

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

[CLASS]

[MUSIC]

Expanded Course Outline

Course Subject Area:	MU
Course Number:	3100
Course Title:	History of Technology in Music
Units:	3
C/S Classification #:	C-01
Component:	NO
Grading Basis: (graded only, CR/NC only, student's choice)	Graded only
Repeat Basis: (may be taken once, taken multiple times, taken multiple times only with different topics)	May be taken once
Cross Listed Course: (if offered with another department)	NO
Dual Listed Course: (if offered as lower/upper division or undergraduate/graduate)	NO
Major course/Service course/GE Course: (pick all that apply)	NO
General Education Area/Subarea: (as appropriate)	GE Interdisciplinary Synthesis B5 or C4 or D4
Date Prepared:	12/24/2014 (rev. 5.23.15)
Prepared by:	Jennifer Amaya (D. Kopplin)

I. Catalog Description

Survey of music technologies, including the musical, cultural, and philosophical forces governing them, from the monochord of Ancient Greece through contemporary life. Course fulfills GE Interdisciplinary Synthesis B5 or C4 or D4.

II. Required Coursework and Background

Prerequisite(s): Completion of GE Area A, two GE Area B sub-areas (1, 2, 3, or 4), GE Area C (1, 2, and 3), or GE Area D (1, 2, and 3).

III. Expected Outcomes

1. Students will develop an understanding of the role of physics, acoustics, and technology in music throughout history.
2. Students will understand the cultural and philosophical forces that underlie technological innovation.
3. Students will become familiar with ways in which technologies influence society in both expected and unexpected ways.

4. Students will become familiar with a broad range of music through the ages, from several traditions.
5. Students will become familiar with important historical debates about the role of technology – debates that continue to this day.

MU 3100 supports the mission and vision of the Music Department by encouraging “all students to realize their highest artistic...and professional potential,” and by preparing students “for a variety of careers in music.” Additionally, MU 3100 supports the following Music Department Student Learning Outcome(s):

- #2: Communicate effectively – verbally and in writing – about specific musical works and musicians, about the creative process in music, and about music’s role in human culture.
- #3: Demonstrate musicianship skills (including those involving technology) and conceptual understandings.
- #4: Demonstrate and articulate personal growth as a musician and student of music in the world.
- #5: Articulate a holistic understanding of the many influences on any musical endeavor (e.g., cultural, artistic, technological, economic, etc.).
- #6: Develop specialized knowledge appropriate to the option or emphasis area.

MU 3100 meets the following Music Department standard for a GE course: “The individual completing a GE course in music will be able to discuss and appraise the role of music in a balanced life, using appropriate vocabulary and examples from the course.”

MU 3100 meets Cal Poly Pomona’s expectation for students to “succeed in their chosen field, adapt to a changing workplace, be engaged citizens in their communities, and become lifelong learners.”

MU 3100 supports the following Music Department Student Learning Outcome(s):

BA in Music:

- #1. **Discuss and appraise** the role of music in a balanced life, using appropriate vocabulary and examples.
- #3. **Communicate effectively**--verbally and in writing--about specific musical works and musicians, about the creative process in music, and about music's role in human culture.
- #5. **Demonstrate and articulate** artistic growth as a musician and student of music in the world.

BA in the MIS Option:

- #1. **Interpret** relationships between music and: commerce; technology; media; and audience.

BM in Music:

- #4. **articulate** the distinguishing characteristics of multiple musical styles, traditions, and

historical periods, **and apply** that knowledge to performance.

#6. **analyze, interpret, and defend** judgments of various musical works for audiences of scholars and amateurs.

#8. **promote** musical culture in the community.

#9. **think, speak and write** clearly at the college level.

BM in Music Education/Pre-Credential:

#7. **arrange** works for instruments and/or voices.

MU 3100 supports the following Cal Poly Pomona General Education Goals and Measurable Outcomes (see section IX for evaluation):

I. Acquire foundational skills and capacities.

- a. Write effectively for various audiences. (*Written term projects, essay exams*)
- b. Speak effectively to various audiences. (*In-class presentations*)
- c. Find, evaluate, use, and share information effectively and ethically. (*Research preparation for class projects and presentations*)
- d. Construct arguments based on sound evidence and reasoning to support an opinion or conclusion. (*Guided journal writing on assigned questions; guided in-class and online discussion sessions*)
- e. Apply and communicate quantitative arguments using equations and graphical representations of data. (*Exams and project/presentations include technological components such as wave forms, signal path, magnetism, algebraic formulas, etc.; students evaluated on competency therewith.*)

II. Develop an understanding of various branches of knowledge and their interrelationships.

- a. Apply scientific methods and models to draw quantitative and qualitative conclusions about the physical and natural world. (*Students will be using algebra and scientific observation of physical world to understand sound and its properties.*)
- d. Integrate concepts, examples, and theories from more than one discipline to identify problems, construct original ideas, and draw conclusions. (*Course content requires students to integrate math, physical sciences including Physics, performing arts and humanities, and economic and social constructs of musical technologies.*)

III. Develop social and global knowledge.

- a. Analyze the historical development of diverse cultures and the role they play in shaping core institutions and practices of individuals and societies. (*Study of various instrument technologies, tuning systems, and philosophies of technology from non-Western perspective.*)
- b. Analyze principles, methods, value systems, and ethics of social issues confronting local and global communities. (*Readings, and exam questions, cover the ethical and social issues surrounding music technologies.*)

IV. Instructional Materials

Core Readings – Physics, Acoustics, and Technology:

Einstein, Elizabeth L. *The Printing Press as an Agent of Change*. Volume 1. Cambridge, MA: Cambridge University Press, 1982.

Nettl, Bruno. *The Western Impact on World Music: Change, Adaptation, and Survival*. New York, NY: Schirmer Books, 1985.

Rose, Tricia. *Black Noise: Rap Music and Black Culture in Contemporary America*. Middletown, CT: Wesleyan University Press, 1994.

Core Readings – History:

Chapple, Steve and Reebee Garofalo. *Rock 'n' Roll is Here to Pay*. New York: Nelson Hall, 1977.

Loesser, Arthur. *Men, Women and Pianos: A Social History*, reprint ed. Mineola, NY: Dover Publications, 2011.

Sadie, Stanley, ed. *The New Grove Dictionary of Music and Musicians*. Washington, DC: Grove's Dictionaries of Music Inc., 1995.

Core Readings – Philosophy & Culture:

Treitler, Leo, ed. *Strunk's Source Readings in Music History*, revised ed. New York, NY: W.W. Norton & Company, 1998.

Supplemental Readings – Physics, Acoustics and Technology:

Crombie, Alistair C. *Science, Optics, and Music in Medieval and Early Modern Thought*. London, England: Hambledon Press, 1990.

Jones, Steve. *Rock Formation: Music, Technology, and Mass Communication*. Newbury Park, CA: Sage, 1992.

Manuel, Peter. *Cassette Culture: Popular Music and Technology in North India*. Chicago, IL: University of Chicago Press, 1993.

Ong, Walter J. *Orality and Literacy: The Technologizing of the World*. London, England: Methuen, 1982.

Roads, Curtis. *The Music Machine: Selected Readings from Computer Music Journal*. Cambridge, MA: MIT Press, 1989.

Supplemental Readings – History:

Husch, Jerri A. *Music of the Workplace: A Study of MUZAK Culture*. PhD diss., University of Massachusetts, 1984.

Guilbault, Jocelyne. *Zouk: World Music in the West Indies*. Chicago, IL: University of Chicago Press, 1993.

Partch, Harry. *Genesis of a Music: An Account of a Creative Work, its Roots and its Fulfillments*. New York, NY: Da Capo Press, 1974.

Supplemental Readings – Philosophy & Culture:

Foucault, Michel. *The Order of Things: An Archeology of the Human Sciences*. New York, NY: Pantheon Books, 1970.

McClary, Susan. *Conventional Wisdom: The Content of Musical Form*. Berkeley, CA: University of California Press, 2000.

Small, Christopher. *Musicking: The Meanings of Performing and Listening*. Hanover, NH: University Press of New England, 1988.

Thornton, Sarah. *Club Cultures: Music, Media, and Subcultural Capital*. Hanover, NH: University Press of New England, 1996.

Critical Listening Discography:

Gregorian chant, *Monks of Santa Domingo*
Guillaume de Machaut, *Bone Pastor*
Cesti, *L'Orontea*
Gorecki's *Symphony #3*
J.S. Bach, *Tocatta and Fugue in D minor* (organ)
Beethoven, *Pathetique* piano sonata
Jimi Hendrix' *The Start Spangled Banner*
NWA, *Straight Outta Compton*
Vangelis, *Bladerunner* soundtrack
Hermann, Suite from *Psycho*
Beatles' *Sgt. Pepper's Lonely Hearts Club Band*
Wendy Carlos' *Switched-On Bach*
Karlheinz Stockhausen, *Kontakte*
Various artists, *What is Bhangra?*
Run DMC, et al (DVD)

V. Minimum Student Material

1. Course Reader
2. Notebook/Binder
3. Notebook Paper
4. Pencil/Pen

VI. Minimum College Facilities

1. A “smart” classroom with audiovisual equipment
2. Library access
3. Blackboard Learning System

VII. Course Outline

1. Useful music and music technology terms
2. Critical listening
3. Ancient philosophies
4. History of music notation
5. Printing and its impact on music and society
6. Machines and opera in 17th century Venice
7. History and physics of musical instruments (acoustic and electronic)
8. Influence of commerce and the marketplace
9. Early broadcasting and mass mediated communication technology
10. History of sound recording technology
11. Sampling
12. Music in film and media
13. The Internet and contemporary developments
14. Where is technology headed in music?

VIII. Instructional Methods

1. Lecture
2. Discussions
3. In-class problem solving
4. Critical listening

IX. Evaluation of Outcomes

1. Discussions and class participation
2. Book/Article reports (written and oral)
3. Term paper and final presentation
4. Listening exams
5. Midterm and Final exams

Students are required to complete multiple writing assignments throughout the quarter (book/article reports, term paper, etc).

All of the evaluation methods above, combined, align directly with all of the learning outcomes for this course, allowing students to:

1. Develop an understanding of the role of physics, acoustics, and technology in music throughout history.
2. Understand the cultural and philosophical forces that underlie technological innovation.
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5. Become familiar with important historical debates about the role of technology – debates that continue to this day.

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II. Develop an understanding of various branches of knowledge and their interrelationships.

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III. Develop social and global knowledge.

- a. Analyze the historical development of diverse cultures and the role they play in shaping core institutions and practices of individuals and societies.
- b. Analyze principles, methods, value systems, and ethics of social issues confronting local and global communities.

The GE Learning Outcomes above will be met in the following ways:

MU 3010	GE Learning Outcomes								
Assignments	I.a.	I.b.	I.c.	I.d.	I.e.	II.a.	II.b.	III.a.	III.b
Readings								x	x
Lectures/Discussions		x		x			x	x	x
Book/Article Report	x		x	x			x		
Term project/presentation	x	x	x	x	x	x		x	x
Midterm and Final Exams	x			x	x	x		x	x