

COMPOSITION PROJECT #6a

(twelve-tone matrix)

1. Create a twelve-tone row and complete a matrix, following the steps below:
 - a. Determine an ordering for the twelve pitches of the chromatic scale using each pitch *once and only once*. Consider intervallic characteristics, combinatorial possibilities, invariance, etc., when creating this series. This is your **prime** set (P-0).
 - b. Draw a twelve by twelve grid and write the pitch names of your prime set in the *top row*. (In this explanation, *rows* refer to the horizontal set of boxes while *columns* refer to the vertical set of boxes.) To simplify matters and reduce the possibility of errors, it is suggested that you use *only sharps or flats* rather than mixing them throughout your matrix: e.g., use *either C#, D#, F#, G#, A# or Db, Eb, Gb, Ab, Bb, but not C#, Eb, F#, Ab, Bb*.
 - c. To derive the **inversion** (I-0) of this row, fill in the *left-hand column* with the pitches that are the intervallic *mirror-image* of the pitches in the prime set. For example, if the first three notes of your prime set are B, C#, F# (the second and third notes of the series being a major second *above* and a perfect fourth *below* the starting pitch, respectively), then the first three notes of your inversion will be B, A, E (the second and third notes of the series being a major second *below* and a perfect fourth *above* the starting pitch, respectively).
 - d. You now have the original version of the **prime** (P-0, the top row read *left to right*), **retrograde** (R-0, the top row read *right to left*), **inversion** (I-0, the left column read *top to bottom*), and **retrograde-inversion** (RI-0, the left column read *bottom to top*) forms of your tone row. At this point you may fill out the remainder of the matrix through transposition of these rows.
 - e. The easiest way to complete the matrix is to transpose the top row at each pitch level indicated by the pitches in the left-hand column. Thus, to continue with the example given in (c) above, all of the notes in the second row would be transposed a *major second below* the notes in the top row, the notes in the third row would be transposed a *perfect fourth above* the top row, etc. It is recommended that all transpositions are made in relationship to the pitches in the top row, so that any transposition errors that might occur will be isolated to a single row rather than creating a chain reaction of errors throughout the matrix.
 - f. If done correctly, there will be no repeated pitches in any of the rows or columns. Once the 144 boxes of the matrix have been filled, you can quickly check for mistakes by looking at the diagonal line of pitches from the upper left corner to the lower right corner: these should all be the same. You can also quickly scan for possible errors by making sure that each row and column has exactly five “black notes” (i.e., pitches with a sharp or flat). Correct any errors that may be found.
 - g. Once the matrix is complete and correct, you may use it to determine the 48 possible forms of your row (four *permutations* times twelve *transpositions*) in the composition of your work (Project #6b). *Label all transpositions and permutations in the matrix!*
2. Write a brief **analytical commentary** on this tone row, discussing intervallic characteristics, combinatorial possibilities, invariance, etc. (if any). What are the strengths and weaknesses of this series? How might it be used effectively in a composition?
 - The project will be discussed in class on **Friday, November 9** and is due (matrix and brief analytical commentary) on **Friday, November 16**. *Don't forget to keep a copy of your matrix to use for Project #6b!*

COMPOSITION PROJECT #6b

(twelve-tone study)

1. **Pre-compositional exercise:** using the matrix developed in Project #6a, select several row permutations/transpositions to be used in your piece.
 - a. Identify important relationships (e.g., combinatoriality, invariance) among these selected rows; indicate how these may be used in your piece.
 - b. Develop several chord constructions and melodic lines based on cells (trichords, tetrachords, hexachords) within your selected rows.
 2. **Composition:** Using your pre-compositional material to guide you, compose a short dodecaphonic work (20-30 measures) in three-part (ABA) form for two or three available instruments based upon this tone row. In order to provide the contrast necessary to distinguish between the A and B sections of your work, you must determine how to apply the row in each section; one example might be to apply one or two permutations/transpositions in the A sections and contrasting (complementary?) permutations/transpositions in the B section.
 3. The row is to be used rather strictly, i.e., in the “classic” sense; this will be discussed in the lab. Also make sure to consider *and apply* both categories of tone row applications discussed in class (e.g., partitioning); this distinction could also be used to distinguish between A and B sections of the work.
 4. The music should always *transcend* the technical aspects of the row/matrix! Regardless of how interesting your materials may be, the resulting music is what really counts. Consider the same issues we discussed in project #2 when shaping your original tonal melody: phrasing, contour, motives, sequence, conjunct vs. disjunct motion, etc. Also consider such issues as voice leading and contrapuntal independence between voices. The fact that your twelve-tone piece is atonal does not diminish the relevance of these basic musical concepts!
 5. Be careful with enharmonic spellings! Regardless of how the pitch is labeled in the matrix, you should use the spelling that best fits the melodic and harmonic context of the piece. For example, a melodic line with the spelling F-D#-Ab-B would be better notated as F-Eb-Ab-Cb (or E#-D#-G#-B) to more accurately reflect the properties of the individual pitches and to avoid using such awkward intervals as diminished thirds, double-diminished fifths, and augmented seconds.
 6. **Analysis/Commentary:** Make a copy of the completed piece and analyze by labeling the various row forms; using colored pencils to differentiate the different row forms may be helpful. Once you have analyzed your work, write a brief commentary discussing (a) how you took advantage of the unique properties of the row and (b) how it was applied within each of the sections. Also provide your overall thoughts on the use of this compositional system.
- The project will be discussed in class on **Friday, November 16**; be prepared to read the works in class on **Wednesday, November 21**.
 - The entire project—including pre-compositional sketch, score, analysis, commentary, and a copy of the matrix (project #6a)—is due in class on **Wednesday, November 28**