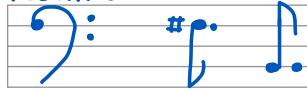


# [DIAGNOSTIC]

NOTATION:



- \* middle → up to you!
- \* below middle line → up, stem on right
- \* above middle → down, stem on left

OCTAVE #:

C4

\*C supremacy



C3

b

C2

A<sub>b2</sub>

ENHARMONIC:



F<sub>b5</sub> sounds same  
as E, but DRAWN diff.

x<sub>2</sub>  
-

Dx6

ties goes w/  
noteheads

RHYTHM: see where strong beats are

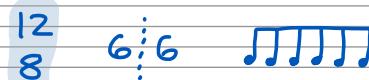
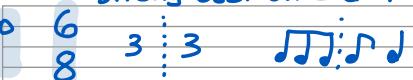
DUPLE



tie across  
the "folds"

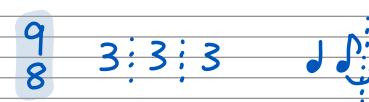
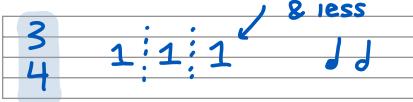
strong beat on 1 3 5

COMPOUND  
DUPLE



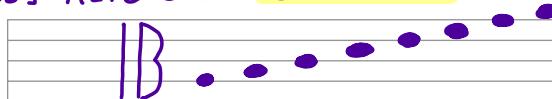
\*will never see  
2 8th notes

TRIPLE  
METER



for 8th notes  
& less

[2/5/25] ALTO CLEF: natural minor



A3 B3 C4 D4 E4 F4 G4 A4  
do re me fa sol la te do  
\*for minor!

harmonic minor: raise te → ti

#

\*leading tone  
\*creates more tension  
\*augmented 2nd  
\*big gap b/t la & te

melodic minor: ascending → harmonic  
descending → natural

G#4  
ti

natural: W H W W H W W  
harmonic: W H W W H 3H H  
melodic: W H W W W W H

# ● # ●

la ti do

RELATIVE KEYS: same key/sign (C & Am)

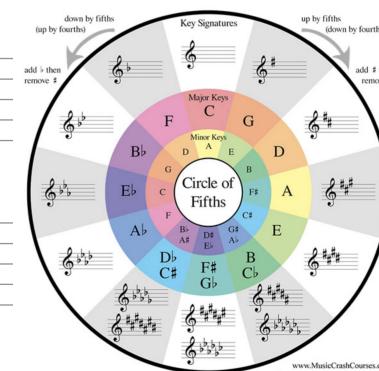
- \* major → down minor 3rd = relative minor
- \* major → scale degree 6 ("la based do")

PARALLEL: same tonic (A & Am)

- \* remove 3 sharps or
- \* add 3 flats

KEY SIGNATURES → use circle of fifths!

\* drawing → start w/ F, down 4th, up 5th, etc



\* B maj → half step down → A# will be last #

F C G D A E B

H-minor:  
W H W W H 3H H

M-minor:  
W H W W W W H

FLATS: start on B → up 4th, down 5th → BEADGCF



\* name of key sig. is 2nd to last flat (ex: B-flat → B-flat major)

#### NUMBERS IN MUSIC THEORY (lesson 9)

- roman numerals - relate chords to keys
- scale degrees - relate notes to keys
- chord degrees - relate notes to chords
- intervals - relate notes to other notes
- figured bass - relate notes to the bass voice

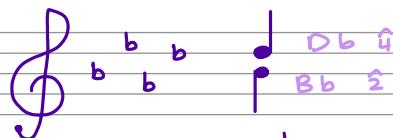
\* be specific as possible in music! ex: 7th → chordal 7th or scale degree 7??

Ex: Ab: V 6

• roman numeral: bottom note is scale degree 5 in Ab, AKA Eb (Eb G Bb Db)

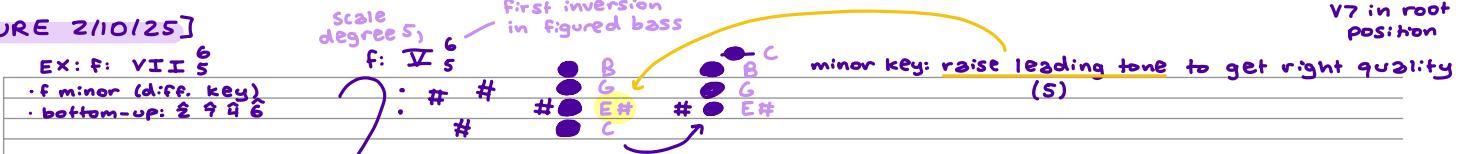
• 6/5 abbreviates 6/5/13

• means that 3rd of chord (G) is bass instead: Bb Db Eb G



V7 in root position

[LECTURE 2/10/25]

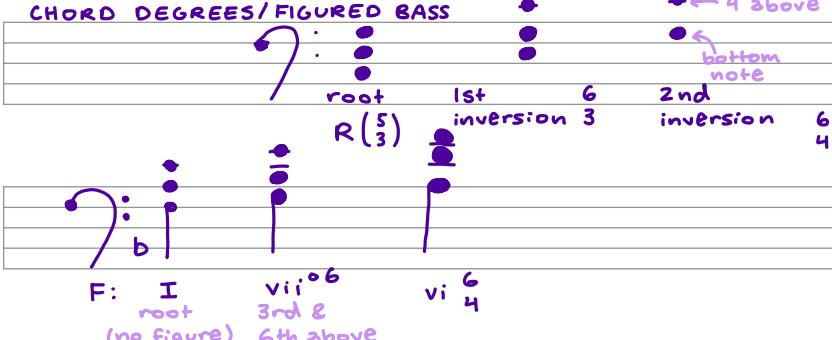


#### QUESTIONS:

- roman numerals → writing
- figured bass / chord ID tricks

\*HOW-TO: figure out notes in a scale  
- circle of 5ths tells you which notes to make b & #

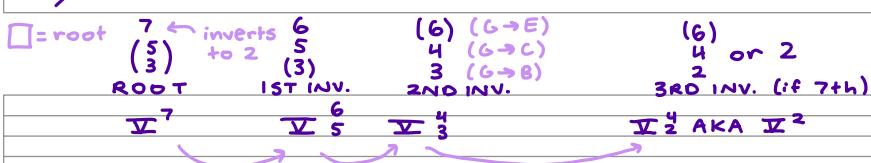
#### CHORD DEGREES / FIGURED BASS



F: I root vii 6 3rd & 6th above  
(no figure)

RECAP: { R triad: (5)  
1st triad: (6)  
2nd triad: (6 4)

\* by convention, some figured bass #'s are optional to include - in paren.  
\* good thing to memorize

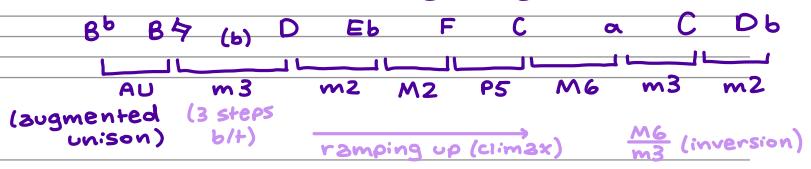


Ex: VI 4 → VI 3  
G B D F  
G B D F

#### INTERVALS:



#### BE OUR GUEST key changes:



#### HOMEWORK:

- modal scales
- basically "rotations" / variations of maj/min. scale w/ alterations
- phrygian (starts w/ H step)

b 2 = ra   #4 = fi

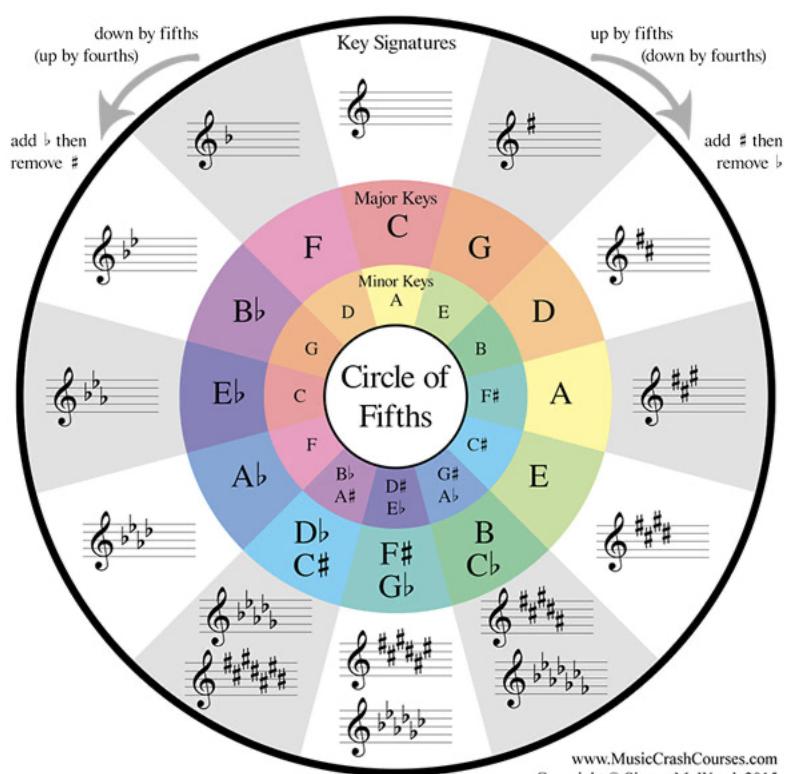
## 21M.301 Fundamentals Review

### 1. Notation basics:

- a. Stems go on the **left** if stems are down, and on the **right** if stems are up
- b. Stems go **up** if the note is below/on the middle line and **down** if the note is above/on it (if you have a group of eighth or sixteenth notes beamed together, majority rules on which direction to stem)
- c. Accidentals belong **on** the line or space of the pitch, not above or below, and they go to the **left** of the pitch
- d. Ties connect noteheads, not stems

2. **Rhythm:** Rhythms should be grouped by the base value of the time signature (so in 2/4 we want quarter note groupings, 3/4 the same, and so on)—**but** in compound time signatures we group into groups of 3, so 9/8 groups in groups of 3 eighths and so on. You may not use a dot to cover over one of these groupings, but can use ties. Groups should help reflect the integer strong beats (we'll discuss what I mean by this in class).

3. **Key signatures:** codify the number of sharps and flats used in the key. There's a particular order and required placement; see the circle of fifths below:



- a. Take a look at how key signatures work slightly differently in different clefs:

A KEY SIGNATURE IS A GROUP OF ACCIDENTALS PLACED AT THE BEGINNING OF EVERY LINE OF MUSIC, JUST TO THE RIGHT OF THE CLEF, THAT INSTRUCTS THE PERFORMER TO APPLY THOSE ACCIDENTALS TO EVERY CORRESPONDING NOTE IN THE PIECE UNLESS SPECIFIED OTHERWISE.



FOR EXAMPLE, THIS KEY SIGNATURE INDICATES THAT EVERY F, C, AND G IN THE PIECE SHOULD BE SHARPED, REGARDLESS OF OCTAVE!

OH, AND ANOTHER THING: THE ACCIDENTALS HAVE TO BE PLACED IN THE CORRECT ORDER, AND THEY NEED TO FOLLOW A PARTICULAR PATTERN OF PLACEMENT THAT VARIES SLIGHTLY DEPENDING ON THE CLEF BEING USED! IF YOU DEVIATE FROM THIS, YOU, AS A COMPOSER, WILL BE MOCKED!

TENOR CLEF SHARPS! WHAT'S YOUR PROBLEM? YOU NEED TO CONFORM!



HA HA... NEVER!

LICENSED UNDER A CREATIVE COMMONS BY-NC-ND LICENSE - VISIT [TOBYRUSH.COM](http://TOBYRUSH.COM) FOR MORE

- b. Each key signature refers to two keys, one Major and one minor (**relative keys**)
- c. **Parallel keys** share a tonic, not a key signature.

#### 4. Scales

- a. **Scales** are collections of pitches from which a piece of music is written.
- b. Most Western scales are **heptatonic** (seven distinct pitches), but there are many **pentatonic**, **hexatonic**, and **octatonic** scales in Western and non-Western musics.
- c. **Major** scales follow the pattern W-W-H-W-W-W-H

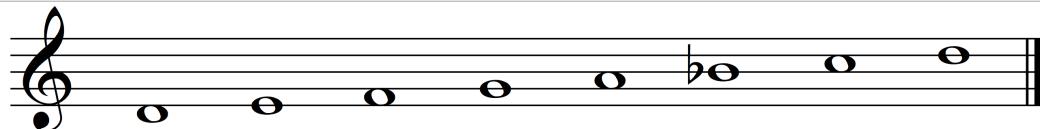
ISO: D4 E4 F#4 G4 A4 B4 C#5 D5

Scale degree: 1 2 3 4 5 6 7 8/1

Solfège: do re mi fa sol la ti do

d. **Minor scales** have 3 types (see below)

i. **Natural minor:** W-H-W-W-H-W-W



ISO: D4 E4 F4 G4 A4 B<sub>b</sub>4 C5 D5

Scale degree: ̂ ̃ ̄ ̅ ̆ ̇ ̈ ̉/̂

Solfège: do re me fa sol le te do

ii. **Harmonic minor** (for chords): W-H-W-W-H-A2-H



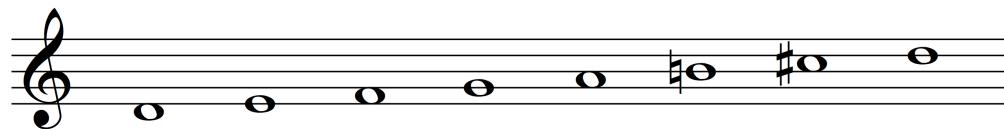
ISO: D4 E4 F4 G4 A4 B<sub>b</sub>4 C<sup>#</sup>5 D5

Scale degree: ̂ ̃ ̄ ̅ ̆ ̇ ̈ ̉/̂

Solfège: do re me fa sol le ti do

iii. **Melodic minor** (for melodies that are ascending or descending from tonic)

- **Ascending melodic minor (used to approach tonic from below):** W-H-W-W-H-W-W



ISO: D4 E4 F4 G4 A4 B<sub>b</sub>4 C<sup>#</sup>5 D5

Scale degree: ̂ ̃ ̄ ̅ ̆ ̇ ̈ ̉/̂

Solfège: do re me fa sol la ti do

- **Descending melodic minor (used if not approaching tonic from below):** same as natural minor

## Diatonic modes (often used in jazz/pop/folk/early Western classical music)

Rotations of a diatonic (white key on piano) scale; can start on any pitch but can be easily figured out from their white key rotations:

- D→D is called **Dorian** (D-E-F-G-A-B-C-D=WHWWWWH)
  - For example: F Dorian would follow the whole/half step pattern but start on F: F-G-Ab-Bb-C-D-Eb-F
- E→E is called **Phrygian** (E-F-G-A-B-C-D-E=HWWWWHHW)
- F→F is called **Lydian** (F-G-A-B-C-D-E-F=WWWWHWWH)
- G→G is called **Mixolydian** (G-A-B-C-D-E-F-G=WWHWWWH)
- A→A is called **Aeolian** (A-B-C-D-E-F-G-A=WHWWWWH)
  - equivalent in sound but not function to **natural minor**
- B→B is called **Locrian** (B-C-D-E-F-G-A-B=HWWHWWWW)
  - not often used in classical styles but common in some other traditions)
- C→C is called **Ionian** (C-D-E-F-G-A-B-C=WWHWWWWH)
  - equivalent in sound but not function to **Major scales**

## Scale Practice

1. Write an ascending B melodic minor scale



2. Write a descending Bb Major scale



3. Write an ascending G Lydian scale



4. Write a descending Db Phrygian scale

### Key Signature Practice

1. Identify the following **minor** keys in the space below the staff.

2. Write the indicated key signatures for these **major** keys.

3. Identify the scale-degree names for the pitches below in A minor.

A musical staff in G clef (treble clef) with seven notes. The first note is circled in blue and labeled "submediant".

4. Add the correct accidentals to turn these scales into the indicated **natural minor**.

E minor

A musical staff in G clef (treble clef) showing a scale for E minor. The notes are: E, F#, G, A, B, C, D.

G minor

A musical staff in bass clef (bass clef) showing a scale for G minor. The notes are: G, A, B, C, D, E, F#.

5. You are given a note and told what scale degree it is. Write the appropriate **natural minor** scale.

A is  $\hat{5}$

A musical staff in G clef (treble clef) showing a scale starting on A. The notes are: A, B, C, D, E, F#, G. The note A is circled in blue.

C $\sharp$  is  $\hat{7}$

A musical staff in bass clef (bass clef) showing a scale starting on C sharp. The notes are: C sharp, D, E, F, G, A, B. The note C sharp is circled in blue.

C $\flat$  is  $\hat{6}$

A $\sharp$  is  $\hat{2}$

6. Identify the minor key signature (lowercase) and its **relative major** (uppercase).

F/d

A musical staff in G clef (treble clef) showing a scale with one flat. The note F is circled in blue.

A musical staff in bass clef (bass clef) showing a scale with one sharp. The note G is circled in blue.

# Triads Handout

## Triad Qualities

\*defined by quality of 3rd note

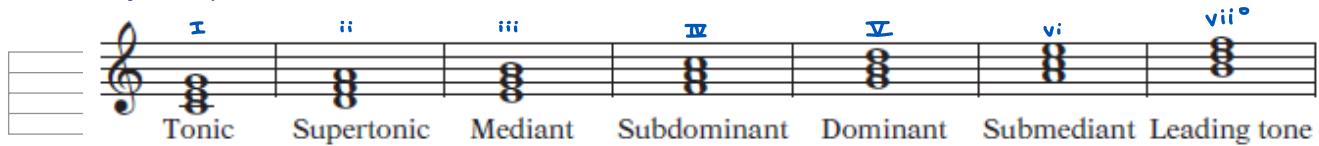


Major triad is m3   Minor triad is M3   Diminished triad is above M3   Augmented triad is M3 above M3

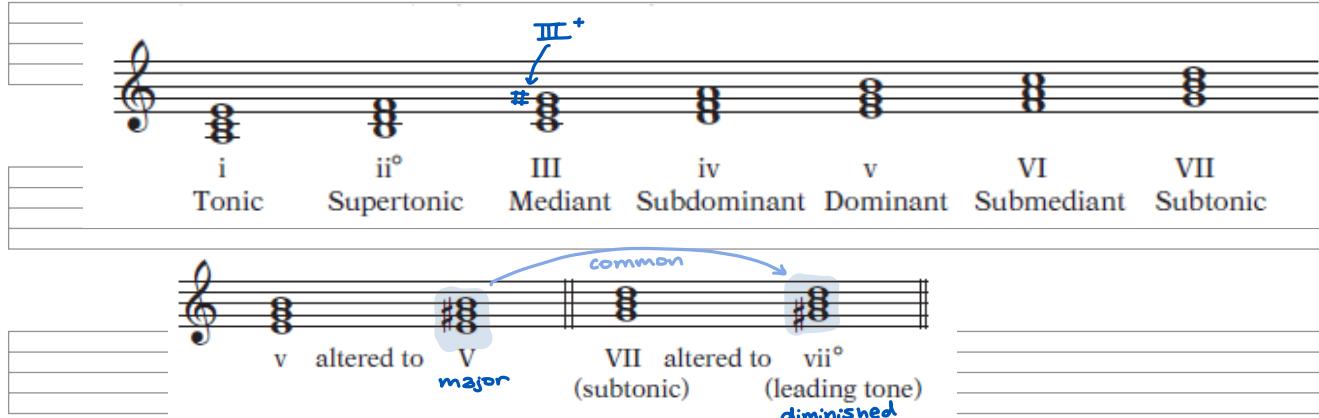
m3 → 3 intervals   M3 → 4 intervals, or  
2 w steps

## Triad Names

Major keys:



Natural minor:



With common alterations for harmonic minor:

## Inversions

Chord inversion, like interval inversion, involves putting different parts of the chord at the bottom (the bass of the chord): size of intervals over root note

Part of triad in bass	Inversion name	Intervals over bass note
Root	Root position	5 <sup>th</sup> , 3 <sup>rd</sup>
Third	1 <sup>st</sup> inversion	6 <sup>th</sup> , 3 <sup>rd</sup>
Fifth	2 <sup>nd</sup> inversion	6 <sup>th</sup> , 4 <sup>th</sup>

Bolded intervals=shorthand for figured bass (size of intervals over the lowest sounding pitch).

**LEAD SHEETS:**

- C<sup>7</sup> → major minor 7th
- C<sup>-</sup> → minor
- C<sup>+</sup> or C<sup>°</sup> → dim.
- CΔ7 → 7 chord

Root position (5) First inversion (6) Second inversion (4)

The diagram shows three sets of musical staves. Each set contains three chords: Root position (5), First inversion (6), and Second inversion (4). The first staff uses a treble clef, the second a bass clef, and the third a treble clef. The chords are built on C, E, and G respectively. Annotations include: 'indicates inversion w/ slash' above the first inversion of the middle staff; 'bass note E' below the root position of the middle staff; 'C/E' and 'bass note E' below the first inversion of the middle staff; 'C/G' and 'bass note G' below the second inversion of the middle staff; and 'E/G#' and 'E/B' below the first and second inversions of the bottom staff respectively.

**Practice exercises:**

1. Given the root, build the following triads, then identify them using chord symbols (e.g., if built on C: CM, cm, c+, c°)

A single staff with a bass clef. It shows six different root positions with their corresponding chord symbols and analyses. Annotations include: 'Gm → Bb maj b: B,E' under the first chord; 'E → #: F,C,G,B' under the second chord; 'G#M' with 'm3 M3' circled in red under the third chord; 'A → C' and 'C d' with 'lowered 5th, minor 3rd' circled in blue under the fourth chord; 'C# → FCGDAEB' and 'C# A raised 5th' under the fifth chord; and 'Fm → G# → Ab → b: BEAD' and 'Fm' under the sixth chord.

2. Given the fifth, build the following triads, then identify them using chord symbols.

A single staff with a treble clef. It shows six different fifths with their corresponding chord symbols and analyses. Annotations include: 'Bb → b:B,E' under the first chord; 'Ab' under the second chord; 'G m' under the third chord; 'B M' with 'raise 5th' circled in red under the fourth chord; 'F m' under the fifth chord; and 'AbbA' with 'raise 5th' circled in red under the sixth chord.

3. Given the key name and written triad, identify the **Roman numeral and inversion** (figured bass) for each chord below.

ex.

1

2

3

4

Four sets of musical staves, each containing one chord. The first staff has a circled '1' with a red oval around it. The other three staves have Roman numerals above the staves: '1', '2', and '3' respectively.

Ab: vii<sup>o</sup>

Eb: vi

f#: iv

E: vii<sup>o</sup>

g: III<sup>6</sup>

21M.301  
Spring 2022

5      6      7

F: 2    G: G ?    c: C

4. Identify the chords used in this music:

1. Rewrite these chords in the bass clef (this is called **reduction**).

a. Write the lowest note where it is

b. Stack all additional pitches on top of it (**do not move below the lowest note**)

c. Don't duplicate any pitches

2. Identify the chord you have written—this is the harmony for that beat.

3. If the chord is not a root position triad, please use figured bass to identify its inversion

"Nun danket," mm. 1–4

reduction:

Triad quality: M M M

Roman numeral: Eb: I I I<sup>6</sup>

**PERFECT 5TH: 7 intervals above (8 half steps counting current note)**

M6 → P5 + 2 intervals

m6 → P5 + 1 interval

m7 → P5 + 3 intervals

M7 → P5 + 4 intervals

m2 → 1 interval above

M2 → 2 intervals above

P4 → 5 intervals

A6 → 10 int.

m3 → 3 int.

M3 → 4 int

D maj      3↑ A      5↑ A      6↑ F  
6↑ D      3↑ D      4↑ D      4↑ O  
F      root      I      I<sup>6</sup>  
I<sup>6</sup>  
I<sup>(3)</sup>

7:    0    b0    #0

0    0    0

octave    d8    A8

0    #0    b0 0

3

Au

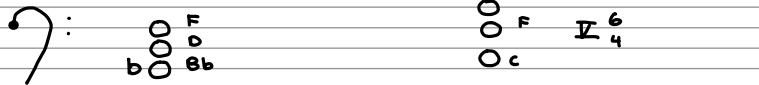
m2  
(1 interval above)

\*count steps & figure out how far it is!

d/m/M/A

**INVERSIONS:**

- start on bass (lowest) note
- get other notes as close to bass w/o flipping
- count intervals

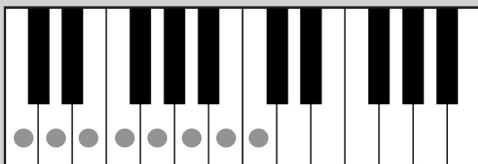


[Handwriting practice area]

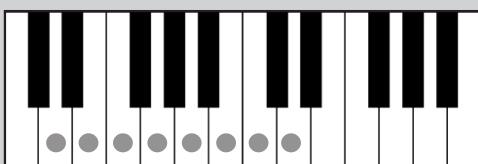
# Modal Scales

Commonly used in jazz harmony, the **modal scales** are a series of seven different scales each with their own pattern of whole and half steps. To make them easier to understand we can relate these patterns to the white notes of the piano and the C major scale.

When you play all the white notes on a piano, starting on C and ending on C you have a C major scale. This pattern of whole and half steps is also called the Ionian mode.

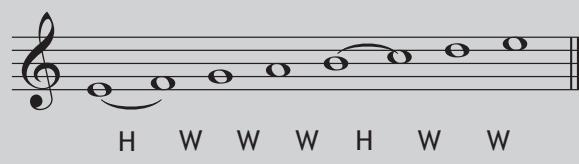
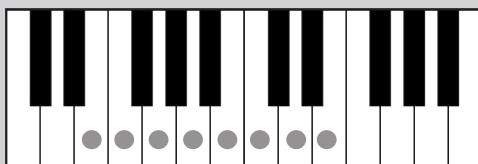


When you play all the white notes on a piano, this time starting on D and ending on D, you have a different order of whole and half steps. Therefore we have a different scale. This is called the Dorian mode.

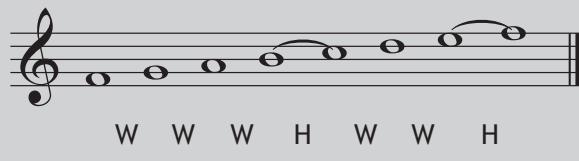
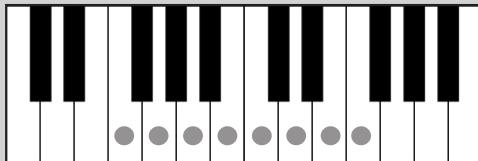


There is a different **modal scale** starting on each of the seven differently named white notes of the piano, each with a distinctive sound. Over the next few pages we will explore the different modes.

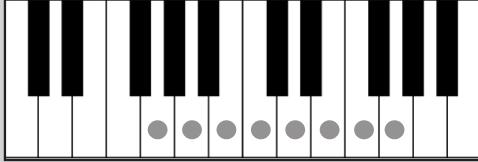
All the white notes starting on E is the **Phrygian mode**



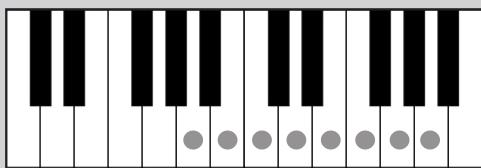
And all the white notes starting on F is the **Lydian mode**



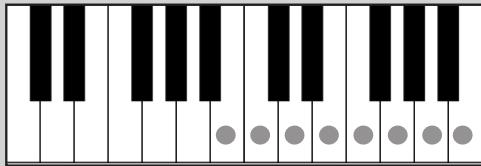
Starting on G is the **Mixolydian mode**



Starting on A is the **Aeolian mode**, which is the same as the natural minor scale.



The final mode starting on B is the **Locrian mode**.

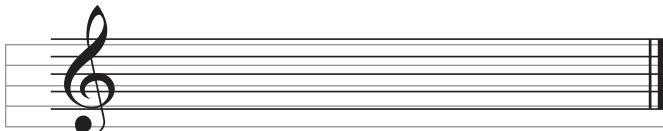


Complete this table:

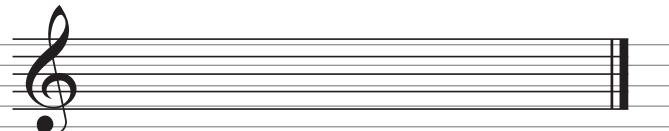
Scale commences on:	Name of mode:	Half steps occur between degrees:
C		
D		
E		
F		
G		
A		
B		

Write out the seven modal scales starting on each of the white notes of the piano beginning on C. Label them with their modal name, and mark the half steps with slurs.

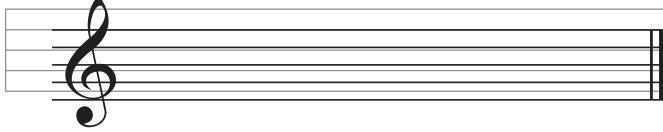
C \_\_\_\_\_



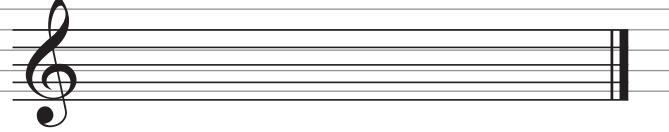
G \_\_\_\_\_



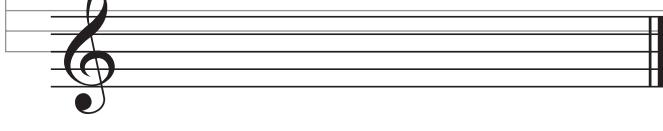
D \_\_\_\_\_



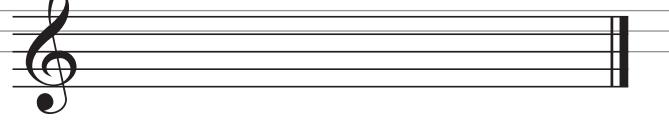
A \_\_\_\_\_



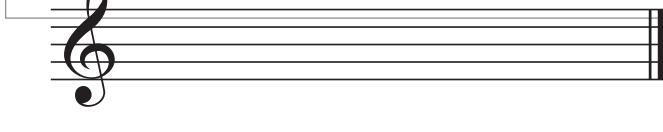
E \_\_\_\_\_



B \_\_\_\_\_



F \_\_\_\_\_



C major/Ionian      D dorian (similar to Dm)      E Phrygian (similar to Em)      F Lydian (similar to F maj.)

G Mixolydian: te      A Aeolian

## SEVENTH CHORDS:

• four note chords built from 3 stacked thirds ("triads w/ extra note")

BASE TRIAD:	ADDED 3rd:	BUILT UP from A:	QUALITY:	
diminished	minor third	$\begin{matrix} \text{G} & \text{B} \\ \text{E} & \text{G} \\ \text{A} & \end{matrix}$	dd 7th ← diminished 7th	$\text{D}^7$
diminished	major third	$\begin{matrix} \text{G} & \text{B} \\ \text{E} & \text{G} \\ \text{A} & \end{matrix}$	dm 7th ← half-dim. 7th	$\text{D}^7$
minor	minor third		mm 7th ← minor 7th	$\text{m}^7$
major	minor third		Mm 7th ← dominant 7th	$\text{M/m}^7$
major	major third		MM 7th ← major 7th	$\text{M}^7$

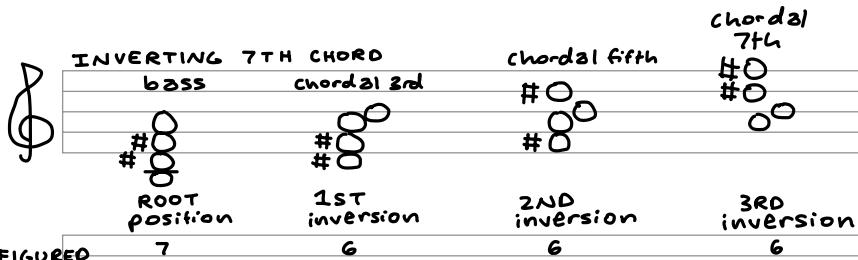
inside the chromatic scale

## 7th chords in major:

**mm** **mm** **mm** **MM** **Mm** **mm** **dm**  
**↑** **↑** **↑** **↑** **↑** **↑** **↑**  
**I'** **ii'** **iii'** **IV'** **V'** **vi'** **vii'**

## 7th chords in minor:

mm dm MM mm Mm MM Mm dd  
↑ ↑ ְ ִ ֵ ֶ ַ ָ ֹ  
i? iiΦ? III? iv? v? VI? VII? viii?



**FIGURED  
BASS:** 7 5 3 6 5 3 6 5 3 6 2

major M<sup>7</sup>:

- |             |               |
|-------------|---------------|
| • happy     | • bittersweet |
| • bright    | • nostalgic   |
| • nostalgic | • jazzy       |
| • jazz      | • not rly sad |

dominant  $M/m^7$ :

- jazzy/classical
  - empty
  - unstable
  - unfinished
    - (usually the beginning  
of smthg. will resolve)

half-diminished  $\phi 7:$

- dreamy
  - bittersweet

diminished 07:

- !!! something bad happening
  - creepy / discord
  - used trope in early drama sounds
  - confusion - 5th should be higher
  - 2 tritones - no perfect 5ths
  - dark but doesn't want to move

## DISTINGUISH: M7 vs. m7

- M7 has more M3; m7 has more m
  - M7 leading tone UP; m7 leading to

DISTINGUISH: m7 vs. Mm7:

- ignore 7th - listen to triad quality
  - listen to 3rd (major vs. minor)

DISTINGUISH: Ø7 vs. m7:

- tritone (quality of 5th)

### DISTINGUISH: Ø7 vs. o7

- outer voice - Ø7 has some stability
  - Ø7 sounds more hopeful

## **EAR TRAINING:**

- EAR TRAINING

Ø7 ✓  
m7 X Mm7  
ø7 ✓  
M7 ✓  
Mm7 X m7

## EAR TRAINING PT 2:

- ~~EAR TRAINING~~ 1-2

  - ~~D7~~ Mm7
  - ~~d7~~ triad-diminished
  - m7 Ø7
  - Mm7 m7
  - M7 triad-major

# Seventh Chords

## Seventh Chord Types

Full name:	Major-major	Major-minor	Minor-minor	Diminished-minor	Diminished-diminished
Common name:	Major	Dominant	Minor	Half-diminished	Fully diminished
Chord symbol:	D <sup>maj7</sup> D <sup>△7</sup>	D <sup>7</sup>	Dm <sup>7</sup>	D <sup>°7</sup>	D <sup>○7</sup>

Triad quality:	M	M	m	d	d
Seventh quality:	M	m	m	m	d

## Seventh Chords in Keys

**MAJOR:**

Tonic	Supertonic	Mediant	Subdominant	Dominant	Submediant	Leading tone
I <sup>7</sup> C <sup>maj7</sup> MM	ii <sup>7</sup> Dm <sup>7</sup> mm <sup>7</sup>	iii <sup>7</sup> Em <sup>7</sup> mm	IV <sup>7</sup> F <sup>maj7</sup> MM	V <sup>7</sup> G <sup>7</sup> Mm	vi <sup>7</sup> Am <sup>7</sup> mm	vii <sup>°7</sup> B <sup>°7</sup> dm

**MINOR:**

Tonic	Supertonic	Mediant	Subdominant	Dominant	Submediant	Leading tone
i <sup>7</sup> Am <sup>7</sup> mm	ii <sup>°7</sup> B <sup>°7</sup> dm	III <sup>7</sup> C <sup>maj7</sup> MM	iv <sup>7</sup> Dm <sup>7</sup> mm	V <sup>7</sup> E <sup>7</sup> Mm	VI <sup>7</sup> F <sup>maj7</sup> MM	vii <sup>°7</sup> G <sup>°7</sup> dd

\* roman numerals here  
do NOT distinguish b/t  
major & minor

## Inversion

Part of seventh chord in bass	Inversion name	Intervals over bass note
Root	Root position	7 <sup>th</sup> , 5 <sup>th</sup> , 3 <sup>rd</sup>
Third	1 <sup>st</sup> inversion	6 <sup>th</sup> , 5 <sup>th</sup> , 3 <sup>rd</sup>
Fifth	2 <sup>nd</sup> inversion	6 <sup>th</sup> , 4 <sup>th</sup> , 3 <sup>rd</sup>
Seventh	3 <sup>rd</sup> inversion	6 <sup>th</sup> , 4 <sup>th</sup> , 2 <sup>nd</sup>

Bolded intervals=shorthand for figured bass (size of intervals over the lowest sounding pitch).

## Practice exercises:

1. Identify the quality of these seventh chords and identify their roman numerals in the given key.

(1)  EM

E: ii<sup>7</sup>      <sup>B</sup>  
 mm<sup>7</sup>      <sup>V<sup>7</sup></sup>  
 Mm<sup>7</sup>      vii<sup>07</sup>  
 dm<sup>7</sup>      IV<sup>7</sup>  
 MM<sup>7</sup>

(3)  D<sub>b</sub>:

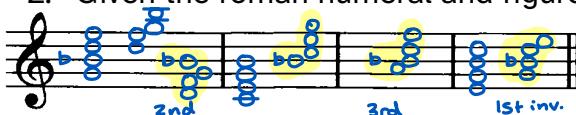
(2) 

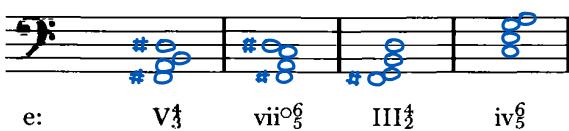
g: \_\_\_\_\_

(4) 

d: <sup>V<sup>7</sup></sup>      <sup>viio7</sup>      i<sup>7</sup>      III<sup>7</sup>  
 Mm<sup>7</sup>      dm<sup>7</sup>      mm<sup>7</sup>      MM<sup>7</sup>

2. Given the roman numeral and figured bass, write the specified chord.

F:   
 B<sub>b</sub>      G B<sub>b</sub> D E      C E G B<sub>b</sub> D      E G B D

e:   
 V<sup>3</sup>      vii<sup>06</sup>      III<sup>2</sup>      iv<sup>6</sup>5

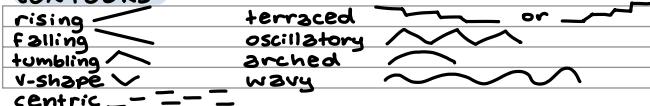
COUNTERPOINT → how chords work together - melodies that work well together

### COMMON CHARACTERISTICS OF MELODY:

- melodies have a specific **contour** (pitch-varied)
- tonal vocab (what scale?)
- rhythm
- singability
- memorability

- single line
- some duration
- medium/slow speech speed
- contour (be able to draw!)
- pitch
- leave rhythm to side - focus on notes
- tonal vocab
- culturally-specific motifs
- patterns

### CONTOURS:



### 1ST SPECIES COUNTERPOINT

- begin w/ cantus firmus (pre-existing melody) & compose new line above or below it
  - 1st note should be do or sol above cantus
  - final note do above cantus.
- Counterpt. line has 1 climax, similar to cantus
- avoid voice crossing/overlap
- avoid unisons unless 1st & last intervals

### 2ND SPECIES COUNTERPT:

- counterpoint line moves 2x as fast as cantus
  - Strong vs. weak beats, passing tone dissonance
- more dominated by stepwise motion
- begin do or sol above, end w/ do, but 2nd to last should be re or ti (depend on cantus)
- several dissonant & consonant weak beats

### TAKEAWAYS:

- good for chord progressions
- good for 2 part dance music
- emphasis on steps
- independence of line
- pacing
- write 2 melodies that work together but not locked together
- this style of writing became the "norm" in 1800s (many classical composers studied this)

[3/3/25]

**MAIN IDEAS:**

- I · independent melodies
- S · singability + simplicity
- K · key support
- B · balance
- V · variety

HOW TO MAKE SENSE OF "rules":

[3/5/25]

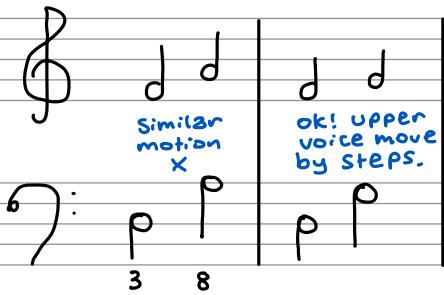
**CHORD CONSONANCE**

- 3rd, 5th, 8  
• always consonant
- have to check 5th

U, M/m3, PS, M/m6

**HIDDEN 5THS / OCTAVE:**

- similar motion



# SPECIES COUNTERPOINT

## RECIPE FOR A GOOD CANTUS FIRMUS

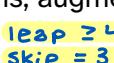
### INGREDIENTS:

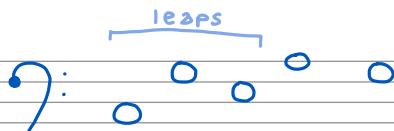
- A good mode/key (and a good mood!)
- Pencil
- Staff paper

### STEPS:

- K** 1. Begin and end on the tonic
- S** 2. Using only whole notes, write a melody of 8-16 notes
- S/V** 3. Use a mix of primarily stepwise and some leaping motion to approach a high or low point (apex) and return from it
- K** 4. Approach the final and penultimate (second to last) pitch via stepwise motion. *ti-do or re-do*
- V** { 5. Play or sing your CF and check if it sounds good and has a clear arc toward/away from the melodic apex.
6. Enjoy!

### DOS AND DON'TS:

- S** • DO keep the range small: 10<sup>th</sup> or less. Shorter CFs have smaller ranges
- K/S** { • DO use only consonant melodic intervals (M/m/P 2nds, 3rds, 4ths, 5ths, 6ths)
- { • DON'T use dissonant melodic intervals (7<sup>ths</sup>, diminished or augmented)
- V** • DON'T use intervals larger than an octave or chromatic half steps (C and C#)
- V/S** • DO create an arch shape with your melody: motion must be toward an apex (DO choose an apex that creates a consonant interval with the final) which is not repeated (after the apex, moves toward close of CF)
- K/S** • DON'T outline a dissonant interval ex:  creates a dissonant int.
- S** • DO Use mostly stepwise motion
- V** • But DON'T write more than 5 steps in the same direction
- V/S** • DO include two to four leaps. Leaps larger than a third must be followed by a stepwise change in direction.
- K** { • But DON'T outline dissonant intervals in your leaps (any 7ths, augmented or diminished)
- { • DON'T write two consecutive leaps in the same direction  skip = 3
- { • And DON'T more than two consecutive leaps.
- V** { • DON'T use sequential repetitions of melody (i.e., predictable patterns)
- { • DON'T use any oblique motion (e.g., repeating notes)



plural

## SAMPLE CANTUS FIRMI

Cantus firmus 1

(Fux, adapted)



Cantus firmus 2

(Jeppesen)



Cantus firmus 3

(Schenker)



Cantus firmus 4

(Fux)



Cantus firmus 5

(Kirnberger)



Cantus firmus 6

(Kirnberger)



Cantus firmus 7

(Fux)



A B C D E F G

top:

A	B	C	D	E	F	E	D	C	B	A
A	G	A	G	C	F	A	B	F	B	A
U	3rd	3rd	5th	3rd	U	5th	3rd	5th	5th	U

## FIRST SPECIES COUNTERPOINT CATECHISM

Avoid your cardinal sins (always) and venial sins (when possible) and try for supererogation!

\* rare to find many  
2nd inversions  
in songs

### CARDINAL SINS

#### (YOU'VE BROKEN A COMMANDMENT IF YOU DO THESE)

- K** { • Thou shalt not: open with an interval other than PU or P8 (or P5 if CPT is above the CF) or P5 ABOVE  
start & end on do
- Though shalt: close with an interval other than PU or P8
- I/K** • Thou shalt not: end with a clausula formalis (final cadence) that does not use stepwise re-do / ti-do contrary motion (thou **shalt**: use the cadence formula m3-U/m10-8 or M6-8)
- I/K** • Thou shalt not: write parallel/contrary/similar/direct/hidden octaves or fifths<sup>1</sup> (want 2 voices reinforcing key)
- K/S** • Thou shalt not: use melodic dissonances (augmented or diminished intervals, 7ths)
- S** { • Thou shalt not: use harmonic dissonance on strong beats<sup>2</sup> (augmented/diminished intervals, 2nds, 4ths, 7ths) -not consonant. on strong beats CANT use 2nd, 4ths, 7ths
- Thou shalt not: approach or leave leaps ( $\geq P4$ ) by anything other than stepwise motion
- Thou shalt not: use adjacent leaps that outline a dissonant interval (passing/neighbor tones)
- K** • Thou shalt not: use note values that do not belong in the current species of counterpoint 1st → whole  
2nd → half
- I** • Thou shalt not: cross voices

#### VENIAL SINS (PLEASE TRY NOT TO DO THESE!)

- V** • Avoid too many perfect intervals
- V** • Avoid simultaneous leaps/skips in both voices (especially if in the same direction)
- S/V** • Avoid too small or large ranges (4<sup>th</sup> or smaller=too small; 8ve or greater=too large)
- S** • Avoid having the voices be more than two octaves above
- V** • Avoid too many parallel imperfect consonances (more than three in a row of either 3rds or 6ths) ex: 3rd 3rd 3rd... or 6th. 6th, 6th...
- S/V** • Avoid leaps ( $\geq P4$ ) that are not followed by a stepwise **change** in melodic direction
- V** • Avoid stasis/repetition (e.g., repeating notes or circling around one note)
- V/I** • Avoid having only parallel/similar motion
- V/I** • Avoid repeating the apex/placing it in the same position as the cantus firmus's apex
- V** • Avoid P8-P5 or P5-P8 (allowed but not in excess)

<sup>1</sup>See next page for samples of allowed and disallowed direct/hidden fifths.

<sup>2</sup>In 1:1 counterpoint, this means every note!

<sup>3</sup>This includes not raising the leading tone in the clausula formalis (and approaching the leading tone by whole step, not A2 in minor modes).

BAD! hidden 8

OKAY! Stepwise  
5 → 1 reinforces key we're in.

## SUPEREROGATION (TRY TO DO THESE!)

- Variety of intervals (melodic and harmonic), motion, steps and leaps
- Singability of individual lines
- Independence of lines (nice contours, distinct apexes)
- Primarily imperfect consonances
- Primarily contrary motion
- Skips/leaps that move in the same direction outline a triad (preferably, I or V)
- Approach and leave perfect intervals by contrary stepwise motion
- Begin and end lines in the same octave ex: start & end on C4, etc.
- Smooth contours (mostly conjunct with a couple leaps for variety)

## DIRECT/HIDDEN 5THS AND OCTAVES

Ok! Soprano moves by step      Bad! Soprano doesn't move by step

## SECOND SPECIES (2:1; PASSING TONES) ADDITIONS

1. Dissonances are allowed on weak beats as part of passing notes only.
2. Consonant skips must be to **U, 3, 5, 6, or 8**, and should be followed by stepwise change in direction.
3. Avoid putting octaves or fifths within three half-notes of one another, but they can occur on successive **2<sup>nd</sup> beats** (not on downbeats—note that I am stricter than Fux!)
4. Penultimate note can be a whole note rather than two half notes.
5. Opening can start with a half rest. (when bass jumps, good to rest then start)
6. Avoid leaps across barlines. (Stepwise motion across barlines is preferred.) **step across barlines**
7. Avoid melodic sequences (predictable patterns).
8. Ending **must** contain clausula formalis on the penultimate beat, and end on a whole note, though you may use whole notes in the (2<sup>nd</sup> to last) measure.
9. Avoid oblique motion across barlines

## THIRD SPECIES (4:1; PASSING, NEIGHBOR, CAMBIATA) ADDITIONS

1. May begin with a quarter rest followed by three quarter notes
2. Penultimate measure must have four quarter notes

3. Acceptable dissonances on weak beats (2 and 4) are again via passing motion **only**
4. The only situation under which dissonance on beat 3 is allowed is in a double-neighbor construction (see next page for examples) **OR** if the entire measure is passing tones and beats 2 and 4 are consonant (see next page)
5. The only situation under which one may leap from a dissonance is in a cambiata construction
6. No unisons on downbeats
7. Fifths and octaves may be used if there are three or more tones in between, but if neither occurs on a downbeat, only one intervening tone is necessary (e.g. a measure of 6-5-6-8)

## FOURTH SPECIES (1:1 OFFSET; SUSPENSIONS) ADDITIONS

Fourth-species and second-species are related: when we “break species” we revert to 2:1 counterpoint.

1. Dissonant suspensions can only take the form of: 9-8, 7-6, 4-3, 2-1 when counterpoint is above, or 2-3, 4-5, or 9-10 (compound) when the counterpoint is below.
2. Suspensions must be prepared by step and resolved downward by step
3. Suspension preparations must be consonant. Usually suspensions are dissonant, meaning that the resolution must be consonant, but if the suspension is not a dissonance, one may break species and do not need to resolve. Instead, do a passing, neighbor, or consonant skip.
4. Start with a half rest.
5. You may break species once during the counterpoint (but keep it primarily fourth-species).
6. When you see descending steps in the cantus firmus, try chaining suspensions—only 4-3, 7-6 above or 2-3 suspensions below. 6-5 or 4-5 suspension chains count as parallel fifths, and 9-8 or 2-1 counts as parallel octaves.

## FIFTH SPECIES (FLORID) ADDITIONS

1. Use a mix of 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> species approaches that create a good melodic line that has a clear direction and arc that is independent from the cantus firmus. Follow the rules associated with the species for the note value you are currently writing.
2. Approach downbeats using oblique motion/suspensions or stepwise motion
3. Use a fourth-species cadence to close (7-6-8 or 2-3-U).
4. Begin as in second or fourth species, using a half rest.
5. Try not to use quarter-quarter-half as a rhythm unless you suspend the half note across the next barline; if that isn’t an option use half-quarter-quarter or all quarters (add a consonant skip)
6. Eighth notes may only be used in pairs on beat 2 or 4, and should be used sparingly. They must form a neighbor or passing figure. (See example 1)
7. You may delay the resolution of a suspension by one beat if the intermediate note is also consonant with the CF. (See example 2)

8. Avoid repeated rhythmic patterns (just like you avoid melodic sequences)
9. Longer note values should land on stronger beats (so half notes are more prevalent at the beginnings of measures than later unless both notes in the measure are half notes)
10. Change note values within measures, not between
11. You may ornament a suspension such that you can use eighth and quarter notes on beat 2 before the resolution on beat 3 (see example 3)
12. Create a rhythmic arc: longer note values at beginning and end, shorter in the middle
13. Precede large leaps by longer note values (as a kind of preparation)

### FIFTH SPECIES: USING EIGHTH NOTES AS PASSING OR NEIGHBOR FIGURATION



[3/10/25] - 2ND SPECIES COUNTERPOINT

**ANALYSIS:**

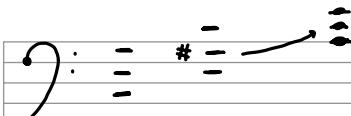
- Structure it around "what do you want audience to takeaway?"
- teach your piece & show how it works

**MOZART - DIVERTIMENTO**

- establish independent voices (4)
- majority of movement is stepwise except bass
- balanced high & low notes
- upper 2 lines similar parallel movement
- oblique motion
- singability is questionable (orchestration - look @ playability & get feedback)
- strong beats
- stepwise motion when harmony changes across measures
- generally dissonant/passing tones on weak beats

[3/12/25] - lecture - ANALYSIS

1. modal mixture  $\text{IV} \rightarrow \text{iv}$  (borrowing from minor key)
2. secondary dominant  $\rightarrow \text{I} \rightarrow \text{vi} \rightarrow \text{I}$  (borrowed leading tone)
3. linear chromaticism + taking melody & using chromatic motion instead of roman numerals
  - switch to chord symbols



C: I II/vi vi

tonic E-maj

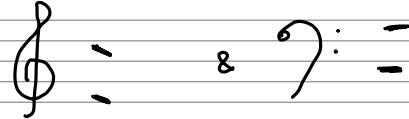
2ND SPECIES:

- can have 2 successive octaves/sths ONLY if weak to weak beat

[3/13/25] - STRING QUARTET!

- simple isn't always bad
  - balance b/t variety & repetition
  - min 24, max 48 measures  $\rightarrow$  ~1 min each
- ternary, periods & sentences
  - @ least 3 diff. parts
  - write in both major & minor (relative or half step up)
  - options: ternary or UC
- instruments: violin x2, viola, cello
  - pretty similar timbre
  - try to keep independent voices
- REQUIRED: rest b/t pizz. & arco.
- give articulation markings, NOT bow markings
- what environment do you want to create? how will you use instruments to portray?

DROP 2+4 SPACING:



[4/12/25] - COMPOSING

- usually ppl write melody first, but can do either
- there is a balance of leaps, steps, chromaticism - trust intuition
  - don't feel like it's chaotic or boring

Ex:

- viola & cello helping fill in gaps
- violin 1 & 2 melody - work together in counterpoint
- B: violin 1 & cello conversation (C echos); violin 2 & viola = harmony
- many textures & timbre

HARMONIC COMPOSITION:

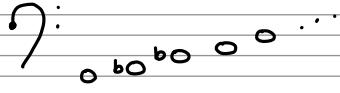
- 1) Harmonic analysis:  $\text{G} \rightarrow \text{A}$
- 2) non-chord tones: chordal 7th  $\downarrow$
- 3) phrase structure
- 4) texture

\* minor key chords have to be inverted, not played in root pos.  
- unless 7th chord.

[4/9/25]

**MODES:**  
 White keys common  
 C - C: Ionian  
 D - D: Dorian  $\#^6$  Ex: At the Purchaser's Option  
 E - E: Phrygian (rah) lowered  $b^2$  Ex: gm then b 2s  
 F - F: Lydian  $\#^4$   
 G - G: Mixolydian  $b^7$   
 A - A: Aeolian  
 B - B: Locrian  $b^1$   $b^5$

Ex: G Phrygian



- beginning: half rest or 2 half notes?
- 2, 4, 7 must be weak beat w/ steps to it!
- apex
- parallel 5ths
- can leap from consonant strong beats
  - leap to unison, 3rd, 5th, 6th
- Step across barlines
- CANT consonant skip 3+ measures
- voice overlap! careful (don't cross lowest/highest notes in parts around)

4#s

A B C D E F G

**MAJOR:**

I, ii, iii, IV, V, vi, vii

**MINOR:**

i, ii<sup>o</sup>, III, iv, v, VI, VII

1st 2

SENTENCE: 3 phrases build on each other; 3rd longer usually - presentation & cont.  
 PERIOD: 2 phrases with antecedent & consequent (question & answer)