# Curran Kelleher

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<u>Objective:</u> To discover and master subjects that will lead to a satisfying career in science or technology that will require continuous learning.

### **Education:**

2005 Worcester State College - General Chemistry course 2005 (anticipated Graduation from) Wachusett Regional High School 401 Main St. Holden, MA.

High School Math and science courses:

2004 – 2005 AP Calculus, AP JAVA Programming, Topics in Modern Physics (Honors)

2003 – 2004 Biology, Algebra II (Honors)

2002 – 2003 IMP II (Honors)

2001 – 2002 IMP I (Integrated Math Program), Freshman Physics

#### **Experience:**

### Founding President of The Universe Club, September 2004 to present, ~2 hrs/month

The Universe Club was created to provide a casually accessible yet structured medium for high school students to learn more about interesting topics, primarily those related to science and technology, but also branching out into topics of life, people, and the nature of things. The club meets once a month, and at every meeting there is a guest speaker. The speakers present about an interesting topic of which they are extremely knowledgeable. The topics are all previously considered and voted on by all Universe Club members.

### **President of the school Honors Jazz Band,** September 2004 to present, 2½ hrs/wk.

This band is a 20 piece big band led by Miriam Jensen at Wachusett Regional High School. I am the guitar player for the band as well as its president.

#### **Volunteer lab work at UMass Medical School,** June to August 2004, ~6hrs/week

I worked as a volunteer research assistant with Heather Cook, who works in William Theurkauf's lab (a biotech lab which is part of the UMass Medical School biotech park in Worcester, MA). The lab primarily researches cytoskeletal functions during drosophila oogenesis (Genetic research using fruit flies.) It consists mostly of scientists from other countries such as France, Korea, Chile, Denmark, and Japan. Heather Cook and I conducted research on the effects of specific gene mutations (Armitage and Spindle E) on oogenesis, investigating what pathways that the genes may be in. I gave a presentation on this work at the Wachusett Regional High School Science Seminar.

#### Continuation of work at UMass Medical School, October 2004 to present, ~6hrs/wk.

The research that we are presently doing concerns understanding particular proteins involved with RNAi. I am now conducting experiments on my own, with guidance and insight from the entire staff of the Theurkauf lab. We are finding that many of these proteins are also involved with stem cell maintainance.

### Participation in computer programming competition, December 8, 2004

I was on a team of four people selected from my AP JAVA class to participate the Northbridge High School programming contest.

### Mentor with LEGO Robotics competition teams, September to December 2004, 3hrs/wk.

Working with middle school students (at Mount View Middle School, Holden, MA.) helping them design, build, and program LEGO robots which will go into competition.

- Flying lessons and study of aviation, August 2004 to present, ~1 hr/month (lesson time)
  - I am taking flying lessons (for private pilot license) at Amity Flight School (Worcester, MA) with flight instructor Chris Sharon.
- Operate my own recording studio & run PA systems at various events, 2002 2004

I have a small project studio setup, and I record local groups for free.

Groups I have recorded:

The Incredible Project (funk group in which I play guitar), Major Boot (local rock), Double Helix (local rock), Syncropation Combonation (jazz trio in which I play guitar), and Iron Byron III (slam poetry). I also provide and operate PA systems for events such as a "battle of the bands", school concerts, benefit concerts, and private events.

College preparatory course of study with Thomas Nerbonne, July to August 2004, 2hrs/wk.

Course on college preparation for the college bound music student.

Graphics Editor the ECHO (school newspaper), September to June 2003, 3 hrs/month.

I worked with a group of graphics students after school on page layouts and perfecting the newspaper before it went to press.

Rhubarb Pie, January 2003

Some of my poems have been published in the Rhubarb Pie – the high school's literary journal showcasing student's work.

**Poetry Club, March – May 2003**, ½ hr/wk

I was an involved member of the school poetry club for the duration of it's existence (March - May 2003).

Computer Graphics Course at the Worcester Art Museum, 2 hrs/week for one month, 2001

This was a beginning level computer graphics course, focusing on mostly artistic aspects and little on technical aspects of computer graphics.

## In depth independent study of:

- **Theoretical Physics** Have read The Universe in a Nutshell (Stephen Hawking), The Elegant Universe (Brian Greene), and am currently reading A Brief History of Time (Stephen Hawking). I have attended a seminar on string/gravity theory by Oleg Lunin at MIT (11/10/04).
- **Mathematics** I have independently studied Pre-Calculus from a textbook over the summer (2004). This endeavor has allowed me to skip from Algebra II (H) to AP Calculus.
- Radio Engineering / Electronics I have studied Radio Engineering with the ARRL handbook, the Technician No-Code Plus book (by Gordon West), as well as MIT's Open Course Ware introductory course on Electrical Engineering. I have also built a guitar amplifier (tube) and an analog MIDI synthesizer from electronic kits. My father is a broadcast engineer and has instructed me to solder, read schematic diagrams and construct electronic devices
- Cell biology My work at UMass Medical Center necessitates that I be sufficiently knowledgeable in cell biology, so I have been deeply studying cell biology on my own, with the guidance of the people that I work with at UMass Medical Center. This work has also led me to study microscopy and biochemistry. I have attended many interesting cell biology lectures and seminars at UMass Medical Center.
- **Aviation** Along with flight instruction, I am studying aviation intensely on my own from the Private Pilot Manual (Jeppesen) textbook, as well as several other books.
- Computer Graphics, web design, music sequencing & recording I have self-taught myself how to use many computer programs that deal with the aforementioned subjects. I am well versed in the following programs: Adobe Photoshop/ImageReady, Adobe PageMaker, Adobe InDesign, Microsoft FrontPage, Macromedia DreamWeaver, Macromedia Director, Syntrillium CoolEdit Pro, and Propellerheads Reason (music synthesis).
- JAVA programming During the 2003 school year, I studied JAVA programming on my own. I am currently taking the AP JAVA course at my high school as well as teaching myself JAVA independent of school.

Philosophy – I have read On The Road (Jack Kerouac), Dharma Bums (Jack Kerouac), A Long Strange Trip (Dennis McNally), Conversations with the Dead: The Grateful Dead Interview Book (David Gans), Siddhartha (Hermann Hess), The Bhagavad Gita, The Book (Alan Watts), Catcher in the Rye (J.D. Salinger), Mutant Message from Down Under (Marlo Morgan), Zen in the Art of Archery (Eugen Herrigel), Nada Brahma – The World Is Sound (Joachim-Ernst Berendt)

#### **Music Activities:**

Private study of jazz guitar with WPI professor Rich Falco, September 2003 to present, 1 hr/wk.

Rich Falco is a graduate of the Berklee College of Music, and is currently the director of jazz studies at Worcester Polytechnic Institute. We are currently working on advanced music theory as it pertains to jazz improvisation and some classical guitar music as well.

**Teaching private music lessons,** May 2004 to present, 6hrs/wk.

currently I have 6 students ages 10 to 16, whom I meet with weekly for one hour in their home.

Guitarist in the Central District Jazz Band, January 2004 12 hrs/wk for one week.

This band part of a regional music competition, and I have been accepted into it as the most qualified guitarist in the central region of Massachusetts. Our conductor is the acclaimed bassist Rufus Reid.

**Member of the Wexler Band**, August 2004 to present, 4 hrs/month.

I play guitar in this six piece funky jazz group. It is run by a family of musicians from Israel. We are currently looking to play at Boston area jazz clubs or other venues.

Member of the Performance Jazz Ensemble at the Joy Of Music Program (A private

community music school in Worcester), October 2003 to present, 1½ hrs/wk.

I play guitar in this five piece jazz group led by trumpeter Jerry Sabatini. We work on peculiar arrangements of jazz standards and Eastern folk songs (primarily Bulgarian music), as well as many advanced jazz concepts. This group is regularly hired by people in the Worcester area for performance at a wide variety of events.

Play guitar frequently at jazz jams in the Worcester area, June 2003 to present. ~3 hrs/wk.

I have been playing at weekly jazz jams held at the Java Hut almost every weekend for over 2 years. I have also played at jams at the Union Blues jazz club, a weekly summer jam held by the Worcester Artist Group, as well as any informal playing opportunities that arise (such as playing music in the hallway before school starts)

Private study of jazz bass guitar, June to September 2004, ½ hr/wk.

Studying jazz bass techniques and styles with Matthew Brown – Harvard graduate and history teacher.

National Guitar Workshop (Jazz Summit), August 2004

This is a week long jazz intensive immersion program in Connecticut. The week that I attended featured master classes given by special guests Pat Metheny, Pat Martino, and Bucky Pizzarelli, as well as small classroom courses with Jody Fisher and Barry Greene, among others.

Private study of viola, September 2003 to June 2004, ½ hr/wk.

Studying classical music and viola technique with Svitlana Kovelenko – a violinist from Russia who performs with several professional orchestras in the area.

**Private study of guitar,** June 2003 to August 2003, 1 hr/wk.

Studying jazz playing and music reading with Nick Athanasiou – NEC graduate & professional guitarist.

Private study of guitar with Berklee graduate Doug Moore, July 2000 to August 2003, 1hr/wk.

Study of general guitar playing, rock music, theory, blues; up to beginning level jazz improvisation.

Leader of the Curran Kelleher Quartet, June to August 2004, 4hrs/wk.

This was a jazz quartet comprised of mostly college music students. We were hired to play for 4 hours every other Sunday night at the Tayern on the Common; a restaurant in Rutland, MA.

Jay Tyer Summer Jazz Workshop, April to May 2003, 3hrs/wk

A local 6 week (once a week) summer workshop for jazz guitarists. It was run by Jay Tyer, Joe D'Angelo, and Nick Athanasiou.

**Funksicle**, March to April 2004, 3 hrs/wk This was a funk band at WPI, led by

graduating student Jeff Pouliot as his music minor final project. I played guitar in this

band, and we gave a concert for WPI students and staff.

String Quartet, December 2003, 3 hrs/wk

I played voila in a school-based classical music string quartet. This group played at various school events.

## **Berklee Summer Guitar** Sessions, summer 2002

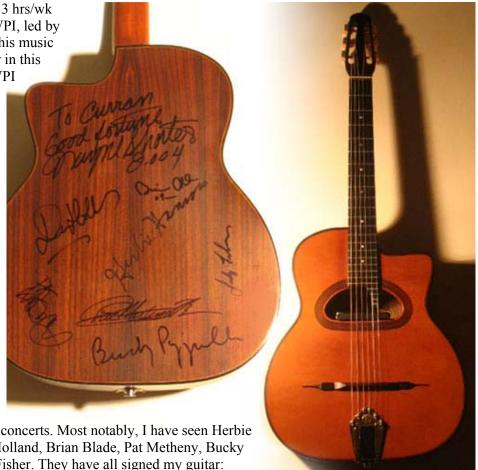
This was a week long guitar immersion program at the Berklee College of Music.

National Guitar Workshop, summer 2002

This was a week long guitar immersion program in Connecticut, with a focus on blues playing.

Attendance of many concerts, July 2000 to present

I have attended numerous concerts. Most notably, I have seen Herbie Hancock, Wayne Shorter, Dave Holland, Brian Blade, Pat Metheny, Bucky Pizzerelli, Pat Martino, and Jody Fisher. They have all signed my guitar:



#### Awards:

# Arts awards from Wachusett Regional High School awarded:

For participation in art show

A piece of my computer graphics artwork was displayed in the Mount Wachusett Community College Art show.

For being Graphic Editor of the ECHO (School newspaper), 2002

For participation in the Massachusetts Central District Music Festival, 2003

I played guitar in the Central District Jazz Band, which is a big band comprised of the best high school jazz players in the central district of Massachusetts (which is \( \frac{1}{4} \) of the state)

For Outstanding progress on guitar in the Jazz Band, 2003

For Outstanding progress on the viola in the orchestra, 2003

The "Unsung Hero Award" from the school string orchestra, 2003