

QUEENSBOROUGH COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK
ACADEMIC SENATE REPORT

FROM: Lorena B. Ellis, Chair, Committee on Curriculum
TO: Ken Pearl, Secretary, Academic Senate Steering Committee
CC: P. Pecorino, K. Villani, Dean K. Steele, College Archives
DATE: February 17, 2005
SUBJECT: Monthly Report for February 2005

The Curriculum Committee recommends the following for adoption by the Academic Senate:

COURSE REVISIONS

Physics Department

From: PH-231 Fundamentals of Lasers and Fiber Optics
3 class hours [2] laboratory hours 4 credits
Corequisite: [PH-202 or 302 or 412 and MA-128]

Course description: Topics in optics related to lasers and optical fiber and devices for modulating and directing signals from such devices. Geometrical optics with emphasis on ray tracing. Matrix methods in optics. Lenses, thick and thin, mirrors, prisms and other passive elements and systems. Propagation of light in materials. Dispersion and its effects. Special topics in geometric and wave optics. Laboratory complements class work.

To: **PH-231 Fundamentals of Lasers and Fiber Optics**
3 class hours 3 laboratory hours 4 credits
Corequisite: MA-114

Course description: Topics in optics related to lasers and optical fiber and devices for modulating and directing signals from such devices. Geometrical optics with emphasis on ray tracing. Matrix methods in optics. Lenses, thick and thin, mirrors, prisms and other passive elements and systems. Propagation of light in materials. Dispersion and its effects. Special topics in geometric and wave optics. Laboratory complements class work.

Rationale: This course is for students in the Laser and Fiber Optics Technology Program. As such the laboratory component has two purposes; the complement the course work by providing students with an opportunity to apply the principles taught in lecture to real situations and to provide an opportunity for students to develop skills required for the work place. The results of our recently instituted assessment (required by ABET) indicate that it is impossible to achieve both purposes in a two-hour laboratory session and that the students need more time on task. As part of our continuous improvement plan we are required to take corrective action, and increasing the number of laboratory hours is the appropriate action.

The original rationale for the physics II corequisite for PH231 was that optics was covered in physics II and students would have the optics from the physics as an introduction to this optics course. The problem with that rationale is that optics is the last

topic covered in physics II. Therefore, students in PH231 have already completed most of the course before they see the pertinent material in physics II. In fact, most of the optics in physics II is covered in the first third of PH231. As this is the first course in the curriculum, it will improve retention if students can get into their major sooner. By requiring a physics II corequisite, physics I becomes a de facto prerequisite and forces students to wait at least one semester (after they complete remediation) before being introduced to their major. This is discouraging to many students. A survey of related programs at community colleges throughout the US indicates that we are the only one that has a physics prerequisite or corequisite for this course or its equivalent.

From: PH-232 Laser and Electro-Optics Technology
3 class hours 2 recitation hours [2] laboratory hours 5 credits
Prerequisite: PH-231

Course description: Wave optics, interference, coherence, polarization, birefringence, diffraction, gratings in two and three dimensions, power and energy measurements, basics of laser safety, ultra-fast pulse techniques, electro-optic and acousto-optic switches, optical materials, non-linear optics. Laboratory complements class work.

To: **PH-232 Laser and Electro-Optics Technology**
3 class hours 2 recitation hours 3 laboratory hours 5 credits
Prerequisite: PH-231

Course description: Wave optics, interference, coherence, polarization, birefringence, diffraction, gratings in two and three dimensions, power and energy measurements, basics of laser safety, ultra-fast pulse techniques, electro-optic and acousto-optic switches, optical materials, non-linear optics. Laboratory complements class work.

Rationale: This course is for students in the Laser and Fiber Optics Technology Program. As such the laboratory component has two purposes; the complement the course work by providing students with an opportunity to apply the principles taught in lecture to real situations and to provide an opportunity for students to develop skills required for the work place. Preliminary assessment indicates that it is impossible to achieve both purposes in a two-hour laboratory session and that the students need more time on task. As part of our continuous improvement plan we are required to take corrective action, and increasing the number of laboratory hours is the appropriate action.

From: PH-235 Laser/Electro-Optics Projects
2 class hours [2] laboratory hours 3 credits
Prerequisite: PH-231
Corequisite: ET-910 or permission of the Dept.

Construction and testing of a laser, optical or electro-optic device such as a helium-neon laser, optical power meter, or fiber optics communication link; oral presentations and computerized literature searches.

To: **PH-235 Laser/Electro-Optics Projects**
2 class hours 3 laboratory hours 3 credits
Prerequisite: PH-231
Corequisite: ET-910 or permission of the Dept.

Construction and testing of a laser, optical or electro-optic device such as a helium-neon laser, optical power meter, or fiber optics communication link; oral presentations and computerized literature searches.

Rationale: The time necessary for students to complete their projects is much greater than that provided for by having a 2 hour laboratory. In the past instructors have made themselves available to students at additional times, allowed the students to receive a grade even though they did not complete their projects (the grade was typically reduced) or gave the students incompletes (which only postponed when additional instructor time was made available). An additional problem is that the students need to use departmental laboratories and equipment in order to construct and test their projects, which can't occur when the department's CLTs are busy with other duties or when the room is in use by another class. By having a fixed three-hour laboratory session these problems would be alleviated.

It should be noted that all technology courses at the college except the above three have three-hour laboratories. It is an inconsistency that PH-231, 232 and 235 have two-hour laboratories.

From: PH-301 College Physics I

3 class hours 2 lab hours 4 credits

Prerequisite: MA-120 or MA-114 of equivalent or permission of the department
PH-301 and 302 are designed for students who need or want two semesters of noncalculus physics, such as those planning careers in optometry, dentistry, and other medically-related fields. Topics include elementary particles, conservation laws, vectors, laws of motion, linear and angular momentum, energy, gravitation, and thermodynamics.

To: **PH-301 College Physics I**

3 class hours 1 recitation hour 2 lab hours 4 credits

Prerequisite: MA-120 or MA-114 of equivalent or permission of the department

PH-301 and 302 are designed for students who need or want two semesters of noncalculus physics, such as those planning careers in optometry, dentistry, and other medically-related fields. Topics include elementary particles, conservation laws, vectors, laws of motion, linear and angular momentum, energy, gravitation, and thermodynamics.

From: PH-302 College Physics II

3 class hours 2 lab hours 4 credits

Prerequisite: PH-301

Second-semester course following PH-301. Topics include electro-magnetism, vibrations, wave phenomena and radiation, relativity, atomic interactions, atomic energy, and physics frontier.

To: **PH-302 College Physics II**

3 class hours 1 recitation hour 2 lab hours 4 credits

Prerequisite: PH-301

Second-semester course following PH-301. Topics include electro-magnetism, vibrations, wave phenomena and radiation, relativity, atomic interactions, atomic energy, and physics frontier.

Rationale: It is not atypical for some topics to be omitted in a physics course due to lack of time. What is atypical is to guarantee the lack of time by having a course with too few hours. College physics is typically two 6 hour/ 4 credit courses and this change would bring Queensborough inline with the rest of the country. Within CUNY only one other college (Bronx CC) has an equivalent course that is 5 hours and a number (Hostos CC, Hunter and York) have an equivalent course of more than 6 hours per semester.

From: PH-411 Calculus Physics I

2 class hours 2 recitation hours 3 1/2 credits

[2 laboratory hours on alternate weeks.]

Prerequisite: MA-440 or the equivalent.

Corequisite: MA-441.

Fundamental principles of mechanics; includes kinematics, classical laws of motion, statics, conservation laws, work, mechanical energy, and simple harmonic motion.

To: **PH-411 Calculus Physics I**

2 class hours 2 recitation hours 3 1/2 credits

2 laboratory hours

Prerequisite: MA-440 or the equivalent.

Corequisite: MA-441.

Fundamental principles of mechanics; includes kinematics, classical laws of motion, statics, conservation laws, work, mechanical energy, and simple harmonic motion.

From: PH-412 Calculus Physics II

2 class hours [1] recitation hours 3 credits

[2 laboratory hours on alternate weeks.]

Prerequisite: PH-411.

Corequisite: MA-442.

Fundamentals of heat, waves, and optics; includes heat transfer, first and second laws of thermodynamics, kinetic theory of gases; nature of light, geometrical and physical optics; optical instruments; sound.

To: **PH-412 Calculus Physics II**

2 class hours 2 recitation hours 3 credits

2 laboratory hours

Prerequisite: PH-411.

Corequisite: MA-442.

Fundamentals of heat, waves, and optics; includes heat transfer, first and second laws of thermodynamics, kinetic theory of gases; nature of light, geometrical and physical optics; optical instruments; sound.

From: PH-413 Calculus Physics III

2 class hours 2 recitation hours 3 1/2 credits

[2 laboratory hours on alternate weeks.]

Prerequisite: PH-411.
Corequisite: MA-443.

Electricity and magnetism. Includes Coulomb's law, electric field and potential, elementary DC and AC circuits; magnetic fields, induction, Maxwell's equations.

To: **PH-413 Calculus Physics III**
2 class hours 2 recitation hours 3 1/2 credits
2 laboratory hours
Prerequisite: PH-411.
Corequisite: MA-443.

Electricity and magnetism. Includes Coulomb's law, electric field and potential, elementary DC and AC circuits; magnetic fields, induction, Maxwell's equations

Rationale: (1) For increasing the laboratory hours – Queensborough students taking calculus physics have been short-changed in laboratory. Laboratory work is an integral part introductory physics courses and should occur every week. Currently a student completing the three-semester sequence will have performed fewer labs than any student at any other college including CUNY colleges.

(2) For adding the extra recitation hour to PH-412 – The original assignment of hours and credits was to match the credits granted by CCNY and be consistent with Carnegie units. There is no less material covered in PH-412 than the other two courses nor is it any less rigorous. Without the additional recitation hour students in PH-412 will continue to be short changed by covering the material in insufficient detail or by having some material omitted.

Department of Electrical and Computer Engineering Technology

From: ET-510 [Digital Computers]
3 class hours, 3 lab. hours, 4 credits

To: **ET-510 Introduction to Digital Electronics**
3 class hours, 3 lab. hours, 4 credits

Rationale: Today all texts incorporating the topics taught in 510 (which have been unchanged in the decade past) all use titles similar to Digital Fundamentals or Introduction to Digital Electronics. Our original title for ET510 which predates the invention of the microprocessor reflected the early days where the main use of digital techniques was for digital computers. At that time, most consumer applications were analog. There were no CD players, PCs, cell phones or digital cameras. Today, digital technology is a much broader field and we have a separate microprocessor course (ET515 or ET560) in each curriculum. Therefore, changing our course title will bring our list of courses into today's vernacular.

From: ET-560 Microprocessors and Microcomputers
3 class hours, 3 lab. Hours, 4 credits
Prerequisite: [ET-503, 510 or 540.]

To: **ET-560 Microprocessors and Microcomputers**
3 class hours, 3 lab. Hours, 4 credits
Perequisite: ET-503 and ET540 or ET-509 and ET510

Rationale: Development speed is a driving force in today's industry; the first manufacturer to market is the winner. In the area of microprocessor applications, this means that reusable standardized code is becoming more and more important. The use of C++, with its extensive reservoir of useful code modules, means that today it is more useful than assembly code.

Our old pre-requisite for ET560 was ET-503, Introduction to Assembly Language Programming. The problem with assembly code is that it is different for each family of microprocessors. Modules developed for one microprocessor cannot be used on another.

As a result, microprocessor manufacturers are supplying more free C++ code for their products than assembly code. Our students need to learn this new and more flexible approach to programming microprocessors. In response to this change in industry practice, ET560 will now be taught with C++ code and will require a new pre-requisite of ET509 which introduces to students embedded C++ programming.

NEW COURSES:

English Department

EN-223 Advanced Fiction Writing

Three class hours, one recitation hour, 3 credits
Prerequisites and/or co-requisites: EN-201

Course description: This course offers students the opportunity to further develop fiction writing techniques introduced in EN-201. The course will provide students with intensive practice in a wide variety of narrative forms, supportive critical feedback on their work, strategies for editing, and exposure to a broad range of contemporary published fiction.

Rationale: Enrollment in English Department EN-201 Creative Writing: Fiction course has steadily increased over the past three years. The department has responded by offering more sections of this course. This proposed course will provide second-year fiction writing students with the opportunity to continue developing their fiction writing skills to an advanced level. In addition, this course is expected to serve non-matriculated advanced fiction writers who are interested in developing their fiction writing in an academic environment. The English Department will offer one Advanced Fiction Writing course each Spring semester.

EN-224, 225 Special Topics in Writing as Art & Craft

3 class hours, 1 recitation hour, 3 credits
Prerequisites and/or co-requisites: EN-102

Course description: These courses will focus on fiction and non-fiction writing about a specific theme or topic to be announced in advance and will vary each semester. Descriptions of the topic in a particular semester will be available in the English Department before registration.

Students may take two such courses for credit, as long as they do not repeat the topic. Topics will include but are not limited to:

Reading and Writing about Crime and Murder
 Reading and Writing about the Immigrant Experience
 Finding Nurture in Nature: Reading and Writing about the Natural World
 Reading and Writing about Place: Geography, Travel and Identity
 Reading and Writing about War
 Be Home Before Dark: Reading and Writing about Family
 Navigating Difference: Reading and Writing about Being “Other”
 Love, Lust and Romance: Reading and Writing about Love
 I Can’t Believe I Ate the Whole Thing: Reading and Writing about Food
 Reading and Writing about Prison, Criminality and the Law
 Writing for Children and Young Adults
 The Teaching of Writing
 Multimedia Writing

Rationale: EN 224-225 will focus on a specific theme or topic to be announced in advance and will vary each semester. Descriptions of the topic in a particular semester will be available in the English Department before registration. Student registration in the department’s writing courses has been growing, and the courses with varying topics will attract students.
 Students may take two such courses for credit, as long as they do not repeat the topic.

Music Department

MU-208 Musicianship I

3 studio hours, 1 lab hour, 1 recitation hour, 3 credits
 Prerequisites and/or co-requisites: none

Course description: A course designed to introduce beginners to the basic elements of music theory and music performance, with a special focus on piano and singing. Topics include developing piano technique, singing notated music, and developing performance and analysis skills with fundamental elements such as meter, rhythm, intervals, scales and chords.

Rationale for MU-208 replacing MU-205 and MU-311:

Currently, the department offers two courses addressing introductory musicianship and performance: MU-205 (Fundamentals of Music I), and MU-311 (Piano I.) Both courses assume no musical background on the part of the student. The central focus of MU-205 is the building of music literacy from scratch, via the introduction of basic elements of musical notation, including meters, simple rhythms, pitches, clefs, and scales. The keyboard is used as a tool to better assimilate these elements, but often, there is not enough time to devote to keyboard technique and fluency. Thus, keyboard elements are often given short shrift in favor of building music literacy skills through written assignments and exams.

MU-311 is purely an introductory piano course. Students taking MU-311 currently are required to take MU-205 as a co-requisite, while MU-205 students are merely “strongly encouraged” to take MU-311. This creates a real inequity among students in MU-205. MU-205 students who are concurrently taking MU-311 have a great advantage, one that is consistently manifested by their better performances in both written and applied exams, as well as in their more confident participation in classroom discussion. Another issue that creates difficulties regarding these two courses is that students are often taking MU-205 and MU-311 with different instructors. The topics and specific assignments being covered in each course should ideally be very closely integrated throughout the semester, but we have found this to be an extremely difficult task, with the courses not currently integrated. Students in a single MU-205 section will often be collectively spread out between three separate sections of MU-311 led by three different instructors, with the remaining MU-205 students not even being concurrently enrolled in MU-311.

A section of MU-208, meeting 5 hours a week, would replace a single pair of these courses (i.e., MU-205 and MU-311, now meeting 3 and 2 hours respectively.) This would create several distinct advantages over

the current curricular design. Keyboard and music literacy components could be fully integrated, as there would be sufficient time for each (as aforementioned, not currently the case in MU-205), and both components would be taught by the same instructor to the same group of students. With MU-208, continuity and pacing would be greatly improved and more finely tuned, as a single instructor would be fully responsible for both piano study and building music literacy. Finally, MU-208 would much better allow musicianship to be fostered in an environment of immersion and synergy, due to greater opportunities for integration between analytical and applied elements.

Student demand and projected enrollment for MU-208 would ostensibly be comparable to MU-205 and MU-311, consistently two of our most popular courses. Just as is the case for MU-205 and MU-311, several sections of MU-208 would be offered each semester.

MU-209 Musicianship II

2 studio hours, 1 class hour, 1 recitation hour, 1 lab hour, 3 credits

Prerequisite is MU-208 with a grade of C or better, or satisfactory score on the Music Placement Test. Co-requisite is MU-210 (Elementary Sight-Reading and Ear Training).

Course description: A continuation of MU-208, focusing on developing further skills and fluency with fundamental elements of musical language, with regard to both performance and analysis. Applied topics include minor scales, diatonic harmony, seventh chords, more complex rhythmic structures, and musical composition.

Rationale for MU-209 replacing MU-206 and MU-207

Currently, the department offers two 2nd semester musicianship courses in which the subject matter is very closely aligned: MU-206 (Fundamentals II), which deals primarily with building fluency in the language of music through written work, and MU-207 (Basic Keyboard Skills), which focuses on applying the subject matter of MU-206 to piano keyboard performance. Currently, these courses have co-requisite status, but their co-requisite relationship is organized haphazardly: students taking MU-207 must take MU-206 concurrently, but MU-206 students have no co-requisite requirements whatsoever.

Although MU-206 includes some applied keyboard performance, its first priority is to build abilities and skills with musical composition and analysis. A considerable majority of class time is thus allocated to written assignments and analysis of musical scores. Keyboard activities are used as tools to better assimilate these elements, but often, there is not enough time to devote to piano technique and fluency. Thus, keyboard assignments are often given short shrift in favor of building musical analysis skills through written assignments and exams. MU-206 students who are not concurrently taking MU-207 are therefore at a distinct disadvantage, compared with classmates who are enrolled in MU-207. This is also clearly manifested by the vast disparity of performance levels in MU-206, when correlated with student enrollment in the MU-207.

Another issue that creates difficulties is that students are often taking both co-requisite courses with different instructors. The topics and specific assignments being covered in each course should ideally be very closely integrated throughout the semester, but we have found this to be an extremely difficult task, with the courses not currently integrated. For example, students in a single MU-206 section will often be collectively spread out between three separate sections of MU-207 led by two or three different instructors, with the remaining MU-206 students not even being concurrently enrolled in MU-207.

A section of MU-209, meeting 5 hours a week, would replace a single pair of the aforementioned classes (i.e., one MU-206 course plus one MU-207 course.) This would create several distinct advantages over the current curricular design. Keyboard, composition and analysis components could be fully integrated, as there would be sufficient time for each (as aforementioned, not currently the case in the allegedly comprehensive MU-206 class), and both components would be taught by the same instructor to the same group of students. With MU-209, continuity and pacing would be greatly improved and more finely tuned, as a single instructor would be fully responsible for all elements of applied and analytical study. Finally, MU-209 would much better allow musicianship to be fostered in an environment of immersion and synergy, due to greater opportunities for integration between analytical and applied elements. Student demand and projected enrollment for MU-209 would ostensibly be comparable to MU-206 and MU-207, two consistently popular courses. Just as is the case for MU-206 and MU-207, several sections of MU-209 would be offered each semester.

Electrical and Computer Engineering Technology**ET-509 C ++Programming for Embedded Systems**

3 Lab Hours, 1 Credit

Prerequisite ET-501

Course description: The nature of a program, simple C++ programs, variables, binary and hex number system, mathematical and logic operations with binary and hex numbers, looping and delays, arrays, pointers, microprocessor memory characteristics, data manipulation using pointers, input output programming exercises on a real microprocessor.

Rationale: Embedded software is in almost every electronic device designed today. Yet because each embedded system is unique and highly customized to its application, the ability to program it becomes an important skill for our technology student. Through this course our students will have a basic understanding of programs and hand on working knowledge of programming a microprocessor.

The techniques and code examples taught in the course are directly applicable to real-world embedded software projects of all sorts. After taking this course, our students will be able to understand the basics involved in programming an embedded microprocessor.

Student Demand and enrollment: Since this will be a required course for both the Electrical Engineering Technology and Computer Engineering Technology students the anticipated yearly enrollment will be 70 students.

PROGRAM REVISIONS:

Music Department : Change in the A.A.S. Degree Program in Music Electronic Technology

FROM: REQUIREMENTS FOR THE A.A.S. DEGREE**GENERAL EDUCATION CORE REQUIREMENTS:**

no changes to these courses

REQUIREMENTS FOR THE MAJOR*Credits*

ET-920	Electrical Technology Fundamentals	3
ET-282	Fundamentals of Audio Electronics	3
ME-250	Introduction to the Recording Studio & MIDI	3
ME-251	Digital Music Sequencing	3
ME-260	Electronic Techniques	1
ME-276	Digital Sound Design	2
ME-277	Digital Recording	3
ME-281	Recording Techniques II: Studio Operation	3
ME-900	Cooperative Education Internship	2
[MU-311-314	Piano I-IV (<i>any two</i>)	2
MU-241*	Music Theory I	3
MU-211*	Sight Reading and Ear Training I	1
MU-400	Performance Series Elective	1
MU-	Advised Music Electives	2

<i>Sub-total</i>		35
Total Credits Required for the A.A.S. Degree in Music Technology		60
<p>*Note: Prior to taking MU-211 and MU-241, all students are required to take courses in basic musicianship and music theory ([MU-205, MU-206, MU-207] and MU-210) unless they request and pass a Music Placement Test administered by the Music Dept.</p>		
TO: REQUIREMENTS FOR THE A.A.S. DEGREE		
GENERAL EDUCATION CORE REQUIREMENTS:		
no changes to these courses		
REQUIREMENTS FOR THE MAJOR		<i>Credits</i>
ET-920	Electrical Technology Fundamentals	3
ET-282	Fundamentals of Audio Electronics	3
ME-250	Introduction to the Recording Studio & MIDI	3
ME-251	Digital Music Sequencing	3
ME-260	Electronic Techniques	1
ME-276	Digital Sound Design	2
ME-277	Digital Recording	3
ME-281	Recording Techniques II: Studio Operation	3
ME-900	Cooperative Education Internship	2
<u>MU-312-314</u>	<u>Piano II-IV (any two)</u>	2
MU-241*	Music Theory I	3
MU-211*	Sight Reading and Ear Training I	1
MU-400	Performance Series Elective	1
MU-	Advised Music Electives	2
<i>Sub-total</i>		35
Total Credits Required for the A.A.S. Degree in Music Technology		60

*Note: Prior to taking MU-211 and MU-241, all students are required to take courses in basic musicianship and music theory (MU-208, MU-209 and MU-210) unless they request and pass a Music Placement Test administered by the Music Dept.

Music Department : Change in the A..S. Degree Program in Fine and Performing Arts: Music Concentration

FROM: MUSIC CONCENTRATION

Students select 20-26 credits in consultation with a department adviser as indicated below.

The following courses are required:

MU-110. Introduction to Music, or
 MU-120. Survey of Western Music
 MU-241, 242. Music Theory and Keyboard Harmony I, II or
 MU-231, 232. Jazz Theory I, II.

MU-211, 212. Sight Reading and Ear Training I, II.
 MU-[311]. 312. Piano [I,] II.

Two credits selected from the: MU-400 series

The remaining 5-11 credits may be selected from any courses in the Department of Music including those above not already taken, with the exception of [MU-205, 206, 207,] 210, and 261.

TO: MUSIC CONCENTRATION

Students select 20-26 credits in consultation with a department adviser as indicated below.

The following courses are required:

MU-110. Introduction to Music, *or*
 MU-120. Survey of Western Music
 MU-241, 242. Music Theory and Keyboard Harmony I, II *or*
 MU-231, 232. Jazz Theory I, II.
 MU-211, 212. Sight Reading and Ear Training I, II.
MU-312. Piano II.

Two credits selected from the: MU-400 series

The remaining 5-11 credits may be selected from any courses in the Department of Music including those above not already taken, with the exception of MU-208, 209, 210, and 261.

RATIONALE: In accordance with the accompanying new course proposals for MU-208 and MU-209, MU-208 will replace MU-205 and MU-311, and MU-209 will replace MU-206 and MU-207. Thus, these changes need to be reflected in the course catalog wherever the courses being replaced are mentioned, and the new courses replacing them must be substituted. As all of the aforementioned courses are introductory, and serve as prerequisites for courses in two degree programs, these changes must be made in all passages describing the roles of these courses as prerequisites.

FROM: MU-210 Elementary Sight Reading and Ear Training

2 studio hours 1 credit

Prerequisite: [MU-205] with a grade of C or better.

Corequisite: [MU-206], or satisfactory score on the Music Placement Test. May not be credited toward the music concentration of the A.S. in Fine and Performing Arts curriculum. May be used as a free elective in all curricula.

Designed to develop basic skills in sight reading and melodic dictation.

TO: MU-210 Elementary Sight Reading and Ear Training

2 studio hours 1 credit

Prerequisite: MU-208 with a grade of C or better.

Corequisite: MU-209, or satisfactory score on the Music Placement Test. May not be credited toward the music concentration of the A.S. in Fine and Performing Arts curriculum. May be used as a free elective in all curricula.

Designed to develop basic skills in sight reading and melodic dictation.

FROM: MU-231 Jazz Theory I

2 class hours 2 studio hours 3 credits

Offered in Fall

Prerequisite: [MU-206, 207,] and 210 with a grade of C or better, or satisfactory score on the Music Placement Test. Corequisite: MU-211.

A beginning theory course for performers of jazz. Chords, scales, and other theoretical materials are studied from the special viewpoint of the performing artist. Students will be expected to apply this study to improvisation on their own instruments. Some proficiency on an instrument or in voice is required.

TO: MU-231 Jazz Theory I

2 class hours 2 studio hours 3 credits

Offered in Fall

Prerequisite: MU-209 and 210 with a grade of C or better, or satisfactory score on the Music Placement Test. Corequisite: MU-211.

A beginning theory course for performers of jazz. Chords, scales, and other theoretical materials are studied from the special viewpoint of the performing artist. Students will be expected to apply this study to improvisation on their own instruments. Some proficiency on an instrument or in voice is required.

FROM: MU-241 Music Theory and Keyboard Harmony I

3 class hours 1 studio hour 3 credits

Prerequisite: [MU-206, 207,] and 210 with a grade of C or better, or satisfactory score on the music placement test. Corequisite: MU-211.

An integrated approach to music; melody, elementary species counterpoint, and keyboard harmony.

TO: MU-241 Music Theory and Keyboard Harmony I

3 class hours 1 studio hour 3 credits

Prerequisite: MU-209 and 210 with a grade of C or better, or satisfactory score on the music placement test. Corequisite: MU-211.

An integrated approach to music; melody, elementary species counterpoint, and keyboard harmony.

FROM: MU-311, 312, 313, 314 Class Instruction in Piano I,II, III, IV]

2 studio hours 1 credit each course

Corequisite: [MU-205, 206], or satisfactory score on the Music Placement Test.

TO: MU-312, 313, 314 Class Instruction in Piano II, III, IV

2 studio hours 1 credit each course

Corequisite: MU-208, 209, or satisfactory score on the Music Placement Test.

FROM: ME-251 Digital Music Sequencing

2 class hours 2 laboratory hours 3 credits

Prerequisite: ME-250, [MU-205 and MU-311 (all] completed with a minimum grade of C).

An introduction to the use of synthesizers and computers in the production of sequencer-based compositions. Students apply basic techniques by working with professional sequencing programs and synthesizers in the Music Technology Lab.

TO: ME-251 Digital Music Sequencing
2 class hours 2 laboratory hours 3 credits

Prerequisite: ME-250 and MU-208 (both completed with a minimum grade of C).

An introduction to the use of synthesizers and computers in the production of sequencer-based compositions. Students apply basic techniques by working with professional sequencing programs and synthesizers in the Music Technology Lab.

PROGRAM REVISIONS:

Electronics Engineering Technology Program:

From: ELECTRONIC ENGINEERING TECHNOLOGY
 A.A.S. Degree Program
 A TAC/ABET ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

REQUIREMENTS FOR THE A.A.S. DEGREE

GENERAL EDUCATION CORE REQUIREMENTS

Credits	
EN-101, 102	English Composition I, II.....6
MA-114	College Algebra and Trigonometry for Technical Students.....4
MA-128	Calculus for Technical and Business Students.....4
PH-201,202	General Physics I, II.....8
SS-or HI-	Electives in Social Science or History (HI-100 series).....6
	Sub-total 28

REQUIREMENTS FOR THE MAJOR

ET-110	Electric Circuit Analysis I.....4
ET-140	Sinusoidal and Transient Circuit Analysis.....3
ET-210, 220	Electronics I, II.....8
ET-230	Telecommunications I.....4
[ET-305	Transients and Electromechanical Transducers.....2]
ET-320	Electrical Controls Systems.....3
ET-410	Electronic Project Laboratory.....1
ET-501	Computer Applications.....1
[ET-502	Introduction to Computer Programming.....1]
ET-510	Digital Computers.....4
[ET-515	Introduction to Microprocessors.....1]

Sub-total [32]

ELECTIVES

ET electives+.....[4]

Total Credits Required.....64

To:

ELECTRONIC ENGINEERING TECHNOLOGY
 A.A.S. Degree Program
 A TAC/ABET ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

REQUIREMENTS FOR THE A.A.S. DEGREE

GENERAL EDUCATION CORE REQUIREMENTS

Credits

En-101, 102	English Composition I, II.....	6
MA-114	College Algebra and Trigonometry for Technical Students.....	4
MA-128	Calculus for Technical and Business Students ..	4
PH-201,202	General Physics I, II.....	8
SS-or HI-	Electives in Social Science or History (HI-100 series).....	6

Sub-total 28

REQUIREMENTS FOR THE MAJOR

ET-110	Electric Circuit Analysis I.....	4
ET-140	Sinusoidal and Transient Circuit Analysis.....	3
ET-210, 220	Electronics I, II.....	8
ET-230	Telecommunications I.....	4
ET-320	Electrical Controls Systems.....	3
ET-410	Electronic Project Laboratory.....	1
ET-501	Computer Applications.....	1
ET-509	C++ Programming for Embedded Systems.....	1
ET-510	Introduction to Digital Electronics	4
ET-560	Microprocessors and Microcomputers.....	4

Sub-total 33

ELECTIVES

ET electives+3

Total Credits
 Required.....64

SUMMARY OF CHANGES

The proposed changes to the ET curriculum will maintain the same number of credits and hours needed for graduation as in the existing ET curriculum. Furthermore, there are no changes to the general education and liberal arts and sciences course requirements. This proposal maintains the CUNY 64-credit constraint and is in full compliance with the new TAC/ABET accreditation guidelines.

New Courses

ET-509 C++ Programming for Embedded Systems

Course Revisions

ET-510 [Digital Computers] – title changed to Introduction to Digital Electronics
 ET-560, Microprocessors and Microcomputers, 4 credits, is being revised with new prerequisites

Course Deletions

ET-305	Transients and Electromechanical Transducers.....	2
ET-502	Introduction to Computer Programming	1
ET-515	Introduction to Microprocessors.....	1
ET Elective		1

Rationale:

The ET curriculum urgently needs to be updated to accommodate the continued growth in importance of the microprocessor in the electronics industry. The current ET-515, Introduction to Microprocessors course (1-credit, 3-hours) is no longer adequate for many of electronics jobs in the field of electronics. Furthermore, schools like NYC College of Technology and SUNY, Farmingdale, do not accept ET-515 for articulation because their ET programs utilize 4-credit microprocessor courses. Queensborough ET students now need the same course we have been offering to our CT students, ET560, Microprocessor and Microcomputers (4-credits, 6-hours), in order to be fully prepared to deal with current job market, and for articulation to four year programs. To make room for the 4-credit, 6 hour ET560 course, the proposed new curriculum will eliminate ET515, Introduction to Microprocessors, and ET305, a transient circuit analysis/machinery course, whose subject matter is of diminished importance. Also the number of ET Elective credits required will be reduced from 4 to 3 credits. Furthermore, in order to satisfy ET-560 prerequisite requirements, a new course ET-509, Fundamentals of Programming, will replace ET-502, for ET students. ET-509 will utilize the C++ programming environment instead of Visual Basic, and will be specifically oriented to microprocessor topics like register and bit manipulation.