

## Piano Technology Program Course Descriptions

**Piano Tuning:** Students will gain an understanding of the theory and practical skills required in the process of adjusting the tension on the string of the piano. Topics in the first term will include; an introduction to the fundamental concepts and requirements for tuning a piano, tuning of unisons and octaves, circles of 4ths and 5ths, the tempered circles of 4ths and 5ths, introduction of temperament, refinement of temperament, treble and bass tuning and tuning the entire piano. Topics in the second term will include: techniques for adjusting the temperament for different pianos, refined tests for treble and bass tuning, octave stretching, methods for increased speed, use of mutes and voicing.

**Regulation:** In the first term, students will be given an understanding of the upright piano and its ratios and the skills required to prepare an upright piano to perform at its optimal level. Topics will include: regulation tools, nomenclature of upright action, assessment and preparation of upright pianos for regulation, key leveling, regulation of action parts, dampers and pedals. The second term will focus on preparing a grand piano for optimal performance. Topics will include: nomenclature of the grand action, assessment of instruments, preparation of the grand action for regulation, key leveling and regulation of the action parts, dampers, pedals and key weighting.

**Repair, Upgrades and Replacement:** Focus will be placed on repairs and replacement of the mechanical workings of pianos (uprights in first term, grand pianos, in the second). Topics in the first term will include: action assessment and preparation, keyboard repair (keys, ivories and bushings), repair, replacement and installation of damaged action parts, replacement of bass strings and preparation for regulation. Topics in the second term (grand pianos) will include: string scaling and design, keyboard repair and replacement (ivory, bushing and back checks), installation of new dampers, action geometry, installation of new action parts and preparation for regulation.

**Intonation:** The first term will focus on the theory and practical skills required to control the tonal qualities of the piano. Topics will include: hammer design, hammer manufacturing methods, tonal quality of piano hammers, hammer carding and fitting hammers to the strings for the best tonal results. In the second term one will develop and refine the voicing skills required to prepare a piano hammer to enhance the tonal qualities of the instrument. Topics will include: hammer selection, voicing (preparation for hammers, use of tools, voicing for different types of hammers, results of different methods) and analysis of piano sound.