. Procedures:
1. Discuss scanning music into the computer and saving it as a graphic file using the necessary color and resolution settings for success in notation software.
2. Discuss importing those files in a professional-level notation program, adjusting import settings for the best results.
3. Discuss editing typical errors that occur during the transcription of scanned music
   a. Correcting rhythmic errors
   b. Replacing missing notes
   c. Correcting transposition errors for transposing scores.
   d. Removing symbols incorrectly interpreted as notes.
   e. Correcting time signature errors.
   f. Correcting key signature errors.
   g. In choral scores, showing missing staves and copying music to the correct staff.
   h. Reassigning instruments to each staff, if necessary
4. Identify elements of the score that may not scan.
   a. Piece title and composer
   b. Lyrics
   c. Expression markings (dynamics, tempo, articulations)
   d. Rehearsal numbers

C. Evaluation:
1. Discuss the best setting for scanning music to import into a notation program. Discuss the appropriate formats: .tif (Finale) or .pdf (Sibelius) file.
2. Discuss saving a notation file of an existing piece that has been imported from a scanned file.
D. Discussion:
1. List which features are found in “lite” versions of scanning software and which are found in full versions?

2. Using the scanning software on your computer, what information is converted from a scan, and what is not?

3. Why do some scanned files import well into notation programs while some do not?

4. What are the most common notational errors encountered when importing scanned files into notation software?

5. List ways that scanning can be used to save time in music education, for example: creating accompaniments, creating practice materials for students. List additional techniques below.
Appendix A: Music Notation Software Programs

As of this writing, Finale and Sibelius are the most popular music notation software products on the market. Both are sophisticated programs that produce professional output. Both are used by professional music copyists. Either product is a suitable choice for the TI:ME 2A Music Notation Software course. The following table also lists some additional products that serve other needs in the market for mid-range and low-end software.

<table>
<thead>
<tr>
<th>Level</th>
<th>Title</th>
<th>Company</th>
<th>Platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>Finale</td>
<td>MakeMusic</td>
<td>Macintosh and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Windows</td>
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<tr>
<td>Professional</td>
<td>Sibelius</td>
<td>Sibelius</td>
<td>Macintosh and</td>
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<td>Windows</td>
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<tr>
<td>Mid-range</td>
<td>PrintMusic</td>
<td>MakeMusic</td>
<td>Macintosh and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Windows</td>
</tr>
<tr>
<td>Entry-level</td>
<td>Finale NotePad</td>
<td>MakeMusic</td>
<td>Macintosh and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Windows</td>
</tr>
<tr>
<td>Entry-level</td>
<td>Songworks</td>
<td>ArsNova</td>
<td>Macintosh</td>
</tr>
<tr>
<td>Entry-level</td>
<td>MuseScore</td>
<td>None – Open</td>
<td>Macintosh and</td>
</tr>
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<td></td>
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<td>Source</td>
<td>Windows</td>
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<tr>
<td>Entry-level</td>
<td>NoteFlight</td>
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<td>Windows</td>
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</tbody>
</table>

Some differences between entry-level and professional notation software are described below.

- How many staves can be used in a score?
- May adjustments be made to the page-layout of the score?
- Can you create user-defined program defaults? (fonts, spacing, dot offsets)
- Does transposition include chord symbols?
- Can you export the notation into standard graphic file formats (Postscript, EPS, TIFF or PIC)?
- Can you export entire pages or is it possible to export a user defined smaller selection area?
Appendix B: Bibliography for Further Study

Web Lists of Books on Music Notation


Books on Finale


Metzger, David. Finale and Jazz Arranging • David Metzger Music 3545 Hulsey Avenue, SE • Salem, Oregon 97302 (503) 371-400 • 105 pages • 1993. (out of print – check used bookstores)


Books on Music Notation


Ross, Ted. *Teach Yourself the Art of Music Engraving* • Miami Beach, FL Hansen House • 278 pages • 1987.
This book specifically deals with precision engraving whereas Read, for example, uses many hand-written examples.


*Try locating these books at new and/or used bookstores or over the Internet.*

**Articles on Music Notation**


Books on Music Notation in the Classroom

Mash, David Computers and the Music Educator • (Phone 800/963-TREE) • SoundTree Publishing Co. New York, 102 pages • 1996.


Music Technology & Music References


Appendix C: World Wide Web Resources for Music Notation Software

MakeMusic Web Site for Finale
http://www.finalemusic.com/

Avid Web Site for Sibelius
http://www.sibelius.com

Sibelius Score Library
http://www.sibeliusmusic.com/

Finale Score Showcase
http://www.finalemusic.com/showcase/

Orchestral Libraries That Work With Finale and Sibelius
http://www.garritan.com/

List of Several Notation Programs
http://www.sonicspot.com/notation.html

Finale Resources Page from the RPM
http://www.rpmseattle.com/coda/
A Seattle web site that includes a listing of more than a dozen add-on fonts and other services.

Finale Tips
http://www.finaletips.nu/
Finale Tips Web site.

Music Publishers Association
http://www.mpa.org

Public Domain Information Project
http://www.pdinfo.com/proof.htm

The Music Rack
http://www.sheetmusic1.com/MUSIC.RACK.HTML
Examples of teacher enhanced scores
Appendix D: Lesson Planning Resources

Web Sites
Students are directed to \http://www.ti-me.org\. Therein, the “Lesson Plans” page of the members-only section, you will find a searchable database with hundreds of sample lesson plans like the one shown below. You will also find an online form and a guide to help you create better lesson plans.

Additional lesson plans are found here: \http://soundtree.com/teaching-resources/lesson-plans\.

Sample Lesson Plan
(from the TI:ME Members Only Lesson Plan Database)

Tapping a Steady Beat by Steven Estrella
steve@stevenestrella.com
Shearspire, Inc.

TI:ME Technology Areas Addressed:
Music Notation Software
Sequencing
Multimedia/Digital Media
Internet

Level:
Any Level

Equipment:
Teacher will need a computer with notation and/or sequencing software, a Web browser with the Flash plug-in installed, and access to the Internet.

Duration:
40 Minutes

Prior Knowledge and Skills:
Students need not have any special skills or knowledge. This will be a largely kinesthetic activity.

MENC Standards Addressed:
MENC 2: Performing on instruments, alone and with others, a varied repertoire of music.
MENC 6: Listening to, analyzing and describing music.

Materials:
MIDI files of Bach Inventions 4, 8, and 13.
A microphone and amplifier.
A steady beat interactive exercise is available at the McGraw-Hill online learning site for the Music First! textbook. You can find it online at: http://highered.mcgraw-hill.com/sites/0072287683/student_view0/chapter3/activities.html

Objectives:
At the conclusion of this lesson students will be able to tap a steady beat in response to music played at 60 beats per minute, 90 beats per minute, and 120 beats per minute.

Procedures:
To prepare for this lesson, the teacher must download midi files of Bach inventions 4, 8, and 13. These pieces must then be loaded into a sequencer and modified as needed to ensure no changes in tempo. Bach invention 4 should play at 60 BPM throughout, invention 13 should play at 90 BPM, and invention 8 should play at 120 BPM.

10 Minutes
Ask for a volunteer from among the students. Turn on the microphone and amplifier and ask the student to put the mic up to his or her heart. For younger students you may have to direct them to the left side of the chest. Use this demonstration to discuss the concept of pulse with your students. Ask them to identify other regular pulses in nature (breathing, tides, rising and setting of the sun, etc.)

5 Minutes
Walk across the room at a slow and steady pace of about 60 steps per minute (one each second). Have the class clap their hands on each footfall. Then ask the class to continue clapping the pulse even after you stop walking. Discuss the aesthetic affect of tapping a slow and steady beat. Does it remind you of walking or relaxed breathing.

5 Minutes
Walk across the room at a fast and steady pace of about 120 steps per minute (two each second). Again have the class clap on each footfall. Discuss the aesthetic affect of the faster tempo and relate it to the way the heart races after running.

5 Minutes
Next divide the class into teams labeled the Macros and the Micros. Walk across the room at 60 steps per minute and ask the Macros to clap once on each footfall. Ask the Micros to snap two times per footfall. Next repeat the example and have the Micros snap 3 times per footfall. Explain that in most music you can hear big beats (the claps) and little beats (the snaps). The big beats are sometimes divided into two little beats and sometimes into three little beats depending on the nature of the music.

5 Minutes
Have your computer and sequencer ready with Bach Invention 4. Play it at a steady 60 BPM. Ask students to move forward on each big beat by one step and then backward on the next big beat. This simple movement activity helps to cement steady beat understanding by involving the thighs and other large muscle groups. When students are able to coordinate the steady beat in this way, ask them to snap 3 times per big beat. Students should be physically engaged so that beat and meter are internalized.

10 Minutes
Repeat this activity with Bach Invention 13 at 90 BPM and Bach Invention 8 at 120 BPM but have the
students snap only twice during each big beat for these two works.

End the class by sending the students home with instructions to practice this activity during the week. Evaluation will take place one week later in the computer lab.

**Evaluation:**
One week after the lesson, schedule your class for time in the computer lab. Load activity 3.1 from chapter 3 of MusicFirst! online learning center found at:
http://highered.mcgraw-hill.com/sites/0072287683/student_view0/chapter3/activities.html#

Have this screen on each computer when students arrive. Use the teacher station and video projector to demonstrate how the application works. Have students begin with Bach Invention 4 and have them tap the beat on the shift key of the keyboard. The software measures the student's accuracy and provides a score for steady beat. Go around to each station and record each student's score on Bach Invention 4 (60 BPM). Then have the students work on the other two inventions (No. 13 at 90 BPM and No. 8 at 120 BPM). Record all scores in a spreadsheet and use this information to individualize instruction as needed to ensure all students learn the vital skill of steady beat.

**Follow Up:**
A logical follow-up lesson to this one would introduce duple and triple meter.
Appendix E: Music Notation Software Project Management

An understanding of how to integrate music notation software into the process of composing and/or arranging is important. Your instructor may lead a discussion of this topic, or assign these questions for homework.

Questions for further study:

- What are the advantages and disadvantages of composing on paper before entering notes into the computer, of sketching the ideas and forms first, and of composing or arranging by entering directly into the computer?

- What are the advantages and disadvantages of importing MIDI files into the computer as a part of the arranging process?

- What are the advantages and disadvantages of scanning music into the computer as a part of the arranging process?

- What is music XML and how does it facilitate the composing and arranging process?

*NOTE:* Finale currently exports and imports Music XML. Sibelius currently imports Music XML, but exporting may be added through the use of a third-party commercial plug-in by Recordaire. NoteFlight exports and imports Music XML. MuseScore exports and imports Music XML.
How does notation software impact the speed with which you can do a notation project such as a band arrangement with all parts?

- How quickly can you transpose a musical line by hand? How quickly with notation software?

- How would you describe the quality of music that you write by hand compared to that produced by notation software?

- When entering music from an existing score, describe the role that analysis of form, sequences, and motifs would have on entering music (through copying and pasting)?

- When entering music from an existing score, what are strategies that you can take to keep your place (number measures, layout score with the same number of measures on each system and page as the original, etc.)?

- When is it best to start a score from scratch, or from a template?
• What are benefits of entering notes through an electronic keyboard?

• What are the most effective strategies for page layout?

• What are the most effective strategies for extracting parts?
Appendix F: Rules of Conventional Music Notation

This is not a comprehensive list, but is intended to prompt discussion.

**Fundamental Rules of Conventional Music Notation:**
1. The pitch of the note (its placement on the staff) determines stem direction.
2. Never use more than one accidental per note, an accidental affects all subsequent notes of the same pitch within a measure.
3. For a chromatic passage, generally, use sharps when ascending and flats when descending.
4. Augmentation dots must only be placed in a space – not on a staff line or at the same level as a ledger line.
5. A beam’s directional slant will usually follow the contour of the music in a passage: up for ascending musical lines, and down for descending musical lines. If the first and last note of a beam is the same pitch, then the beam should be horizontal.
6. Key signatures appear after the clef but before the time signature.
7. Octave signs are used to avoid multiple ledger lines.
8. On the first page of a score the full name of each instrument is given to the left of the first system.

**Conventional Music Notation Rules for Staves and Clefs:**
1. The modern five line staff has developed because of its reading ease.
2. Ledger lines extend the range of the five-line staff, and must be the same thickness and vertical spacing as the five-line staff they extend. Ledger lines will always extend to the left and right of note heads placed on, above, or below them.
3. Staff lines are thick enough to be clearly legible but thin enough for the notes of the staff to be seen.
4. For notes that are on a staff line, the line will run through the center of a note head for all note values.
5. Notes that are on a space will be positioned clearly between both staff lines.
6. Staff names and abbreviations on the score and parts must be identical. A staff’s full name is placed to the left of the first system on a score. Abbreviations are substituted for remaining systems.
7. Instruments should be arranged in a score by what is called score order (woodwinds, brasses, percussion, other instruments, and strings).
8. The brace is used in a score to connect two or three staves for instruments such as the piano, harp, marimba or organ.
9. The bracket connects two or more staves to create a complete system (a group of staves with individual clefs designed to be read simultaneously rather than one by one) or group certain instruments within a system.
10. Clefs should be slightly indented on the staff to the right of a multiple system bar line. When only a single staff is used in a score, the clef is indented and the staff left open to the right.

11. Clefs are located first in a staff, before the time signature and the key signature.

![Clef Diagram]

**Common Clef Types**

**Conventional Music Notation Rules for Key Signatures:**
Key signatures indicate the key for a single measure, a region of multiple measures, or an entire score.

1. Initial key signatures always follow the clef.
2. A change in key signature is placed after the barline.
3. If a key signature changes at the beginning of a new line, a courtesy key signature change is added at the end of the previous staff.

**Conventional Music Notation Rules for Time Signatures:**
1. Time signatures indicate the meter for a single measure, a region of measures, or an entire score.
2. Since time signatures indicate the meter they are also closely connected with the proper use of ties, rests, beams, and syncopation.
3. The upper number represents the number of beats per measure and the lower number indicates the type of note equal to one beat (2 = half note, 4 = quarter note, 8 = eighth note).
4. The upper number is placed between the top line and middle line of a staff, and the lower number is placed between the middle line and the bottom line of a staff.
5. The initial time signature always follows the initial clef and key signature.
6. If a change in time signature occurs, it is placed after the barline.
7. If a time signature changes at the beginning of a new line a courtesy time signature change is added at the end of the previous staff.

**Fundamental Rules for Accurate Chord Symbol Notation**

The construction of complex chords is actually an uncomplicated process that, in most cases, involves the addition of diatonic or chromatically altered intervals to simple major, minor, diminished, or augmented triads.

Abbreviating complex chords with clear, precise, and definitive symbols can be another matter. To avoid confusion and inaccurate interpretation by performers, it is always best to be as specific as possible.

1. A single uppercase letter signifying the chord root defines the basic triad.
2. When constructing major and minor 7th chords, the term major (Ma) or minor (mi) must be added to the major or minor triad root symbol. In the case of dominant 7th chords, it is necessary to add only the number 7 to the single major triad letter name.
3. All extension tones should be clearly labeled with flats (b) or sharps (#) when necessary, listed vertically in the order in which they naturally occur, and enclosed in parentheses.
4. Polychords and chords suspended over a bass tone are separated by a dividing line (/). The term bass should technically be added when appropriate.
5. The abbreviation sus is always used to indicate a suspended 4th. In this case, the 3rd of the chord is omitted.
## Appendix G: Historical Developments in Western Music Notation

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800 BC</td>
<td>A human song, evidently about love among the Gods, is the earliest known notated music</td>
</tr>
<tr>
<td>100 AD</td>
<td>Chinese, Korean, Japan and India developed the oldest known music notation system. Employed pitch symbols derived from literary script, some of them with additional symbols for duration and special effects.</td>
</tr>
<tr>
<td>Pre-Christian</td>
<td>Greeks had at least four different systems of notation music derived from the Greek alphabet. These letters were used in different positions.</td>
</tr>
<tr>
<td>1400s</td>
<td>Earliest appearance of mensural notation and the first printed music</td>
</tr>
<tr>
<td></td>
<td>First music printed with movable type; developed by Ottaviano dei Petrucci, the &quot;Gutenberg of music printing&quot;</td>
</tr>
<tr>
<td>1500s</td>
<td>Our modern orthochronic notation of round notes appear in music notation and music is printed in one single-impression</td>
</tr>
<tr>
<td>1690s</td>
<td>Beaming (new tied notes) appears in music typography</td>
</tr>
<tr>
<td>1750s</td>
<td>Mosaic music fonts become standard for music typography; developed by Breitkopf in Leipzig</td>
</tr>
<tr>
<td>1800s</td>
<td>First music boxes, with music coded as metal pins on cylinders</td>
</tr>
<tr>
<td>1850s</td>
<td>The pianola (player piano) uses music coded as hole punches on paper rolls</td>
</tr>
<tr>
<td>1880s</td>
<td>First successful commercial music typewriter (Tachigrafo Musicale) by Angelo Tessaro</td>
</tr>
<tr>
<td>1890s</td>
<td>Music for the calliope is coded as punched holes on metal discs</td>
</tr>
<tr>
<td>1920s</td>
<td>First music typewriter with transposing key and printing of instrumental parts; invented by Walton</td>
</tr>
<tr>
<td>1950s</td>
<td>First computer music language (MUSICI) at Bell Labs, using holes in computer punch cards; developed by Max Mathews (later versions used at Princeton, MIT, and Stanford)</td>
</tr>
<tr>
<td>1953-54</td>
<td>Computer employed to aid in the calculation of a variable speed glissandi for orchestral work Metastasis; by Greek composer Iannis Xenakis</td>
</tr>
<tr>
<td>1955-56</td>
<td>MUSICOMP composition language developed for Lejaren Hiller and Leonard Isaaco'n's IBM Illiac 7090 computer at the University of Illinois – first significant work a string quartet called the Illiac Suite</td>
</tr>
</tbody>
</table>
1960s | Classic paper by Mathews and Moore, "Pitch Quantizing for Computer Music" (1965), related to graphic input of music notation • MUSTRAN music analysis language developed by Jerome Winkler as a comprehensive text-based coding system, including non-Western music • Photon is used for music printing with a rotating disc of symbols projected on film • DARMS (Digital Alternate Representation of Musical Scores) developed by Stefan Bauer-Mengelberg for computer-based music printing • Leland Smith of Stanford develops SCORE notation software as a score preprocessor for Music 10
---
1970s | Structured Sound Synthesis Project developed by William Buxton (University of Toronto) uses computer graphics for score manipulation with digitizing tablet and a slider box for note entry • MUSICOMP dedicated computer-based music typesetter developed by Armando dal Molin, using Photon for printing • First consumer music composing software for PCs appear: Micro Music's Music Composer and ALF's software for the Apple 11 • John Maxwell and Severo Ornstein develop Mockingbird music notation software at Xerox PARC; precursor to later notation software
---
1980 - 84 | First popular laser printers appear with the Hewlett-Packard LaserJet printer and Apple LaserWriter • Passport's Polywriter introduced as early PC.-based notation software using a combination of keyboard input and graphic editing
---
1985 - 89 | Deluxe Music Construction Set (DMCS) by Geoff Brown is the first commercially popular music notation software for the Macintosh • Leland Smith's SCORE software adapted to IBM PC • Synclavier music notation software provides professional music printing using laser printers • Personal Composer by Jim Miller is the first widely used sequencer/notation program for the IBM PC • Mark of the Unicorn's Professional Composer is the first serious notation software for Macintosh using a graphic-editing system • Adobe's Sonata, the most widely used music font, developed by Cleo Huggins • ENIGMA notation software developed by Phil Farrand and Tim Strathlee of Opus Dei, and used for Coda's Finale notation software • CERL’s LIME notation software adapted to Macintosh • Coda's Finale notation and composing software becomes first professional integrated sequencing and notation software for the PC •
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990 – 1992</td>
<td>Musicware/TAP's Nightingale music notation software developed by Donald Byrd and others for the Macintosh as graphic-based music notation and composing system to rival Coda's Finale</td>
</tr>
<tr>
<td>1993</td>
<td>The Sibelius Group offers the Sibelius music notation software for the Acorn computer, initially in the UK.</td>
</tr>
<tr>
<td>1995</td>
<td>Opcode releases latest version of Overture as a competitor to Finale and Nightingale, and new PowerPC versions of notation software provide a boost in performance. Optical character recognition for music using common graphic scanners becomes a more reliable option for entering notation. NIFF (Notation Interchange File Format) was completed in the fall of 1995. This is a standard digital format for the representation of standard musical notation. The format is very flexible, allowing for simple implementations with minimal graphical information, or much more elaborate descriptions including all aspects of page layout, associated MIDI data, custom symbols, etc. Sponsored by Passport Designs, Mark of the Unicorn, Musicware, Opcode Systems, and Cakewalk Music Software, the format was designed as a cooperative effort. MakeMusic has not participated as a developer.</td>
</tr>
<tr>
<td>1998</td>
<td>The Sibelius notation software released for Windows and Macintosh in the USA</td>
</tr>
<tr>
<td>2000 – 2005</td>
<td>Notation Programs implement <em>Human Playback</em> and automatic accompaniment plug-ins in addition to direct output into digital audio files without having to exit the source notational software.</td>
</tr>
<tr>
<td>2002</td>
<td>Recodare introduces MusicXML, a method of encoding musical scores within an XML document subsequently used with most major notation programs. As of 2011, numerous notation programs import and export MusicXML files including Finale, MuseScore, and NoteFlight. Sibelius imports MusicXML, and with the help of a commercially available plug-in from Recodare exports them.</td>
</tr>
<tr>
<td>2005-2007</td>
<td>Sibelius and Finale introduce the option for inserting a video into the score to facilitate the easy creation of films scores.</td>
</tr>
<tr>
<td>2005-2007</td>
<td>Sibelius and Finale introduce the option for inserting an audio file into the score to permit the addition of an acoustically recorded sound track to a score.</td>
</tr>
</tbody>
</table>
Appendix H: Transposing Instruments and Their Ranges

This information is from Sibelius’ worksheets.
BRASS RANGES - Transposed

C4  Comfortable Range  Professional Range

Horn in F

Alto Horn in Es

Mellphone in F

Trumpet in C

Trumpet in Bb

Tenor Trumpet in Es

Cornet in Bb

Tenor Trombone

Bass Trombone

Euphonium

Tuba
PITCHED PERCUSSION RANGES

C6
Comfortable Range
Professional Range

Crotales

Tubular Bells

Glockenspiel

Xylophone

Marimba

Vibraslap

Harp
STRING RANGES

C4 | Comfortable Range | Professional Range

Harp

Violin

Viola

Violoncello

Contrabass
String Bass
Double Bass
VOCAL RANGES

C4

Comfortable Range

Professional Range

Soprano

Alto

Tenor

Baritone

Bass

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Appendix I: Score Order

Comment: Most notation software will show correct score order.
1. Sibelius: File > New and choose an ensemble under manuscript paper.

Each family of instruments should be grouped together in a score with the highest to lowest pitched instruments from the top to the bottom of the group. The exception to this rule is the French Horn, which is at the top of brass although it is not the highest in pitch.

<table>
<thead>
<tr>
<th>Quartets</th>
<th>Woodwind</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>String</strong></td>
<td><strong>Woodwind</strong></td>
</tr>
<tr>
<td>Violin I</td>
<td>Flute</td>
</tr>
<tr>
<td>Violin II</td>
<td>Oboe</td>
</tr>
<tr>
<td>Viola</td>
<td>Clarinet</td>
</tr>
<tr>
<td>Violoncello or Cello</td>
<td>Bassoon</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quintets</th>
<th>Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Woodwind</strong></td>
<td><strong>Brass</strong></td>
</tr>
<tr>
<td>Flute</td>
<td>Trumpet I</td>
</tr>
<tr>
<td>Oboe</td>
<td>Trumpet II</td>
</tr>
<tr>
<td>Clarinet</td>
<td>French Horn</td>
</tr>
<tr>
<td>French Horn</td>
<td>Trombone</td>
</tr>
<tr>
<td>Bassoon</td>
<td>Tuba</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sextets &amp; Stage or Jazz Band</th>
<th>Jazz Band (Stage Band)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brass</strong></td>
<td><strong>Jazz Band</strong></td>
</tr>
<tr>
<td>Trumpet I</td>
<td>Saxophones</td>
</tr>
<tr>
<td>Trumpet II</td>
<td>Trumpets</td>
</tr>
<tr>
<td>French Horn</td>
<td>Trombones</td>
</tr>
<tr>
<td>Trombone</td>
<td>Guitar</td>
</tr>
<tr>
<td>Euphonium (Baritone)</td>
<td>Upright or Electric Bass</td>
</tr>
<tr>
<td>Tuba</td>
<td>Drums</td>
</tr>
<tr>
<td></td>
<td>Piano</td>
</tr>
</tbody>
</table>
## Orchestra & Concert Band

<table>
<thead>
<tr>
<th><strong>Orchestra</strong></th>
<th><strong>Concert Band</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flutes</td>
<td>Flutes</td>
</tr>
<tr>
<td>Oboes</td>
<td>Oboes</td>
</tr>
<tr>
<td>Bassoons</td>
<td>Bassoons</td>
</tr>
<tr>
<td>Clarinets</td>
<td>Clarinets</td>
</tr>
<tr>
<td><strong>Saxophones</strong></td>
<td><strong>Saxophones</strong></td>
</tr>
<tr>
<td>Bassoons</td>
<td>Bassoons</td>
</tr>
<tr>
<td><strong>Saxophones</strong></td>
<td><strong>Saxophones</strong></td>
</tr>
<tr>
<td>French Horns</td>
<td>French Horns</td>
</tr>
<tr>
<td>Trumpets</td>
<td>Trumpets</td>
</tr>
<tr>
<td>Trombones</td>
<td>Trombones</td>
</tr>
<tr>
<td>Tuba</td>
<td>Euphonium (Baritone)</td>
</tr>
<tr>
<td>Timpani</td>
<td>Tuba</td>
</tr>
<tr>
<td>Percussion</td>
<td>Timpani</td>
</tr>
<tr>
<td>Other Instruments – <em>saxophones, harp, piano, celesta, organ, voices, chorus, solo instruments</em></td>
<td><strong>Percussion</strong></td>
</tr>
<tr>
<td>Violin I</td>
<td></td>
</tr>
<tr>
<td>Violin II</td>
<td></td>
</tr>
<tr>
<td>Viola</td>
<td></td>
</tr>
<tr>
<td>Violoncello or cello</td>
<td></td>
</tr>
<tr>
<td>Contrabass</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix J: Text and Music Processing Comparison

<table>
<thead>
<tr>
<th>Word/Text Processing</th>
<th>Music Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evolved from a typewriter</td>
<td>Evolved from a music typewriter</td>
</tr>
<tr>
<td>Alphabet – 26 symbols (52 Upper &amp; Lower Case) always properly line up in a row.</td>
<td>Computer Notation – 256 symbols that are combined to notate the score (ASCI), plus special cases. Placement varies with each score. Up to 88 positions for piano, 128 MIDI possibilities.</td>
</tr>
</tbody>
</table>
| Word processor – computerized typewriter  
  • Variable spacing is available between letters (kerning)  
  • New versions convert speech to text (not perfect)  
  • On screen text can be converted to speech | Music Notation software  
  • Play a MIDI instrument and convert to notation (not perfect)  
  • Convert on screen notation into MIDI playback |
| One instance of each letter | Enharmonics D# or Eb  
Stems up or down/individual flags or beams  
Add augmentation dots and accents  
Expressive indications |
| Optical Character Reader – With Scanner  
Not 100% accurate | Music Scanning – Not 100% accurate (can only interpret notes and clefs – and in some cases articulation, chords or text) |
| N/A | Multiple instrumentalists reading from one score adds an additional vertical element |
Appendix K: Public Domain Music

The following resources help identify songs that are public domain, and which may legally be used without concern of copyright infringement.

Web Sites
http://www.pdinfo.com

A reference site to help the ordinary person identify music and songs in the public domain. . . royalty free music you can use anywhere and any way you choose . . . performance, teaching, sing-along, film, video, advertising, business, or personal. This list is intended only as help in researching public domain materials and is not sufficient documentation that music is in the public domain. You must work from an original or photocopy publication of the item with a copyright date old enough to qualify the item for public domain status.

An Abridged List of Music in the Public Domain

A
A-Hunting We Will Go - Trad
Adeste Fideles - 1782
Afternoon of a Faun - Debussy ©1895
Air for the G String - c1700
Alouette - ©1879
Amazing Grace - John Newton c1800
America, My Country 'Tis of Thee - tune 1744, wds Rev Samuel Francis Smith 1832
America the Beautiful - ©1895
Angels We Have Heard On High - 1800s
Arkansas Traveler © 1851
Ash Grove The Trad Welsh
Assembly (bugle call) Trad.
Au Clair de la Lune 1811
Auld Lang Syne music 1687 words 1711 verses 2&3 Robert Burns
Aura Lee H - 1885 1861
Ave Maria Gounod 1859
Ave Maria Schubert 1826
Away in the Manger ©1887

B
Baa Baa Black Sheep 1765
Bach Johann Sebastian 1685-1750)*
Barbara Allen '1885 1666
Barber of Seville Rossini * 1813
Battle Hymn of the Republic Julia Ward Howe ©1862
Beautiful Dreamer Foster © 1864
Beethoven Ludwig v *1770-1827)*
Berlioz, Hector (1803-1869)*
Bill Bailey Won't You Please Come Home ©1902
Bizet, Georges (1838-1875)*
Blue Bells of Scotland The '1885
Borodin, Alexander (1834-1887)*
Brahms Johannes (1833-1897)*
Bridal Chorus Lohengrin '1885
British Grenadiers '1885 1750

C
Camptown Races Foster ©1850
Can Can Offenbach 1858
Careless Love (probably trad) c1895
Carnival of Venice Bellak ©1854
Chopin Frederic (1810-1849)*
Chopsticks ©1877
Clementine ©1884
Cockles and Mussels 1750
Columbia the Gem of the Ocean 1843
Come All Ye Faithful Reading 1885
Comin' Thru the Rye 1796
Concerto for Piano #2 Rachmaninoff ©1901
Couperin , Francois (1668-1733)*
Czerny, Carl (1791-1857)*

D
Dance Macabre Saint-Saens ©1872
Death and Transfiguration R Strauss ©1891
Deck the Halls 1784
Did you Ever See a Lassie
Down by the Riverside ©1865
Drink to Me Only with Thine Eyes tune 1780 words 1616
Drunken Sailor The ©1891
Dufay Guillaume (c1400-1474)*
Dunstable John (1370?-1453)*

E
East Side, West Side (see "Sidewalks of New York")
Entertainer The Joplin ©1902
Eroica Symphony Beethoven
Espana Tango Albeniz ©1890
Evening Hymn (canon) Tallis 1890
Eyes of Texas Are Upon You The ©1903

F
Fantasie Impromptu Chopin 1855
Farmer in the Dell ©1883
Fifteen Miles on the Erie Canal
First Call (bugle call)
First Nowel The 1833
Fisher's Hornpipe - 1849
Flight of the Bumble Bee Rimsky-Korsikov ©1900
Flying Dutchman Overture Wagner 1844
For He's a Jolly Good Fellow 1783
Frankie and Johnny c 1869
Frere Jacques 1811
Frog Went A'Courtin' 1580
From the New World Dvorak ©1893
Funeral March Chopin 1840
Funeral March of a Marionette Gounod ©1872
Fur Elise Beethoven 1810
Fux Johann Joseph (1660-1741)*

G
Git Along Little Dogies ©1893
Give My Regards to Broadway ©1904
Go Tell Aunt Rhody 1844
Go Tell it on the Mountain ©1865
God Rest You Merry Gentlemen c 1770
Golden Slippers ©1879
Goober Peas 1864
Good King Wenceslas tune Swedish 1582 words ©1853-67
Good Morning to All (tune of Happy Birthday) ©1893
Goodnight Ladies 1853
Gottschalk, Louis Moreau (1829-1869)
Gounod, Charles Francis (1818-1893)
Grand March--Aida Verdi
Grande Valse Brillante Chopin 1834
Grandfather's Clock Henry C Work ©1876
Greensleeves 1580
Guido of Arezzo (d 1050 AD)
Gypsy Chorus --Carmen Bizet
Gypsy Music Liszt *

H
Habanera--Carmen Bizet
Hail to the Chief Scott 1812
Hallelujah Chorus 1767
Handel, George Frederick (1685-1759)
Happy Farmer The Schumann 1849
Hard Times Come Again No More Foster ©1855
Hark the Herald Angels Sing 1855
Haydn Franz Joseph 1732-1791)
Here We Go Round the Mulberry Bush 1857
Hey Diddle Diddle 1765
Hickory Dickory Dock 1765
Home on the Range c 1873
Humoresque Dvorak ©1894
Hungarian Dances Brahms * #5--1859 ©1869
Hungarian Rhapsodies Liszt *

I
I Gave My Love a Cherry 1850
I Saw Three Ships Come Sailing 1765
I'm a Yankee Doodle Dandy ©1904
I've Been Working on the Railroad ©1894
In the Good Old Summertime ©1902
Invitation to the Dance Weber * 1821
Irish Washerwoman 1792
It Came Upon a Midnight Clear 1850

J
Jingle Bells 1857
John Henry ©1873
Johnny Has Gone for a Soldier, Irish trad.
Joshua Fit the Battle of Jericho ©1865
Josquin Des Pres (c1450-1521)
Joy to the World Handel 1839

K
Kreutzer LM Kreutzer R-1890

L
La Boheme Puccini *
La Donna e Mobile--Rigolette Verdi
Largo--New World Symphony Dvorak
Liebestramme Liszt 1847
Liszt, Franz (1811-1886)
Little Boy Blue (Mother Goose) 1765
Little Brown Jug Joe Winner ©1869
Little Jack Horner 1765
London Bridge 1744
Londonderry Air 1855
Long Long Ago Bayly ©1843
Lord's Prayer The 1885
Lullabye, Brahms
Lully Jean Baptiste (1633-1687)

M
Man on the Flying Trapeze The ©1868
Maple Leaf Rag ©1899
March of the Toys The ©1903
March Slav Tchaikovsky ©1876
Marriage of Figaro The Mozart * 1786
Mary Had a Little Lamb Sarah Josepha Hale ©1866
Meet Me in St Louis, Louis ©1904
Mendelssohn-Bartholdy Felix (1809- 1847)
Messiah The Handel *
Michael Row the Boat Ashore 1867
Mighty Fortress Is Our God A 1529
Minuet in G Beethoven 1796
Monteverde Claudio (1568-1643)
Moonlight Sonata Beethoven 1802
More, Sir Thomas (1478-1535)
Morely, Thomas (1557-1602)
Mousorgsky, Modeste (1835-1881)
Mozart, Wolfgang A (1756-1791)
My Bonnie Lies Over the Ocean ©1881
My Old Kentucky Home Foster -©1853

N
New World Symphony Dvorak *
Night on Bald Mountain A Mussorgsky ©1887
Nocturne op 9 no 2 Chopin 1832
Norwegian Dance The Grieg ©1881
Now I Lay Me Down To Sleep ©1866
Nutcracker Suite The Tchaikovsky *

O
O Holy Night 1843
O Little Town of Bethlehem ©1868
O Tannenbaum Ernst Anschutz c 1824 trad tune
Obrecht Jacob (1430-1505)
Offenbach, Jacques (1819-1880)
Oh Susannah Foster -©1848
Oh Them Golden Slippers James A Bland ©1879
Old Folks at Home The Foster -©1851
Old MacDonald Had a Farm words 1706 tune 1859
Orpheus in the Underworld Offenbach *

P
Pat-a-Cake Mother Goose
Pathetique Sonata Beethoven 1799
Pavanne for a Dead Infanta Ravel ©1899
Peer Gynt Suite Grieg * ©1888
Peter and the Wolf Prokoviev*
Peter Peter Pumpkin Eater 1765
Piano Concerto #1 Tchaikovsky ©1875
Piano Concerto #2 Rachmaninoff
Piano Concerto Grieg ©1873
Pictures at an Exhibition Mussorgsky ©1887
Pirates of Penzance Gilbert & Sullivan*
Pizzicato Polka Strauss
Polly Wolly Doodle Foster 1885
Polonaise Militaire Chopin 1840
Polovetsian Dances Borodin ©1888
Pomp and Circumstance Elgar ©1902
Pop Goes the Weasel ©1853
Prelude in C# Minor Rachmaninoff ©1893
Prelude op 28 no 7 Chopin 1839
Purcell, Henry (1658-1695)

Q
Quantz, Johann Joachim (1697-1733)

R
Rameau, Jean Philippe (1683-1764)
Red River Valley The ©1896
Reverie Debussy ©1895
Riddle Song The 1850
Robert Burns *
Rock of Ages Hastings ©1832
Rock-a My Soul 1830
Romeo and Juliet Tchaikovsky* 1871
Rosini C M Rosini 1890
Rossini Gioacchino Antonio (1792-1868)
Rousseau, Jean Jacques (1712-1778)
Row Row Row Your Boat words 1852 music 1881
Rub-a-Dub-Dub Mother Goose

S
Sailing Sailing (Over the Bounding Main) ©1880
Sailor's Hornpipe 1795
St Matthew's Passion Bach *
Scarlatti, Alessandro (1659-1725)
Scarlatti, Domenico (1685-1757)
Scheherazade Rimsky-Korsikov ©1890
Schubert, Franz Peter (1797-1828)
Schumann, Clara Josephine Weick (1819-1896)
Schumann, Robert (1810-1856)
Semper Fidelis Sousa ©1888
Serenade Schubert 1824
She'll Be Comin' Round the Mountain ©1899
Shenendoah 1826
Shoo Fly Don't Bother Me ©1869
Silent Night Holy Night Josef Mohr M Franz Gruber 1818
Silver Moon 1849
Simple Simon 1765
Slavonic Dances Dvorak ©1887
Sleeping Beauty Waltz Tchaikovsky ©1890
Sonatas of III Parts Henry Purcell* 1683
Song of India Rimsky-Korsikov ©1897
Song of the Volga Boatman ©1867
Sorcerer's Apprentice The Dukas ©1897
Spring Song Mendelssohn 1844
Star Spangled Banner 1885 9/13/1812 at Ft McHenry
Stars and Stripes Forever March ©1897
Strauss, Joseph (1827-1870)
Streets of Laredo 1860
Summer is Icumen In 1226
Swan The Saint Saens ©1887
Swing Low Sweet Chariot 1872

T
Ta Ra Ra Boom De Ay ©1891
Tales from the Vienna Woods J Strauss ©1868
Tallis Thomas (1505-1585)
Taps
Tarantella (Italian trad)
Tchaikovsky Peter Illich (1840-1893)
Teleman Georg Philipp (1681-1767)
Tenting Tonight on the Old Camp Ground Kittredge -© 1864
There is a Tavern in the Town ©1883
There Was A Crooked Man (Mother Goose)
There Was an Old Woman Who Lived in a Shoe 1765
Three Blind Mice 1609
Till Eulenspiegel R Strauss ©1895
Toreador Song-Carmen Bizet ©1873
Toyland Herbert 1885 ©1903
Tramp!Tramp!Tramp! Root -© 1864
Trois Gymnopedies Satie
Turkey in de straw 1834
Twinkle Twinkle Little Star 1765
U
Unfinished Symphony Schubert

V
Verdi Giuseppe (1813-1901)
Vivaldi, Antonio (c 1680-1743)

W
Wagner, Wilhelm Richard (1813-1883)
Waltz of the Flowers- The Nutcracker Suite Tchaikovsky ©1891
Waltzing Matilda ©1903
We Three Kings of Orient Are - 1857
Weber Carl Marie von (1786-1826)
Wedding March A Midsummer Night's Dream Mendelssohn 1844
Wedding March - Lohengrin Wagner 1852
Wedding March Mendelssohn
Well-Tempered Clavier 1 Bach * 1722
When Johnny Comes Marching Home Lambert -© 1863
When the Saints Go Marching In ©1896
Wildwood Flower (I'll Twine Mid the Ringlets) Maude Irving & JD Webster©1860
William Tell Overture Rossini 1829
Wolf, Hugo (1860-1903)

Y
Yankee Doodle c 1775 melody pub Glasgow 1782
Yellow Rose of Texas J K ©1853
Appendix L: MIDI Theory and Music Notation Software

An understanding of MIDI theory often helps the student, especially when working with MIDI instruments (either hardware or virtual instruments). Your instructor may lead a discussion of this topic, or assign these questions for homework. For preparation for such a discussion, students should read the overview of MIDI in the Finale and Sibelius Help Files.

Questions for further study:

• How do you save MIDI from your notation program? How do you save Digital Audio files? What is the difference? What can be done with each after saving?

• How do you open standard MIDI files in your notation software? Why do some MIDI files convert easily when opened with notation software and others do not?

• What items are lost when a MIDI file from one notation program is opened in a different notation program?

• What are MIDI channels? How many are there? For what are they used? Which is the universal drum channel?

• What are MIDI note velocities? How are they different from the master volume? How may they be edited in your notation software?

• What are patch changes? How are they accomplished in your notation program?
• Describe the MIDI connections used in your classroom, in your lab at school (if applicable), and at home?

• What is General MIDI and why was it necessary?

• What is the difference between hardware musical keyboards and virtual instruments? Describe advantages and disadvantages of both.

• To what degree do MIDI instruments sound like real instruments? Describe the best way to artfully arrange for existing acoustic instruments using MIDI.

• What musical timbres are possible through MIDI that are not possible with acoustic instruments? What considerations are necessary when substituting these instruments for acoustic instruments? What different compositional techniques are suggested by the new timbres (pick one or two to describe)?
Optional: How do you customize MIDI playback for the following?
  o Dynamics
  o Tempo including accelerando
  o Overall volume
  o Pan
  o Note duration

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Optional: Examine and describe the MIDI hardware setup used in this class.

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Appendix M: Notes for the Instructor

Completing the Final Projects

In a typical Monday through Friday one-week workshop, students may wish to begin working on final projects as early as Wednesday evening. Students are encouraged to create final projects relevant to their teaching needs but the instructor must approve all projects.

Final Projects:

1. **Lead Sheet**
   The Lead Sheet project must be a complete song with a minimum of 32 measures. Melody and chords symbols are required. Lyrics are optional. Students may use either a selection supplied by the instructor or any selection approved by the instructor. *(Bill Bailey supplied by TI:ME)*

2. **Small Ensemble Score**
   The Small-Ensemble Score project must be a complete song with a minimum of 32 measures. Students may use either a selection supplied by the instructor or any selection approved by the instructor.

3. **Orchestral or Jazz Full Score & Extracted Parts**
   The Full Score project may be a complete work or any portion of a large with a minimum of 32 measures. The work must have eight or more staves and at least one transposing instrument. This project will be submitted with performance notes a full score as well as individual parts in their appropriate transpositions. The students are free to select their own projects, which meet the criteria and instructors approval.

4. **One of the following Classroom project options**
   a. A paper or test that includes music notation graphics exported to word processing software
   b. Music reading exercises for students
   c. Student material for improvising

Two Lesson Plans
Each student will describe several ways to use music notation software to enhance teaching and learning. Each student will demonstrate this knowledge by creating two lesson plans that incorporate the MENC National Standards for music. The “Lesson Plans” page in the members-only section of ti-me.org has hundreds of lesson plans to serve as examples. There you will also find a guide to creating good lesson plans and an online form to help you create nicely formatted lesson plans.

Show and Tell: Students Share Their Projects
In a typical Monday through Friday one-week workshop with between 10 and 16 students, the instructor will set aside at least two hours on Friday afternoon for show and tell. During this time, Students will come up to the front to display their projects on the video projector and describe the challenges they faced in creating the score and how they intend to use the project in their teaching.

**Using the Appendices**

Many of the appendices are for reference only, or contain optional activities. The guide below shows connections between the course topics and the appendices.

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Some topics such as the following are not specifically integrated into the coursebook. It is expected the instructor will cover them as they apply to each topic.

- Navigation
- General purpose editing such as selecting music, copying, pasting, etc.
- Various kinds of playback

**NOTE:** The scores for students are provided in a file entitled, *ScoresForTIME2A-Notation.pdf*. Source files in Finale, Sibelius, and XML format are available in the instructor area of the TI:ME web site.
Appendix N: Music for Projects

See the file, Scores for TIME 2A.pdf, for copies of the scores listed below, or see or the scores provided by your instructor.

Project 1a – Lead Sheet – Auld Lang Syne

Project 1b – Lead Sheet – Scarborough Fair

Project 2a – Small Ensemble - Dona Nobis Pacem

Project 2b – Small Ensemble - Fa Una Canzona

Project 2c – Small Ensemble - Mouret’s Rondeau

Project 3a – Polyphony - Gymnopédie arranged for piano and drum set

Project 3b – Polyphony – Star Spangled Banner

Project 3c – Polyphony - Minuet in G

Project 4a – Full Score - Largo for Beginning Band

Project 4b – Full Score - Largo for Strings and rhythm section

Project 4c – Full Score - Bill Bailey for Jazz Ensemble

Project 4d – Full Score – Haydn’s Surprise Symphony, excerpt from Movement II

Project 5a – Readiness Exercises or Flash Cards

Project 5b – Readiness Exercises or Flash Cards

Project 6 – Lesson Plans and Curriculum Integration