### Major (Ionian)

| Numeral | Mode | Different Notes | Chords | Function |
| --- | --- | --- | --- | --- |
| I | Ionian | ~ | Δ (9,11,13) | Tonic |
| ii | Dorian | b3,b7 | - (9,11,13) | Supertonic |
| iii | Phrygian | b2,b3,b6,b7 | - (b9,11,b13) | Mediant |
| IV | Lydian | #4 | Δ (9,#11,13) | Subdominant |
| V | Mixolydian | b7 | 7 (9,11,13) | Dominant |
| vi | Aeolian | b3,b6,b7 | - (9,11,b13) | Submediant |
| vii | Locrian | b2,b3,b5,b6,b7 | Ø / -7b5 (b9,11,b13) | Leading Tone |

### Natural Minor (Aeolian)

| Numeral | Mode | Different Notes | Chords |
| --- | --- | --- | --- |
| i | Aeolian | b3,b6,b7 | - (9,11,b13) |
| ii | Locrian | b2,b3,b5,b6,b7 | Ø / -7b5 (b9,11,b13) |
| III | Ionian | ~ | Δ (9,11,13) |
| iv | Dorian | b3,b7 | - (9,11,13) |
| v | Phrygian | b2,b3,b6,b7 | - (b9,11,b13) |
| VI | Lydian | #4 | Δ (9,#11,13) |
| VII | Mixolydian | b7 | 7 (9,11,13) |

### Harmonic Minor

| Numeral | Mode | Different Notes | Chords |
| --- | --- | --- | --- |
| i | Aeolian ♮7 | b3,b6 | -Δ (9,11,b13) |
| ii | Locrian ♮6 | b2,b3,b5,b7 | Ø / -7b5 (b9,11,13) |
| III+ | Ionian Augmented | #5 | Δ#5 (9,11,13) |
| iv | Dorian #4 | b3,#4,b7 | - (9,#11,13) |
| V | Phrygian Dominant | b2,b6,b7 | 7 (b9,11,b13) |
| VI | Lydian #9 | #2 | Δ (#9,11,13) |
| viio | Ultra Locrian bb7 | b2,b3,b4,b5,b6,bb7 | 7o (b9,b11,b13) |

### Melodic Minor

| Numeral | Different Notes | Chords |
| --- | --- | --- |
| i | b3 | -Δ (9,11,13) |
| ii | b2,b3,b7 | - (b9,11,13) |
| III+ | #4,#5 | Δ#5 (9,#11,13) |
| IV | #4,b7 | 7 (9,#11,13) |
| V | b6,b7 | 7 (9,11,b13) |
| vi | b3,b5,b6,b7 | Ø / -7b5 (9,11,b13) |
| vii | b2,b3,b4,b5,b6,b7 | Ø / -7b5 (b9,b11,b13) |

Note: Melodic minor *descends* down Natural minor in classical music

* Secondary dominant (precede any chord with its V chord as a dominant; equivalent of reharmonizing a chord to a V -> I progression)
* Reharmonize chord to a ii -> V -> I by preceding it with its ii and V chords
* Tritone Substitution
* Parallel-Minor substitution: Substitute a chord from the parallel (natural) minor key, e.g. i, iiØ, bIIIΔ, iv, v, bVIΔ, bVII
* Parallel-Minor substitution: Substitute a chord from the parallel (non-natural) minor keys, e.g. i-Δ, bIIIΔ+, etc.

### Minor (Dorian)

| Numeral | Mode | Different Notes | Chords |
| --- | --- | --- | --- |
| i | Dorian | b3,b7 | - (9,11,13) |
| ii | Phrygian | b2,b3,b6,b7 | - (b9,11,b13) |
| III | Lydian | #4 | Δ (9,#11,13) |
| IV | Mixolydian | b7 | 7 (9,11,13) |
| v | Aeolian | b3,b6,b7 | - (9,11,b13) |
| vi | Locrian | b2,b3,b5,b6,b7 | Ø / -7b5 (b9,11,b13) |
| VII | Ionian | ~ | Δ (9,11,13) |

### Minor (Phrygian)

| Numeral | Mode | Different Notes | Chords |
| --- | --- | --- | --- |
| i | Phrygian | b2,b3,b6,b7 | - (b9,11,b13) |
| II | Lydian | #4 | Δ (9,#11,13) |
| III | Mixolydian | b7 | 7 (9,11,13) |
| iv | Aeolian | b3,b6,b7 | - (9,11,b13) |
| v | Locrian | b2,b3,b5,b6,b7 | Ø / -7b5 (b9,11,b13) |
| VI | Ionian | ~ | Δ (9,11,13) |
| vii | Dorian | b3,b7 | - (9,11,13) |

### Major and Minor Scales

| Name | Mode | Diff. Notes | Chords |
| --- | --- | --- | --- |
| Major | Ionian |  | Δ (9,11,13) |
| Natural Minor | Aeolian | b3,b6,b7 | - (9,11,b13) |
| Harmonic Minor |  | b3,b6 | -Δ (9,11,b13) |
| Melodic Minor |  | b3 | -Δ (9,11,13) |
| Dorian | Dorian | b3,b7 | - (9,11,13) |
| Phrygian | Phrygian | b2,b3,b6,b7 | - (b9,11,b13) |
| ? | ? | b2,b3,b4,b6,b7 | - (b9,b11,b13) |
| ? | ? | b2,b3,#4,b6,b7 | - (b9,#11,b13) |
| ? | ? | b2,b3,#4,b7 | - (b9,#11,13) |
| ? | ? | b3,#4,b6,b7 | - (9,#11,b13) |
| ? | ? | b3,#4,b7 | - (9,#11,13) |

### Chord Symbols

| Example | Symbol | Name | Meaning |
| --- | --- | --- | --- |
| I / CΔ | Δ | Major (7th) | 3rd and 7th are natural (not flat) |
| V / G7 | 7 | (Dominant) 7th | 3rd is natural but 7th is flat |
| ii / d- | - | minor (7th) | 3rd and 7th are flat |
| vii / CØ / -7b5 | Ø / -7b5 | half-diminished / minor-seven flat 5 | 3rd, 5th, and 7th are flat |
| vii / Co | o | diminished (7th) | 3rd and 5th flat; 7th double-flat |
| i / c-Δ | -Δ | minor-Major (7th) | 3rd is flat but 7th is natural |
| bIII+ / EbΔ+ | Δ+ / Δ#5 | Augmented Maj. (7th) / Major-seven sharp 5 | 3rd and 7th are natural, 5th is sharp |
| V+ / G7+ | 7+ / 7#5 | Augmented (Dom.) 7th | 3rd is natural, 7 is flat, 5th is sharp |
| e-7+ | -7+ / -7#5 | Augmented-minor (7th) | 3rd and 7 are flat, 5th is sharp |
| e-Δ+ | -Δ+ / -Δ#5 | Augmented-minor-Major (7th) | 3rd is flat, 7 is natural, 5th is sharp |