MEMORANDUM

TO: Academic Affairs Committee

FROM: Pat Toney
Vice President of Academic Affairs

DATE: October 29, 2010

RE: Academic Affairs Committee Meeting

The Academic Affairs Committee will meet as scheduled on Tuesday, November 9, 2010 at 2 p.m. in Room 107A.

The agenda is as follows:

1. Curriculum

   Humanities Division
       ENG 260 – New Course
       HUM 232 – New Course

   Math & Social Sciences
       SOC 106 – New Course

   HealthCare
       ALH 102 – Course Revision
       ALH 151 – Course Revision

   Human Services & Science
       Fire Science Curriculum – New Courses and Course Revisions

   Business & Technology Division
       Computer Science Engineering Technology Curriculum Revisions and New CSET/Cyber Security Certificate
       General Studies/Associate in Arts/Energy Utility Option – Curriculum Grid Changes
       HVAC – New Curriculum

2. Policy Review
   General Counsel's Memo re Copyright Policy 6-29-1
   US DOE Copyright Memo Addendum
   System-Wide Copyright and Intellectual Property Policy
1. Course/Program Title: ENG 260 Special Topics in English

2. Originator: Kathy Frederickson  Date: 11/19/2009

3. Academic Unit Dean: Nicole Currier  Date: 11/19/2009

Recommendation: Approval of the proposed new course, ENG 260. This recommendation was voted and approved at the November 19, 2009 Humanities Division Meeting.

Rationale: In line with other colleges offering a special topics course, QCC’s ENG 260 will provide upper level students with more opportunities for in-depth encounters with particularized content. Students’ research skills will draw on and expand those acquired in ENG 101, ENG 102 and other writing intensive courses. ENG 260 will offer a seminar format and allow students to experience coursework comparable to, and consistent with, their peers’ experiences in other two- and four-year colleges.

4. Recommended: ______________________ Not Recommended: ______________________

Academic Affairs Staff: ______________________ Date: ______________________

Comments:

5. Recommended: ______________________ Not Recommended: ______________________

VP/Academic Affairs: ______________________ Date: ______________________

Comments:

6. Recommended: ______________________ Not Recommended: ______________________

Academic Affairs Committee: ______________________ Date: ______________________

Comments:

7. Approved: ______________________ Not Approved: ______________________

VP/Academic Affairs: ______________________ Date: ______________________

Comments:
Quinsigamond Community College

Request For A New Course Or Course Revision

Course Discipline  ENGLISH  Division  HUMANITIES

Date  November 19, 2009  (Revised version submitted October 6, 2010)

Course Title  Special Topics in English

Course Number  ENG 260

Lecture Hours  45  Credits  3  Clinic Hrs  _______  Lab Hrs  _______

Prerequisite  ENG 102  Corequisite  

Application As Elective?  Elective; Humanities; Liberal Arts

Course Effective Term  Spring  Year  2011

1)  Does This Course Replace Another Course?  Yes  X  No

Which Course?  

If Revision, Rationale For Revision Should Be Given Here:

Rationale for offering Special Topics:

In line with other colleges offering a special topics course, QCC’s  ENG 260 will provide upper level students with more opportunities for in-depth encounters with particularized content. Students’ research skills will draw on and expand those acquired in ENG 101, ENG 102 and other writing intensive courses. ENG 260 will offer a seminar format and allow students to experience coursework comparable to, and consistent with, their peers’ experiences in other two- and four-year colleges. Class activities may include discussion, teamwork, collaborative projects, Blackboard or Portal engagement, interdisciplinary study, service learning, etc. Topics determined by the department faculty.

Transferability appears to be virtually guaranteed; seven other MA community colleges offer Special Topics (Berkshire offers FIVE) and Eng. Dept Chair of Worcester State, Dennis Quinn, has communicated to me in email that QCC’s course would be matched up to a course on their books – at the very least “an equivalent to [their] Special Topics classes.” Dan de la Torre has no record of transfer problems with a sister course, PHI 250. Further, we have a sample syllabus in the wings, “Reading Walden” (see attached).

2)  Is Course Content Similar To Other Courses Now Offered?  Yes  X  No

If Yes, Attach Statement From Chairperson Of Department Offering Similar Course.

3)  For Whom Is This Course Designed?  Students desiring upper level ENG elective

4)  Required Course?  Yes  X  No  Required For

AA Committee 11/09/10
5) Expected Enrollment Per Term ____________________ Per Year __12-15__________

6) Additional Staff? ________ Yes ___ X ____ No __ Number Of Additional Staff ____________

7) Additional Space? ________ Yes ___ X ____ No __ Amount Of Additional Space ___________

8) Additional Equipment? ________ Yes ___ X ____ No __ Additional Cost $ ____________

9) Additional LRC Materials? ________ Yes ___ X ____ No __ Estimated Cost $ ____________
   Signature: ___________________________________ (Library Services Director)

10) Text And Related Materials texts will vary

11) Attach Course Description And Outline To This Page

   See Generic Syllabus Attached
ENG 260: Special Topics in English

COURSE DESCRIPTION:

This course provides an opportunity for specialized literary study of various topics from year to year. The course may feature a particular literary theme, an historical era, a genre, a single author or group of authors, specific regional or national literature, or other topics defined by the teaching professor. Research papers or projects may constitute a significant portion of the course requirements. This course will vary in any number of ways according to the direction and discretion of the instructor and the instructor’s choice of text(s).

COURSE PREREQUISITES: ENG 102, English Composition and Literature II

Instructor: ____________
Term: _______________
Office Hours: _________
Contact Information:

Texts: As determined by teaching professor.

COURSE OBJECTIVES:

1. This course serves as a means for students to further develop critical thinking skills, communication skills and efficient and effective research skills.
2. Through such activities as reading, discussion, research, writing and debating, students explore the topic(s) of the term.

COURSE REQUIREMENTS:

1. Active oral participation in weekly discussions.
2. Submission of short essays, as determined by the teaching professor.
3. Preparation of a research paper or project supported by outside sources which explores a specific topic related to the special topics theme, as determined by the teaching professor.

4. Finding, assessing and incorporating scholarly sources and bibliographic materials into one’s work.

5. Working in collaborative peer groups, as determined by the teaching professor.

6. Presenting oral critiques or interpretations to the class, as determined by the teaching professor.

**DESIRED STUDENT OUTCOMES:**

Upon successful completion of this course students will:

1. Think critically while evaluating the quality of information from various sources.

2. Appreciate the origins, progressive growth, tentative nature and inter-relatedness of the various disciplines and related knowledge.

3. Expand their own degree of independence when learning and information gathering.

4. Develop the ability to defend a point of view utilizing documentation and expert opinion.

5. Think and speak extemporaneously and invite follow up questions.

6. Master the skills of efficient and effective library and internet research.

7. Appreciate the intrinsic reward of intellectual effort and creative endeavor.

8. Appreciate their own creative ability and intellect and as a result develop a more accurate sense of their own potential.

**TEACHING METHODOLOGIES:**

1. Group Discussion
2. Group Projects
3. Films
4. Lecture
5. Guest Speakers
6. Field Trips
7. Community Service Opportunities

**METHODS OF EVALUATION / Basis for Grading:**

To be determined by the teaching professor.

**ATTENDANCE:**
Students are expected to attend all classes. Class absences will effect students’ grade average, as determined by the teaching faculty member. It is the student's responsibility to contact the instructor prior to or immediately following a class absence.

**PLAGARISM:**

Cheating, plagiarism, submitting another person's material as one's own or doing work for which another person will receive academic credit constitutes academic dishonesty. This includes but is not limited to the following:

* Unauthorized use of books, notebooks or other sources in order to secure or give help during examinations
* Unauthorized copying or possession of examinations, assignments, reports, or term papers;
* Presentation of other's assignments, reports, or term papers as one's own work
* Presentation of unacknowledged material, in whole or in part, as one's own work.

Any case of plagiarism will be considered a serious violation of the College's academic regulations. Instructors may report instances of plagiarism to appropriate College officials. *The Student Handbook*, 2010 – 2111, includes more information, p. 215, 217 -219 and 234.

**STATEMENT CONCERNING STUDENTS WITH SPECIAL NEEDS:**

Every effort will be made to meet the individual needs and various learning styles of the students in this course. The Learning Assistance Center offers individualized aid. All information is strictly confidential.

**COURSE OUTLINE of topics/ Schedule:**
As determined by the teaching professor.
1. Course Name & Number: HUM 232 Survey of Hollywood Film 1920 to Present

2. Originator: Mark Bates, Professor of English Date: 8/9/10

3. Division Dean: Nicole Currier Date: 8/9/10

4. Brief Description of the Proposal:

The course aims to provide a grounding in the history and analysis of Hollywood film art.

5. Effective Date: Fall 2011

6. Division Recommendation: This course was voted and approved at the October 21, 2010 Humanities Division Meeting.

7. Academic Affairs Staff: ____________________________ Date: ________________

   Recommended: _______ Not Recommended: _______
   Comments:

8. VP/Academic Affairs: ______________________________ Date: ________________

   Recommended: _______ Not Recommended: _______
   Comments:

9. Academic Affairs Committee: ________________________ Date: ________________

   Recommended: _______ Not Recommended: _______
   Comments:

10. VP/Academic Affairs: ______________________________ Date: ________________

    Approved: _______ Not Approved: _______
    Comments:
Quinsigamond Community College
New Course Proposal

<table>
<thead>
<tr>
<th>Course Discipline/Division: Humanities</th>
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<tbody>
<tr>
<td>Course Title: Survey of Hollywood Film 1920 to Present</td>
</tr>
<tr>
<td>Course Number: HUM 232</td>
</tr>
<tr>
<td>Prerequisites and/or corequisites (confer with affected department coordinator): ENG 101</td>
</tr>
<tr>
<td>CIP code (check with IR Office): 24.0103</td>
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<tr>
<td>Effective Term/year: Spring, 2011</td>
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</table>

Give a rationale for the new course. Be sure to indicate whether this course replaces another course.

This course differs from the existing film course in the catalog (HUM 231 “The Movies, Politics, and the Critics”), which it is intended to replace, in its emphasis upon an historical survey of Hollywood film history. This course proposes to offer students a systematic and comprehensive, chronologically organized overview—analagous in type to existing literature survey courses—of the development and evolution of the art of Hollywood film-making. Such courses routinely draw upon a range of disciplines (including cultural studies, history, philosophy, sociology, etc.), in an interdisciplinary fashion, making this an ideal liberal arts course option for students.

Bristol, Cape Cod, Mass Bay, Massasoit, Mount Wachusett, and Northern Essex Community Colleges already have similar film survey courses in their catalogs, and hence the proposed course would bring QCC in line, in terms of course offerings, with those provided by their sister colleges in the state.

The instructor would argue that, in an age when media and cultural studies have growing importance in college curricula, that there is a market for such a course that is currently being overlooked by the college, and that this course would profitably go some way to filling that shortfall in the existing catalog.

Is the course content similar to other courses now offered? Yes [X] No [ ]
If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives
[X] Elective
[X] Discipline specific (name the discipline) Liberal Arts
[X] Interdisciplinary (confer with Liberal Arts Coordinator)
[ ] Program specific
[ ] Multiple perspective (confer with the Liberal Arts Coordinator)

Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal. NO

Expected enrollment per term: 22
Expected enrollment per year: 34

Will any of the following be required: NO

Additional staff [ ] Additional space [ ] Additional equipment [ ]

Provide a rationale for any needs indicated above and include approximate cost of equipment.

Library print and non-print resources in support of this course: $500
**Course title:** Survey of Hollywood Film 1920 to Present  
**Course number:** HUM 232  
**Credits:** 3  

<table>
<thead>
<tr>
<th>Lecture Hours</th>
<th>Lab hours</th>
<th>Clinic Hours</th>
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<tr>
<td>45</td>
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</table>

General course description and prerequisites (as it will appear in the catalog):

This course offers a foundational survey of Hollywood film from its inception through the present. Students study a chronological series of films selected to represent the ethno-cultural diversity of that history, films that demonstrate major developments in Hollywood film art over time. Students become familiar with the language of film, and the theoretical approaches and critical terminology used by film scholars to analyze the form. Students learn how to apply the theories and terms learned by use of them in class presentations and in class discussion, as well as in the writing of essays in the genre of film analysis. (Course description as it would appear in the course catalog)

Prerequisite: ENG 101

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text):


Instructional Objectives (list):

--To introduce students to the artistry of film and film-making, specifically Hollywood film  
-- To introduce students to the myriad ways the art of the Hollywood film has reflected and represented, and even shaped, history—both national and global—since its inception  
-- To enrich students’ experience of film art, and to teach them to better understand the ways films are created and the ways they communicate meaning  
-- More broadly, to introduce students to the “poetics” of film art, to film criticism, to the business of producing films, and to the theoretical frameworks and terminology used by film historians and scholars to analyze films  
-- To provide students with ample opportunities, in class presentations, class discussions and in essay writing, to practice the discipline of film analysis (making use of the frames and terms mentioned above)  
--To familiarize students with the methods of conducting research on the art of film and film-makers, and upon the various cultural, social, economic and historical contexts out of which particular films and film genres have emerged and in which they have flourished  
-- To encourage students to make interesting and insightful connections between the art of film and other art forms or art works, whether contemporaneous with film or from periods before its inception (painting, sculpture, choreography, theater, etc.)  
-- To provide students with a solid grounding in American film history and the art of film that will better prepare them for future film and media classes that focus more narrowly upon particular film genres, film directors, film subject matters, film styles, etc.

Teaching procedures: (provide suggested teaching methodology):

With respect to the course outline, much will depend upon the finalized list of films to be viewed. However, the following description offers, in some detail, how the course will proceed: The syllabus (attached) provides a long list of films from which the instructor has yet to choose the final selection. That understood, students would be required to watch, on average, two films per week (covering a period spanning approx. ninety years of Hollywood film history). At the same time, they would have weekly assigned readings from the class textbooks. The course would involve regular presentations on key sequences—self-chosen by students in consultation with myself—from the assigned films (the instructor would model how to do this early in the semester), in addition to presentations on the assigned readings from the class textbooks.

Each student would be required to present at least once (on both a film sequence and one of the readings). Presentations would be followed by seminar-type discussions of the films assigned for particular classes. Over the
course of the semester, students would be encouraged, in class discussion, to apply--and would be given credit for applying, accurately and insightfully--the theoretical approaches and terminology introduced in the class textbooks.

Similarly, the film presentations would involve analysis of self-chosen sequences using the terminology and concepts introduced in the class textbooks (the expectation would be that students would add, through the textbook readings, to their useable critical vocabulary as the course proceeded; and credit would be given on the basis of how well students integrated, appropriately, the learned terms and categories into their presentations, discussions, and written work). Students would be required to keep, throughout the semester, a film diary--recording their impressions of the assigned films and any questions they might have--and a notebook on the assigned textbook readings, both of which they would be encouraged to make use of in classroom discussion. Both the diaries and the notebooks would be submitted for review by the instructor twice during the semester--once at midterm, and again at the end of the semester. Finally, the students would be required to write two 1500 word essays in the genre of film analysis (again, applying the theoretical approaches and terminology introduced in the course textbooks). The first essay would be due at midterm, the second at the end of the semester.

Students would be free to choose which films, from among the assigned films, they wanted to write their essays on, with the proviso that they could not write on the same film twice. Students could choose to write an essay comparing and contrasting two of the assigned films, but again they could not write on the same films more than once. The second essay would require students to engage in scholarly research relevant to the film (or films) they elect to analyze, and to incorporate these sources into their written analyses.

ENG 101 would be a prerequisite for this class because of the essay writing requirements. Students would be expected to be familiar with MLA documentation and citation conventions, and have some familiarity with academic database research methods.

If possible, and perhaps at some later date, the instructor would like to add a travel component to this course, to take place over Spring Break. The trip would involve a trip to Los Angeles to visit a series of major Hollywood studios (such “behind-the-scenes” historical and technical itineraries are readily available). A report element would, then, be included in the course requirements, detailing what had been learnt of the Hollywood movie industry, and movie-making, from the trip.

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

Course topics will include the language of film and film analysis (montage, composition, mise-en-scène, aspect ratio, panning, tracking, close-up, palette, etc.), and the evolution of film style and technique.

Assignments to include the keeping of a film diary, the giving of presentations, active preparation for and participation in classroom discussion, and the writing of two essays of film analysis.

A list of “further reading” texts is provided on the syllabus.

Other information:

- **Suggested basis for student grading and criteria for evaluating student performance**

  Student grades would be weighted as follows: notebook, 15 points; film diary, 15 points; classroom contribution, 15 points; presentations, 15 points; essays, 20 points each. The professor would keep a log of presentation and classroom contribution work throughout the semester. Classroom presentations, discussion contributions, notebook entries, diary entries, and essays would be assessed across several dimensions (not all applicable in each graded category). These would include: degree of organization of material; thoroughness and appropriateness of detail; quality of analytical insight; correct use of critical vocabulary; adherence to MLA conventions; mechanical accuracy in oral presentations and in essay writing.

- **Suggested attendance policy**

  Students will be allowed 3 unexcused absences without penalty (although the readings assigned for those
absent days, and the films discussed, must be covered in notebooks and diaries). After 3, students will incur a penalty of 10 points for each additional absence up to 6. After 6, students will be given an F for the class.

Suggested plagiarism statement

To plagiarize in the class presentations or in either of the essays required for this class—irrespective of the size of the “stealing”—would be to receive an F for the course, with no ifs, buts, or maybes. Plagiarism is a serious infringement of academic honesty, and of copyright law; in short, it constitutes the stealing of intellectual property. Furthermore, it demonstrates, at once, a lack of respect for those you “steal” from, for your audience and readers (including the professor), and—perhaps most importantly—for yourself. If you are not entirely sure what constitutes plagiarism, make it your business to find out—I would be more than happy to go over the issue in an office hour conference. Lack of knowledge in this area will not count as a valid excuse for breaking the plagiarism rule. That rule is absolute for all students in all instances. Recycling of a paper submitted for another class—whether as a whole or in part—will constitute an act of plagiarism (if students wish to cite from their own papers, they must follow MLA citation and documentation rules for doing so). If concrete evidence can be provided to substantiate a case of plagiarism, there will be no grounds for appealing the giving of an F to the offender.
### Recommended Student Learning Outcomes and Assessment Methodology

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number. See attached list.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved oral presentation ability and improved research/argument essay writing skills</td>
<td>The keeping of a student presentation log and the grading of essays according to criteria outlined above</td>
<td>Communication skills</td>
<td></td>
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<tr>
<td>The ability to access scholarly sources using library databases</td>
<td>The demonstrated use of database sources in class presentations and essays</td>
<td>Information literacy</td>
<td></td>
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<tr>
<td>The ability to use PowerPoint in classroom presentations</td>
<td>Self-evident</td>
<td>Technical literacy</td>
<td></td>
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<tr>
<td>The ability to better appreciate the art of film and film-making</td>
<td>The quality of classroom presentations on film sequences, contributions to class discussions, and essay writing in the genre of film analysis</td>
<td>Aesthetics</td>
<td></td>
</tr>
<tr>
<td>Introduction to the diversity of Hollywood film subjects, the diversity of film-makers, and the multiple cultural perspectives of Hollywood film art as it has developed over time</td>
<td>The quality of classroom presentations on film sequences, contributions to class discussions, and essay writing in the genre of film analysis</td>
<td>Multiple perspectives</td>
<td></td>
</tr>
<tr>
<td>Introduction to the impact of film art as both a new art form and a new artistic technology</td>
<td>The quality of classroom presentations on film sequences, contributions to class discussions, and essay writing in the genre of film analysis</td>
<td>Impact of technology</td>
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HUM 232: Survey of Hollywood Film 1920 to the Present, Fall 2011, 3 Credits

Prerequisite: ENG 101

“Hollywood, the movie colony, had been forged into existence by a small group of East Coast Jewish tradesmen who thought they saw a good thing in the nickelodeon, lured West by that fabled California promise of 355 days of sunshine a year and low-priced land.”

*Hollywood Babylon*, Kenneth Anger

“The history of the movies is, first of all, the history of a new art. Though it has affinities with fiction, drama, dance, painting, photography, and music, like each of these kindred arts it has a ‘poetics’ of its own.”

*A Short History of Movies*, Gerald Mast and Bruce F. Kawin

“. . . the whole domain of cultural criticism in America is basically cinema theory.”


“Cinema is a powerful medium of unparalleled emotional impact. Tapping into that impact hinges on one thing: understanding how and why we identify when we watch movies.”

Melinda Barlow, Associate Professor of Film Studies at the University of Colorado,

*Nea Higher Education Advocate*, Vol. 27, No. 4, April 2010
Films to be viewed (arranged in chronological order of release and of class viewing):

(This is the long list. The instructor recognizes it may need to be trimmed for the actual course)


*Adam's Rib*. Dir George Cukor. Perf. Spencer Tracy, Katherine Hepburn and Judy Holliday. MGM, 1949. DVD.

*Singin’ in the Rain*. Dir. Stanley Donen. Perf. Gene Kelly, Donald O’Connor and Debbie Reynolds. MGM, 1952. DVD.


Paramount Pictures, 1960. DVD.


DVD.

Warner Bros., 1973. DVD.

Columbia Pictures, 1976. DVD.


Thelma and Louise. Dir. Ridley Scott. Perf. Susan Sarandon, Geena Davis and Harvey Keitel.
MGM, 1991. DVD.

Miramax Films, 1994. DVD.

Dimension Films, 1996. DVD.


Films, 1999. DVD.


NOTE: The films above should be considered to be “class texts” just like more traditional class texts. In other words, you need to make arrangements to view them before the time set aside for discussion of them in class (see syllabus calendar). All the films will be kept on reserve in the library, and can be viewed in the library media center or upon a laptop (but the library copies cannot be taken out of the library). As an alternative, you may want to subscribe to Netflix (consider the subscription as money spent on a class “textbook”, or upon class materials) and have these films mailed to your home in time for you to view them for class. Another way to view the movies may be through Amazon on your computer: simply go to Amazon Video on Demand. It may also be worth looking in the Central Mass library system to discover if DVD or VHS copies of these films are available on loan, in which case viewing the films will cost you nothing—again, you may need to be proactive and plan ahead for this. Whichever means you choose to use to view these set films, you are responsible for viewing them in good time. The instructor has a VHS or DVD copy of each of the set films, and will bring to class the film assigned for a given day so that we can make use of particular scenes and sequences in conducting our in-class presentations and classroom discussions.

_Textbooks and materials:_


A notebook for keeping a film diary, and for making notes on textbook readings and during classroom discussions, etc.

Note-cards for the making of in-class presentations.

A memory stick.
Course description:

This course offers a foundational survey of Hollywood film from its inception through the present. Students study a chronological series of films selected to represent the ethno-cultural diversity of that history, films that demonstrate major developments in Hollywood film art over time. Students become familiar with the language of film, and the theoretical approaches and critical terminology used by film scholars to analyze the form. Students learn how to apply the theories and terms learned by use of them in class presentations and in class discussion, as well as in the writing of essays in the genre of film analysis.

Prerequisite: ENG 101

It would be difficult to deny that—in terms of production and consumption, of ideological power and influence, of money spent and money earned, of fame and celebrity—the art of cinema dominated (if not alone, then certainly as a vital part of a larger “mass media”) the cultural landscape of the twentieth century; it seems equally true that it is well positioned to continue to dominate the cultural universe of the twenty-first century—all technological rivals notwithstanding—3D computer-generated effects and all. Whatever may happen to the “classic” movie theater experience per se, movies will continue to find profitable forms of distribution to mass audiences, in DVD form, or Movie-On-Demand, or on dedicated cable movie channels, or as streaming video on a computer screen. (Note: The use of the term “cinema” here is intended in the broad sense that reflects its etymology—“the art of the moving image.” This broader meaning encompasses mediums of creation and delivery that came after the invention of photographic “nitrate” film and cinema proper; such as television and, most recently, the computer. This course, however, will focus only upon the art of the full-length feature film, as produced specifically for cinematic distribution).

The foregoing being the case—the cinematic dominance of cultural production—the art of film both cries out for and rewards serious academic study, study of the kind that might be—that has been, and still is—devoted to all other forms of meaningful cultural production. (Since the end of WWII, a whole new liberal art has been spawned that focuses attention, inter alia, on this new art. This discipline is variously called “cultural studies” or “media studies”.)

It would not be too much of a stretch to say that cinema—more than any other art form, be it literature, painting, sculpture, or other you could name—has, for more human beings globally, shaped the way the world has been “seen” and experienced and presented, and crucially re-presented, over the last hundred years or so. To that extent, Marshall McCluhan’s famous dictum—meant by him to refer specifically to television—applies absolutely to film art: “the medium is the message.” Cinema has not so much transparently, like a window, reflected our reality—our history and our “present”—as constructed
it for us by the use of various artistic techniques honed and crafted over time, and altered by improvements in the technology itself. What film gives us, then, is not reality, but the illusion of reality—shadows on a cave wall, as Platonists would claim. As the revered French “New Wave” film director and film theorist/critic, Jean-Luc Godard, once observed, “Cinema is the most beautiful fraud in the world.”

This course can provide no more than an introduction to Hollywood cinema and its “beautiful frauds,” because of the breadth of the period and the number of films and film-makers who could lay legitimate claim to having their works included under this rubric. This fact should be borne in mind as you view and read about the set films—all such listings are necessarily partial, both in the sense of being incomplete and of being (intentionally or unintentionally but, in any case, unavoidably) biased.

The instructor is aware, for instance, that the list of set works is skewed towards white male directors; but not because the instructor believes that only white male film-makers have produced films of value across the breadth of Hollywood film history. There are clearly documented historical reasons why white male film-makers have dominated Hollywood film production and direction, perhaps especially in its early period (the period of the famed studio system), reasons that have nothing to do with the inherent superiority of white male “talent” in this art form.

The instructor recognizes also that other teachers of such a course would choose an entirely different list of films to represent the scope of Hollywood film history—and their choices would be just as “right” as my own. Very different lists of major films, weighted towards other genres and film-makers, could be-equally legitimately—produced for the study of American film history: that is, what the course title dubs “celluloid history.”¹ Let us just concede that such subjective formal and aesthetic discriminations and preferences are inherent in the selection process, and are thus inevitable. Inclusion necessarily involves exclusion in such matters.

Having said that, the instructor has been directed in the difficult work of selection by the following criteria: 1), the need to choose films that demonstrate innovations in the art of film form, language,

¹ Every art form needs a medium for the creation, embodiment, and transmission of the work produced, be it paper and ink, the printing press, a keyboard, or a length of canvas. The medium for the art of film was originally celluloid film stock: “In 1884, George Eastman began his experiments with celluloid and with paper roll film, the latter for use in his Kodak still camera. . . Eastman’s 1889 celluloid film became the natural material for further experiments in motion photography” (Mast and Kawin 14). Over time, because of Eastman’s invention, the word “celluloid” (the phrase the “silver screen” functions in a similar way) became an habitual figure of speech for the art of film-making and for its artistic products. The word is still often used in this figurative sense—hence the title of this course—even though actual, literal celluloid film stock has been superceded by digital methods as the main medium for film production and presentation.
technology, and subject matter; 2), the need to include samples of the different genres that have dominated in different periods (the 1930s gangster film, the 1950s musical and Western, film noir, and so on); 3), the need to choose films that have reflected and commented upon the central historical concerns of their particular historical moments (WWII, the Vietnam or Iraq wars, for instance); 4), the need to choose films that demonstrate the growing diversity of film subject matter and film-makers over time; 5), the need to include films commonly found in authoritative, scholarly textbooks on film history; and 5) the need to include the work of those film-makers generally recognized as the major “auteurs” of Hollywood cinema (more on this odd term in class). However, let me once again stress: the works of art in survey courses do not offer themselves up for “choosing” all by themselves. There is nothing self-evident in such choices. What ought and ought not to be included remains always a matter of ongoing “canonical” debate. The instructor invites students, from their own viewing experience, to suggest alternatives to the ones on offer.

The course aim will be to study the historically changing forms, styles, techniques and themes in the set films (theoretical frameworks and terminology for doing this work will be provided by the set textbooks), to note synchronic and diachronic connections and influences between films (and other art forms), and to view these matters in the light of the intellectual, cultural, social, economic and historical “worlds” in which these film-makers worked and produced their films. Class time will be spent with students making formal presentations on the set films (or self-chosen sequences from them), and in seminar-style class discussion of the set films (and the theoretical approaches to, and language of, film study introduced by the class textbooks).

A more detailed description of the type of class presentations and class discussions will be provided on a separate hand out, and more fully discussed early in the semester.

CODA: The word Hollywood—whenever we hear it, most of us can bring to mind the iconic image of those nine letters emblazoned, twenty feet high, across the sun-scorched Hollywood hills in Los Angeles—is often taken as a metonymy of the American film industry (and the associated television and popular music industries) in general. The word, variously and in different contexts, connotes that industry’s history, its means of production, its “house” styles, its business methods, its “studios,” its distribution methods, its ideology, its “values,” etc. It should be borne in mind, as the course proceeds, that it is American—for which read, Hollywood—film that has largely dominated the art of the cinema since its inception; that is, it is the American film industry--not only in the United States, but globally--that has dominated what was the twentieth century’s ubiquitous and most influential “new” art form.

This is not to say that other nations and cultures have not had their own, very important film industries—indeed, Hollywood has benefited from, and has actively recruited, foreign film “talent” from its earliest years, be that talent in the form of directors, producers, set designers, editors, cinematographers, screenwriters, or actors (in the early years, up to the end of the nineteen fifties, most of this talent hailed from Germany, Austria, Russia, France, and England; latterly, Spain, Mexico, and
India, among others, have risen to the fore). However, American dominance of this art form has meant that--like jazz, blues, Tin Pan Alley and pop music--it is often seen as an intrinsically indigenous art form that reflects, that embodies, that legitimates—even as it also often helps to shape, and works to critique and reform—American values. In other words, while the lens (pun intended) it has directed at American life and the world outside its borders, as well as American and overseas history pre-twentieth century, has been undeniably the result of cultural hybridization and cross-fertilization, it has also been, inevitably, and for good or ill, a recognizably American one (some would argue further that it has been a largely white, male and heterosexual American one—see Laura Mulvey’s seminal essay in our class textbook).

Many critics have, for these and related reasons, seen Hollywood film as the quintessential, some would argue propagandist, tool of American cultural imperialism, not least because the meteoric rise of Hollywood film to its position of unrivalled, global dominance—the reigning art form of the age—took place more or less concurrently with the rise of the United States as the most economically and militarily powerful nation in the world. Pretty much from cinema’s beginnings, from the era of the Nickelodeon (which dates from around 1900), America has been the undisputed world “leader” in the art of film, winning “hearts and minds” everywhere with the seductive allure of its montage.

But let us say no more on that vexed issue (of Hollywood film and cultural imperialism) at this point: such matters are grist for classroom discussion and debate on the films (whether taken singly or collectively) themselves. . . .

**Course goals:**

- To introduce students to the historical development of the “new” form of art called film, specifically its pre-eminent variant: Hollywood film
- To introduce students to the myriad ways the art of the Hollywood film has reflected and re-presented, and even shaped, history—both national and global—since its inception
- To enrich students’ experience of film art, and to teach them to better understand the ways films are created and the ways they communicate meaning
- To introduce students to the “poetics” of film art, to the business of producing films, and to the theoretical frameworks and terminology used by film historians and scholars to analyze films
- To provide students with ample opportunities, in class presentations, class discussions and in essay writing, to practice the discipline of film analysis (making use of the frames and terms mentioned above)
- To familiarize students with the methods of conducting research on the art of film and film-makers, and upon the various cultural, social, economic and historical contexts out of which particular films and film genres emerge and in which they flourish

- To encourage students to make interesting and insightful connections between the art of film and other art forms

- To provide students with a grounding in American film history and the art of film that will better prepare them for future film and media classes that focus more narrowly upon particular film genres, film directors, film subject matters, film styles, etc.

Class policies and requirements:

Attendance

Students will be allowed 3 absences without penalty. After 3, you will be penalized 10 points for each absence. Take more than 6 absences and you will fail the class (or, to avoid this, you can withdraw forthwith). Persistent lateness will also result in a penalty. Taking an absence when you are scheduled to present will cost you 15 points.

To withdraw from college, students must complete a withdrawal form available in the Advising Office (Rm. 61A). Before withdrawing, students will be asked to meet with an advisor or counselor for an exit interview. If students withdraw after the tenth week and before the final evaluation period, students will receive grades in accordance with the College’s grading policy.

If a student withdraws for medical reasons, her or she should make a request to the Vice President of Enrollment and Student Services (Rm. 149A).

Requirements

Students will be required to keep a film diary throughout the semester in which you record your impressions of the set films: 15 points

Students will be required to keep a notebook for the recording of notes on the assigned textbook readings: 15 points
[If film diaries and notebooks are not submitted on the stipulated hand-in day, which the instructor will provide well ahead of time, they will NOT be accepted for grading]

Students will be required to give presentations on the set films and the assigned readings (students will be assessed on organization of material, depth of coverage, and the use of creative-critical skills—and imagination!—in communicating the value and relevancy of student’s collected materials and analyses to the class): **15 points**

[The instructor will begin by asking for volunteers to present. If volunteers are not forthcoming, the instructor will work down my roster. Each student will present at least once—when each student has presented once, we will begin the process again. If a student presents more than once, that student will get additional credit in this category of scoring. Students can present individually or in pairs. A hand out, describing types of presentation and criteria for assessment in greater detail, will be provided in class. Students should make use of note-cards in the giving of presentations and, after presenting, attach these note-cards to the appropriate page in the film diary]

Students will be required to contribute to class discussion in an ongoing and active way (never having any comments to make will result in a low or even zero score). Students can always refer to their film diaries or notebooks to aid them in making contributions to class discussion: **15 points**

[The instructor will maintain a log of presentations and classroom contributions, starting from the second class of the semester and running through to the end. Each student will have an entry in this log, in which the instructor will record ongoing impressions of students’ presentation and classroom contribution work. A student’s score in this category will be based upon the contents recorded in this log]

Students will be required to produce two papers, on two different films (alternatively, students can choose to write a paper comparing and contrasting two films; but neither film from such a paper could be the focus of the other required paper). These papers will be works of film analysis (more discussion of what exactly this entails in class). Both papers should be between 1000-1500 words (topics to be assigned later), and should follow the MLA rules for formatting, citation, and documentation. One paper will be due at midterm and one at the end of the semester (see syllabus calendar for details): **20 points each** (NOTE: Late papers will not be accepted for submission. Failure to produce a completed draft of a paper for the assigned peer review day will result in 4 points deducted from the final score out of 20.)
The need to pass this class or to maintain a certain GPA (for transfer, to enter a program, to satisfy an employer, etc.) should be motivating factors for students. However, these “needs” will play no part in my assessment process, and do not provide legitimate grounds for changing scores and grades, whether on individual assignments or in the case of the final score and grade.

AN IMPORTANT FINAL WORD ON PLAGIARISM: To plagiarize in either of the papers required for this class—irrespective of the size of the “stealing”—would be to receive an F for the course, with no ifs, buts, or maybes. Plagiarism is a serious infringement of academic honesty, and the stealing of intellectual property. Furthermore, it demonstrates at once a lack of respect for those a student “steals” from, for readers of the plagiarized work, and—perhaps most importantly—for the student him- or herself. If students are not entirely sure what constitutes plagiarism, they need to make it their business to find out. Lack of knowledge in this area will not count as a valid excuse for breaking the plagiarism rule. That rule is absolute for all students in all instances. If concrete evidence can be produced to substantiate a case of plagiarism, a student will have no grounds to appeal an F grade. Recycled material from written work from other classes—in part or in whole—counts as plagiarism (if a student cites from his or her OWN previous work, the student must still follow MLA rules for so doing).

Syllabus calendar:

The assigned reading indicated in this calendar should be done FOR the date indicated. It is NOT the homework for that date. Likewise, the dates indicate the day for which students should have viewed the assigned film, and the day upon which the class will be discussing that film.

The instructor encourages all students to manage their time in such a way that they can keep up with the viewing and reading demands of the course. In fact, the instructor encourages students, if at all possible, to view, read, and make notes ahead of the class schedule.

****TO BE BLOCKED OUT****

Further Reading


QUINSIGAMOND COMMUNITY COLLEGE

NEW COURSE PROPOSAL

1. **Course Name & Number:** The Sociology of Difference and Inequality  SOC 106

2. **Originator:** Brian Kapitulik  
   **Date:** 10/21/10

3. **Division Dean:** James Brown  
   **Date:** 10/21/10

4. **Brief Description of the Proposal:** This is a proposal to create a new sociology course, to be offered beginning Fall 2011. The new course, “The Sociology of Difference and Inequality,” focuses on social identities, social inequalities and strategies for individual and social change.

5. **Effective Date:** Fall 2011

6. **Division Recommendation:**

   The Sociology department and the Math and Social Science Division unanimously supported the proposal for a new course in the Sociology area, “The Sociology of Difference and Inequality,” which focuses on social identities, social inequalities and strategies for individual and social change. This was approved at the Division meeting on October 21, 2010.

7. **Academic Affairs Staff:** _______________________________  
   **Date:** ________________
   
   Recommended: _______  
   Not Recommended: _______
   
   Comments:

8. **VP/Academic Affairs:** ________________________________  
   **Date:** ________________
   
   Recommended: _______  
   Not Recommended: _______
   
   Comments:

9. **Academic Affairs Committee:** __________________________  
   **Date:** ________________
   
   Recommended: _______  
   Not Recommended: _______
   
   Comments:

10. **VP/Academic Affairs:** _______________________________  
    **Date:** ________________
    
    Approved: _______  
    Not Approved: _______
    
    Comments:
**Course Discipline/Division:**
*Math and Social Science*

**Course Title:**
The Sociology of Difference and Inequality

**Course Number:**
SOC 106

**Prerequisites and/or co-requisites (confer with affected department coordinator):**
ENG 100 co-requisite

**CIP code:**
451101

**Effective Term/year:**
Fall 2011

Give a rationale for the new course. Be sure to indicate whether this course replaces another course.

The proposed course is an entirely new course for the QCC curriculum. This course approaches the issues of difference, inequality, and social justice from a sociological perspective. The impetus behind developing this course is threefold: First, by virtue of its subject matter, this course addresses broader social concerns regarding civility, diversity and social justice in an increasingly global, multicultural society.

Second, this course fills a void in the course offerings at QCC. Moving beyond a “valuing diversity perspective,” this course examines the social construction of identity categories and how those categories are transformed into systems of inequality from a sociological perspective. This course also includes considerable emphasis on self-reflection and an examination of specific strategies for challenging inequality. The Sociology Department regards this course as a potential feeder course to other courses in our curriculum, including Sociology of Sex and Gender, and Dynamics of Racial and Ethnic Relations.

Third, this course creates another opportunities for transfer credits between QCC and other colleges. Courses focusing on categories of difference (such as race, class and gender) are taught in sociology departments throughout Worcester County and across the country. For example, Worcester State University, University of Massachusetts at Amherst, and Framingham State University each offer courses similar to the one described in this proposal.

Is the course content similar to other courses now offered?  Yes [x]  No [ ]
If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives **TBD**
- [x] Elective
- [ ] Discipline specific (name the discipline) – Social Science
- [ ] Interdisciplinary (confer with Liberal Arts Coordinator)
- [x] Program specific – Liberal Arts
- [x] Multiple perspective (confer with the Liberal Arts Coordinator)
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Details</th>
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<tr>
<td>Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal.</td>
<td>No</td>
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<td>Expected enrollment per term:</td>
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<td>Expected enrollment per year:</td>
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<tr>
<td>Will any of the following be required:</td>
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<td>Additional staff</td>
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<td>Additional space</td>
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<tr>
<td>Library print and non-print resources in support of this course:</td>
<td>$500</td>
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</table>
Course title: **The Sociology of Difference and Inequality**

Course number: **SOC 106**

Credits: **3**

<table>
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<tr>
<th>Lecture Hours: 3</th>
<th>Lab hours: 0</th>
<th>Clinic Hours: 0</th>
</tr>
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</table>

General course description and prerequisites (as it will appear in the catalog):

This course examines the social construction of categories of difference, such as race, class, sexual orientation, and gender, and how those categories are transformed into systems of inequality from a sociological perspective. Special attention is paid to the role of social institutions, such as family, education, and mass media in the creation and maintenance of difference-based inequalities. Students critically examine their own experiences within the broader social context and explore strategies for individual and social change.

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text):


Instructional Objectives (list):

A student who successfully completes this course will be able to:

- Articulate how categories of difference are socially constructed
- Explain how categories of difference are transformed into systems of inequality
- Explain how our individual experiences, attitudes and perspectives are shaped by the broader social context
- Create an action plan for working toward social change, and articulate ways they can be an ally to members of targeted groups
- Evaluate current events with a social justice lens, and to apply course concepts to current social issues

Teaching procedures: (provide suggested teaching methodology):

There are multiple teaching procedures employed in this course including, but not limited to, class discussions, PowerPoint presentations, student presentations, interactive classroom exercises, and Blackboard based class activities.

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

1. Fundamental concepts and theories (power and privilege; cycle of socialization; discrimination, prejudice, and stereotypes; individual, cultural and intuitional oppression; social constructionism)
2. Social Construction of Identities (such as race, class, sexual orientation and gender)
3. Systems of Inequality (institutionalized inequalities)
4. Liberation and Social Change
V. Action Planning and Ally Development

Other information:

- Suggested basis for student grading and criteria for evaluating student performance

**Student performance is based on the following:**

**Attendance & Participation (15%)** – Since this is more of a seminar than a lecture-based course, your participation and attendance are crucial. Your attendance and participation grade will reflect how often you attend class and the extent to which you are an active class member. More than 2 unexcused absences will result in a lowered course grade. An absence is excused for documented reasons only (illness, jury duty, etc.). This documentation must include your name, section number, date of class missed and reason for missing class.

**Social Identity Collage (10%)**- For this assignments, students will be provided with a poster board and asked to fill the poster with images that represent aspects of his/her identity. You may choose images from such sources as magazines, newspapers and advertisements. Students are required to make a short presentation to the class explaining the images they’ve chosen. Students will be evaluated on clarity and quality of both presentation and collage (details to follow).

**Discussion Leader (10%)**- Each student will have the opportunity (working in small groups) to lead class discussion about one of the weekly readings. Your task is to create questions and/or activities designed stimulate discussion about the topic for the day. Students are evaluated on the creativity and clarity of their questions/activities and their ability to lead the class discussion. Each group will meet with the professor prior to leading discussion (details to follow).

**Personal Action Plan (15%)**- One major point of this course is to explore the possibilities of challenging difference-based forms of inequality. For this short paper, you will do two things: 1) Conduct informal research to see what other people are doing about a particular problem (such as heterosexism or racism), and 2) Create a personal action plan in which you identify 3-4 things you can do within your own “sphere of influence.” More details will be provided in class.

**Exams (50%)**- There are two exams in this course. The first will occur approximately half way through the semester and will primarily cover the course readings. The second exam is scheduled during the final exam period. However, the second exam is not a cumulative exam, rather it only covers material presented after the first exam. The exams are designed to test students’ comprehension of the basic theories and concepts of the course. The format will be multiple-choice and short-answer questions. Each exam is worth 25% of the course grade.
Final course grade will be assigned based on the following grading rubric (percentages): 95-100=A; 90-94=A-; 87-89=B+; 83-86=B; 80-82=B-; 77-79=C+; 73-76=C; 70-72=C-; 67-69=D+; 63-66=D; 60-62=D-; <59=F

- **Suggested attendance policy**

  Since this is more of a seminar than a lecture-based course, your participation and attendance are crucial. Your attendance and participation grade will reflect how often you attend class and the extent to which you are an active class member. More than 2 unexcused absences will result in a lowered course grade. An absence is excused for documented reasons only (illness, jury duty, etc.). This documentation must include your name, section number, date of class missed and reason for missing class.

- **Suggested plagiarism statement**

  I have a “zero tolerance” policy on cheating. If I find that you have utilized another student’s work, or have quoted outside sources without properly citing the author, you will receive an “F” for that assignment. You will also risk failing the course. If you are unfamiliar with what constitutes plagiarism or if you need help with how to cite sources, please let me know. You can also consult the QCC student handbook or ask for help in the library. Please do not put me in the position of having to question your integrity.
## Recommended Student Learning Outcomes and Assessment Methodology

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number. See attached list.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Understand social construction of identities</td>
<td>Exams; Discussion Leading</td>
<td>Multiple Perspectives; Communication Skills</td>
<td>Liberal Arts #1, #2, #3</td>
</tr>
<tr>
<td>2 Understand how identities are transformed into systems of inequality</td>
<td>Exams; Discussion Leading</td>
<td>Multiple Perspectives; Communication Skills</td>
<td>Liberal Arts #1, #2, #3</td>
</tr>
<tr>
<td>3 Appreciate how one’s perspectives, experiences and beliefs are shaped by the broader social context</td>
<td>“Social Identity Collage”; “Personal Action Plan”</td>
<td>Communication Skills; Multiple Perspectives</td>
<td>Liberal Arts #1, #2, #3</td>
</tr>
<tr>
<td>4 Develop strategies for self and social change</td>
<td>“Personal Action Plan”</td>
<td>Civic Literacy; Information Literacy; Ethics</td>
<td>Liberal Arts #2, #3, #5, #7</td>
</tr>
<tr>
<td>5 Evaluate current events through a social justice lens</td>
<td>Exams; “Personal Action Plan”</td>
<td>Multiple Perspectives; Information Literacy</td>
<td>Liberal Arts #1, #2, #3, #5, #7</td>
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</table>
B. Describe in measurable terms the program’s current expected student “learning outcomes”. Your response should include reference to general education outcomes, employability or “umbrella competencies”, career-related competencies or technical skills, and/or competencies required for successful transfer. (What will the graduate know and be able to do?) Please list 8-12 learning outcomes.

Response:

The 2002 IPR crafted a set of student learning outcomes. Upon successful completion of the Liberal Arts Program, a student will be able to:

1. Demonstrate a broad range of knowledge, skill, and abilities for interpreting human experience via the arts and humanities, mathematics and natural sciences, and the social and behavioral sciences.

2. Appreciate and contribute to the history of diverse human cultural experience and develop a global perspective for interpreting and evaluating it.

3. Use rich, descriptive language and logical, coherent structure to convey ideas effectively in multiple modes of communication – speaking, reading, writing, and listening.

4. Demonstrate proficiency in a foreign language.

5. Acquire, analyze, organize, and utilize data to determine appropriate solutions to myriad work/life/personal challenges.

6. Develop comprehensive scientific, mathematical, and computer/technological competencies.

7. Develop a life path that develops self-actualization, adapts to change and recognizes the value of lifelong learning.

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1. Course Name & Number: Introduction to Medical Terminology ALH 102
2. Originator: Pamela Fleming Date: 10/14/10
3. Division Dean: Jane E. June Date: 10/22/10
4. Brief Description of the Proposal:

The purpose of this proposal is to add the English corequisite ENG 100 or appropriate placement score.

5. Effective Date: Fall 2011
6. Division Recommendation: The Health Care Division recommends the approval of adding ENG 100 or appropriate placement score as a corequisite at the October 21, 2010 Division meeting.

7. Academic Affairs Staff: _______________________________ Date: _________________
   Recommended: _________ Not Recommended: _________
   Comments:

8. VP/Academic Affairs: _________________________________ Date: _________________
   Recommended: _________ Not Recommended: _________
   Comments:

9. Academic Affairs Committee: __________________________ Date: _________________
   Recommended: _________ Not Recommended: _________
   Comments:

10. VP/Academic Affairs: _________________________________ Date: _________________
    Approved: _________ Not Approved: _________
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**Course Discipline or Department:** Allied Health  
**Division:** Healthcare

**Current Course Title:** Introduction to Medical Terminology  
**Current Course Number:** ALH 102

**Current Course Description (as it appears in the college catalog):**

This course provides a basic foundation for students interested in the allied health field. Emphasis is on analyzing word parts and learning basic prefixes, suffixes and word roots. The course also highlights the body systems: basic anatomy and physiology, including terms used in diseases and surgical procedures. F/S/SU

**Proposed Description (include all proposed changes):**

This course provides a basic foundation for students interested in the allied health field. Emphasis is on analyzing word parts and learning standard abbreviations, basic prefixes, suffixes and word roots. The course also highlights the body systems: basic anatomy and physiology, including terms used in diseases and surgical procedures.  
Corequisite: ENG 100 or appropriate placement score  
F/S/SU

**Rationale for the change:**

Improvement in course performance with increased reading aptitudes

**For change in the number of credits, provide a description of the change in course content.**

**Does the proposed change affect another department?** Yes _X__ No ____

**BSS-Medical Office Certificate**  
If yes, explain and please confer with the coordinator of the affected department.  
Notified 10/6/2010

If this change affects a program grid, please submit a Program Revision Proposal.
# MEDICAL SUPPORT SPECIALIST — Associate in Science — Option in Medical Assisting (Study Option: MSMA) - CURRENT

<table>
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<th>Course Title</th>
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<td>Introduction to Microcomputer Applications</td>
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**The Degree:**

Associate in Science

**The Program:**

Medical Support Specialist-Medical Assisting

**Admission Requirements:**

- High School Diploma or GED
- Please see admission requirements on program pages and on page 13-14.
- Attend a Health Information Session

**The Next Step:**

Enter the workforce as a medical assistant or transfer to a four-year program.

**Program Coordinator:**

Pamela Fleming 508.854.2738  
pfleming@qcc.mass.edu

**Program Footnotes:**

* BIO 111 and BIO 112 acceptable for BIO 140
All MSS courses must be completed with a grade of “C” or higher.

**CORI/SORI:**

See CORI/SORI Information in the program introduction.

**Technical Performance Standards:**

Prior to application to this program, please review the Technical Performance Standards requirements on pages 15 - 17.

**Program Electives:**

SOC 101, SOC 111, SOC 211, BSS 101, ACC 102, ACC 201, BSS 112, PSY 117, PSY 121

AA Committee 11/09/10  
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**The Degree:**
Associate in Science

**The Program:**
Medical Support Specialist-Medical Assisting

**Admission Requirements:**
- High School Diploma or GED (refer to page 9)
- Please see admission requirements on program pages and on page 13-14.
- Attend a Health Information Session

**The Next Step:**
Enter the workforce as a medical assistant or transfer to a four-year program.

**Program Coordinator:**
Pamela Fleming 508.854.2738 pfleming@qcc.mass.edu

**Program Footnotes:**
*BIO 111 and BIO 112 acceptable for BIO 140
All MSS courses must be completed with a grade of “C” or higher.

**CORI/SORI:**
See CORI/SORI Information in the program introduction.

**Technical Performance Standards:** Prior to application to this program, please review the Technical Performance Standards requirements on pages 15 - 17.

**Program Electives:**
SOC 101, SOC 111, SOC 211, BSS 101, ACC 102, ACC 201, BSS 112, PSY 117, PSY 121

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The Certificate: Medical Assisting Certificate

The Program: Medical Support Specialist

Admission Requirements:
- High School Diploma or GED (refer to page 9)
- Please see admission requirements on program pages and on page 13-14.
- Attend a Health Information Session

The Next Step:
Enter the workforce as a Medical Assistant or enroll in the Medical Support Specialist Associate Degree program.

Program Coordinator:
Pamela Fleming  508.854.2738  pfleming@qcc.mass.edu

Program Footnotes:
For more information see program introduction above.

CORI/SORI:
See CORI/SORI information above.

Technical Performance Standards:
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The Certificate:
Medical Assisting Certificate

The Program:
Medical Support Specialist

Admission Requirements:
- High School Diploma or GED (refer to page 9)
- Please see admission requirements on program pages and on page 13-14.
- Attend a Health Information Session

The Next Step:
Enter the workforce as a Medical Assistant or enroll in the Medical Support Specialist Associate Degree program.

Program Coordinator:
Pamela Fleming  508.854.2738
pfleming@qcc.mass.edu

Program Footnotes:
For more information see program introduction above.

**BIO 111 and BIO 112 acceptable for BIO 140
All MSS courses must be completed with a grade of “C” or higher.

CORI/SORI:
See CORI/SORI information above.

Technical Performance Standards:
See Technical Performance Standards above.
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<td>BSS 212</td>
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<tr>
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<td>BSS 299</td>
<td>F/S/SU</td>
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**The Certificate:**
Medical Office

**The Program:**
Business Administration – Career

**Admission Requirements:**
- High School Diploma or GED (refer to page 9)

**The Next Step:**
Enter the workforce or enter the Administrative Professional Option in Business Administration Career.

**Program Coordinator:**
Jean McLean 508.854.4410  jmclean@qcc.mass.edu

**Program Footnotes:**
- Students should note that many required courses have ENG and/or MAT prerequisites.

**Technical Performance Standards:**
There are no specific Technical Performance Standards defined for this program.
# BUSINESS ADMINISTRATION/CAREER - Medical Office Certificate (Study Option: MSBB) - PROPOSED

## Course Title

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course #</th>
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<th>Grade</th>
<th>Credits</th>
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## Admission Requirements:

- High School Diploma or GED (refer to page 9)

## The Next Step:

Enter the workforce or enter the Administrative Professional Option in Business Administration Career.

## Program Coordinator:

Jean McLean  508.854.4410  jmclean@qcc.mass.edu

## Program Footnotes:

- Students should note that many required courses have ENG and/or MAT prerequisites.

## Technical Performance Standards:

There are no specific Technical Performance Standards defined for this program.
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**Program Footnotes:**

‡PSY 115 is recommended for students placing into ENG 100 or ENG 101. ORT 110 is recommended for students placing into ENG 090, ENG 091, ENG 095, ENG 096 or ESL courses.

NOTE: Students with a CAPS Plan in place have met this requirement and can take an elective instead. Students must complete a CAPS Plan prior to the completion of twenty credits in order to register for additional courses in the General Studies Program.

*Humanities elective must be 200 level course.

** If BIO 101 is not needed (if prerequisite for BIO 111 is met some other way) then student should either select CHM 101 if Dental Hygiene is the goal or BIO 232 if nursing, or Respiratory Care.

*** Suggest:

- CHC 150 and/or
- CHC 151 Fundamentals of Complementary Health and/or
- CHC 250 World Medicine and/or
- CIS 111 Introduction to Microcomputer Applications
- BIO 241 Nutrition

The Degree: Associate in Arts

The Program: General Studies - Health Care Option

Admission Requirements:
- High School Diploma or GED (refer to page 9)

The Next Step:
Enter a healthcare program at QCC or another college. Obtain a Bachelor's Degree through a four-year institution.
- This is a statewide MassTransfer approved program
- More information on transfer is available on pages 20-21 or at www.qcc.mass.edu/transfer

Program Coordinator:
Barbara Dawidjian 508.854.4486 bdawidjian@qcc.mass.edu

Technical Standards:
There are no specific Technical Performance Standards defined for this program.
**Course Title** | **Course #** | **Offered** | **Plan to take** | **Grade** | **Credits** | **Prerequisites**
---|---|---|---|---|---|---
**Semester 1**
English Composition & Literature I | ENG 101 | | | | 3 | ENG 100 or approp place score
Introduction to Psychology | PSY 101 | | | | 3 | ENG 100 or approp place score
General Biology ** | BIO 101 | | | | 4 | Depart. Exam or approp place score Coreg. ENG 101
Self Assessment & Career Planning‡ or Strategies for College and Career | PSY 115 or ORT 110 | | | | 3 | ENG 090, ENG 095 or approp place score
Critical Thinking & Problem Solving | HUM 101 | | | | 3 | ENG 100 or approp place score
**Semester 2**
English Composition & Literature II | ENG 102 | | | | 3 | ENG 101
Statistics | MAT 122 | | | | 3 | MAT 099 or approp place score
Introduction to Medical Terminology | ALH 102 | | | | 3 | Coreq-ENG 100 or approp place score
Intro to Pharmacology for Allied Health Prof | ALH 103 | | | | 3 | ENG 100 or approp place score
Anatomy & Physiology I | BIO 111 | | | | 4 | BIO 101
**Semester 3**
Speech Communication Skills | SPH 101 | | | | 3 | Coreq-ENG 101
Technical & Workplace Writing | ENG 205 | | | | 3 | ENG 102 Computer Literacy
Valuing Diversity | IDS 101 | | | | 3 | Coreq-ENG 100 or approp place score
Anatomy & Physiology II | BIO 112 | | | | 4 | BIO 111
Intro. to Sociology or Social Problems & Social Change | SOC 101 | | | | 3 | ENG 100 or approp place score
**Semester 4**
Humanities Elective* | | | | | 3 | *200 level course.
History Elective | HST | | | | 3 | *200 level course.
Elective *** | | | | | 3 | *200 level course.
Bioethics | IDS 215 | | | | 3 | ENG 100 or approp place score
Pathophysiology | BIO 221 | | | | 3 | BIO 112
**Total credits required** | | | | | 63 |
1. Course Name & Number: Medical Office Administration I ALH 151

2. Originator: Pamela Fleming Date: 10/6/10

3. Division Dean: Jane E. June Date: 10/22/10

4. Brief Description of the Proposal:

The purpose of this proposal is to update the course description to reflect the addition of the new course ALH 152 Medical Office Administration II

5. Effective Date: Fall 2011

6. Division Recommendation: The Health Care Division recommends approval of the update of the course description at the October 21, 2010 Division meeting.

7. Academic Affairs Staff: _______________________________ Date: _________________

   Recommended: ________  Not Recommended: ________
   Comments:

8. VP/Academic Affairs: _________________________________ Date: _________________

   Recommended: ________  Not Recommended: ________
   Comments:

9. Academic Affairs Committee: __________________________ Date: _________________

   Recommended: ________  Not Recommended: ________
   Comments:

10. VP/Academic Affairs: _________________________________ Date: _________________

    Approved: ________  Not Approved:_______
    Comments:
## Course Revision Proposal

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<th>Description</th>
<th>Prerequisite</th>
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<tr>
<th>Course Discipline or Department: Medical Assisting</th>
<th>Division: Health Care</th>
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### Current Course Title: Medical Office Administration I

### Current Course Number: ALH 151

### Current Course Description (as it appears in the college catalog):

This course teaches students administrative functions used in the medical office including record keeping, medical records management, bookkeeping, payroll functions, account payable and receivable, management of charges, credits and adjustment of account entries. Students become proficient in appointment scheduling, filing, composing different types of letters and making travel arrangements for the physician.

**Prerequisite:** ENG 100 or appropriate placement score

**Corequisite:** ALH 102, BSS 101  F

### Proposed Description (include all proposed changes):

This course introduces medical office procedures, including appointment scheduling, medical records creation and maintenance, phone communication, inventory of supplies, and computers in the medical office. Students become competent in the use of office equipment and the composing of different type’s letters. The course introduces verbal and non verbal methods of communication skills.

**Prerequisite:** ENG 100 or appropriate placement score

**Corequisite:** ALH 102, BSS 101  F

### Rationale for the change:

- Additional Accreditation Agency Work Competencies
- Addition of ALH 152 Medical Office Administration II

### For change in the number of credits, provide a description of the change in course content.

### Does the proposed change affect another department?  Yes _X__ No ____

If yes, explain and please confer with the coordinator of the affected department.

Students enrolled in BSS majors – Medical Office elective

If this change affects a program grid, please submit a Program Revision Proposal.
1. **Course Name & Number:** FSC 101 – Principles of Emergency Services

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   **Date:** 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   **Date:** 10/21/2010

4. **Brief Description of the Proposal:**

   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed changes to the course description and outcomes will follow the FESHE curriculum.

   According to the Fire Science Academic Program Review our “curriculum is current and up-to-date according to the benchmarks provided by the National Fire Protection Association. As standards change or are added, the courses respond to these changes to stay current.” This change will bring our curriculum up-to-date with the current standards and benchmarks.

5. **Effective Date:** Fall 2011 Semester

6. **Division Recommendation:**

   The Human Services & Science Division recommends approval of the course description change to FSC 101 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:** ___________________________  
   **Date:** ________________

   **Recommended:** ________  
   **Not Recommended:** ________

   **Comments:** ___________

8. **VP/Academic Affairs:** ___________________________  
   **Date:** ________________

   **Recommended:** ________  
   **Not Recommended:** ________

   **Comments:** ___________

9. **Academic Affairs Committee:** ___________________________  
   **Date:** ________________

   **Recommended:** ________  
   **Not Recommended:** ________

   **Comments:** ___________

10. **VP/Academic Affairs:** ___________________________  
    **Date:** ________________

    **Approved:** ________  
    **Not Approved:** ________

    **Comments:** ___________
Quinsigamond Community College

Course Revision Proposal

| Type of Revision: |  
| X Description |  
| ___ Prerequisite |  
| ___ Corequisite |  
| ___ Number |  
| ___ Title |  
| ___ #credits |  
| ___ Elective Type |  
| ___ other (explain) |

| Course Discipline or Department: Fire Science | Division: Human Services and Sciences |
| Current Course Title: Principles of Emergency Services |
| Current Course Number: FSC 101 |

Current Course Description (as it appears in the college catalog):

**FSC 101 Principles of Emergency Services - 3 credits**

This course introduces fire protection systems and fire strategy and tactics. Students explore career opportunities in fire protection and related fields, and the philosophy and history of fire protection and fire service. Students learn about fire loss analysis, the organization and function of the public and private fire protection services, and the basic chemistry and physics of fire. The course examines fire departments as part of the local government, laws and regulations affecting the fire service, fire service nomenclature, and specific fire protection functions. F/S

Proposed Description (include all proposed changes):

**FSC 101 Principles of Emergency Services - 3 credits**

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network. F/S

Rationale for the change:

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

According to the Fire Science Internal Program Review our “curriculum is current and up-to-date according to the benchmarks provided by the National Fire Protection Association. As standards change or are added, the courses respond to these changes to stay current.” This change will bring our curriculum up-to-date with the current standards and benchmarks.

For change in the number of credits, provide a description of the change in course content.

No change in course credits
Does the proposed change affect another department?  Yes ___  No XX

If yes, explain and please confer with the coordinator of the affected department.

If this change affects a program grid, please submit a Program Revision Proposal.

Program Revision Proposal Submitted with these changes
QUINSIGAMOND COMMUNITY COLLEGE

COURSE REVISION PROPOSAL
Fire Science – Associate in Science

1. **Course Name & Number:** FSC 103 – Fundamentals of Fire Prevention

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   **Date:** 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   **Date:** 10/21/2010

4. **Brief Description of the Proposal:**
   A title change is recommended to reflect the material covered in this course.

5. **Effective Date:** Spring 2011 Semester

6. **Division Recommendation:**
   The Human Services & Science Division recommends approval of the title change to FSC 103 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:** _______________________________  
   **Date:** ______________
   **Recommended:** ________  
   **Not Recommended:** ________  
   **Comments:**

8. **VP/Academic Affairs:** _______________________________  
   **Date:** ______________
   **Recommended:** ________  
   **Not Recommended:** ________  
   **Comments:**

9. **Academic Affairs Committee:** __________________________  
   **Date:** ______________
   **Recommended:** ________  
   **Not Recommended:** ________  
   **Comments:**

10. **VP/Academic Affairs:** ________________________________  
    **Date:** ______________
    **Approved:** ________  
    **Not Approved:** ________
    **Comments:**
# Course Revision Proposal

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<tbody>
<tr>
<td>Current Course Number:</td>
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Current Course Description (as it appears in the college catalog):

**FSC 103 Fire Prevention - 3 credits**

This course introduces fundamental information regarding the history and philosophy of fire prevention, including the organization and operation of a fire prevention bureau and use of fire codes. Students learn how to identify and correct fire hazards. The course also covers the relationship of fire prevention to built-in-fire protection systems, fire investigation, and fire and life safety education.

Proposed Description (include all proposed changes):

**FSC 103 Introduction to Fire Prevention - 3 credits**

This course introduces fundamental information regarding the history and philosophy of fire prevention, including the organization and operation of a fire prevention bureau and use of fire codes. Students learn how to identify and correct fire hazards. The course also covers the relationship of fire prevention to built-in-fire protection systems, fire investigation, and fire and life safety education.

Rationale for the change:

After reviewing the outcomes for the new national curriculum Fire Prevention course the Fire Science Department voted to put the new version of this course in the third semester and require three courses. Adding “Fundamentals of” to Fire Prevention and that will change the title back to AY 2009-2010 form.

For change in the number of credits, provide a description of the change in course content.

No change in course credits

Does the proposed change affect another department?  Yes ___  No XX

If yes, explain and please confer with the coordinator of the affected department.

If this change affects a program grid, please submit a Program Revision Proposal.

Program Revision Proposal Submitted with these changes
1. Course Name & Number: FSC 104 – Fire Behavior and Combustion

2. Originator: Pat Schmohl, Fire Science Coordinator Date: 10/21/2010

3. Division Dean: Nancy Schoenfeld, Human Services and Sciences Date: 10/21/2010

4. Brief Description of the Proposal:

   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed changes to the course description and outcomes will follow the FESHE curriculum. The Pre-requisites were added based on the course learning objectives to improve student success. The work area/department recommendations were followed.

5. Effective Date: Fall 2011 Semester

6. Division Recommendation:

   The Human Services & Science Division recommends approval of the course description change and prerequisite change to FSC 104 at the 10/21/10 Division meeting.

7. Academic Affairs Staff: ___________________________ Date: ________________

   Recommended: _______ Not Recommended: __________

   Comments:

8. VP/Academic Affairs: _______________________________ Date: ________________

   Recommended: _______ Not Recommended: __________

   Comments:

9. Academic Affairs Committee: __________________________ Date: ________________

   Recommended: _______ Not Recommended: __________

   Comments:

10. VP/Academic Affairs: _______________________________ Date: ________________

    Approved: _______ Not Approved: __________

    Comments:
# Course Revision Proposal

**Quinsigamond Community College**

**Course Revision Proposal**

<table>
<thead>
<tr>
<th>Type of Revision:</th>
<th>X Description</th>
<th>X Prerequisite</th>
<th>___Corequisite</th>
<th>___ Number</th>
<th>___ Title</th>
<th>___ #credits</th>
<th>___ Elective Type</th>
</tr>
</thead>
</table>

**Course Discipline or Department:** Fire Science  
**Division:** Human Services and Sciences

**Current Course Title:** Fire Behavior and Combustion  
**Current Course Number:** FSC 104

**Current Course Description (as it appears in the college catalog):**

**FSC 104 Fire Behavior and Combustion - 3 credits**  
This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. Final/Final with instructor permission.

**Proposed Description (include all proposed changes):**

**FSC 104 Fire Behavior and Combustion - 3 credits**  
This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

**Prerequisite:** FSC 101, ENG 100 or appropriate placement score. Final/Final with instructor permission.

**Rationale for the change:**

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

For change in the number of credits, provide a description of the change in course content.

No change in course credits

Does the proposed change affect another department?  Yes ___  No XX

If yes, explain and please confer with the coordinator of the affected department.

If this change affects a program grid, please submit a Program Revision Proposal.

Program Revision Proposal Submitted with these changes
1. **Course Name & Number:** FSC 121 – Building Construction for Fire Protection

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   **Date:** 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   **Date:** 10/21/2010

4. **Brief Description of the Proposal:**
   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed changes to the course description and outcomes will follow the FESHE curriculum. The Pre-requisites were added based on the course learning objectives to improve student success. The work area/department recommendations were followed.

5. **Effective Date:** Fall 2011 Semester

6. **Division Recommendation:**
   The Human Services & Science Division recommends approval of the course description change and prerequisite change to FSC 121 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:** _______________________________  
   **Date:** ________________
   
   **Recommended:** ________  
   **Not Recommended:** ________
   
   **Comments:**

8. **VP/Academic Affairs:** ________________________________  
   **Date:** ________________
   
   **Recommended:** ________  
   **Not Recommended:** ________
   
   **Comments:**

9. **Academic Affairs Committee:** __________________________  
   **Date:** ________________
   
   **Recommended:** ________  
   **Not Recommended:** ________
   
   **Comments:**

10. **VP/Academic Affairs:** ________________________________  
    **Date:** ________________
    
    **Approved:** ________  
    **Not Approved:** ________
    
    **Comments:**

AA Committee 11/09/10  
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### Course Revision Proposal

| Type of Revision: | Description | Prerequisite | Corequisite | Number | Title | #credits | Elective Type
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
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<td>X</td>
<td>X</td>
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<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

**Course Discipline or Department:** Fire Science  
**Division:** Human Services and Sciences

**Current Course Title:** Building Construction for Fire Protection  
**Current Course Number:** FSC 121

**Current Course Description (as it appears in the college catalog):**

**FSC 121 Building Construction for Fire Protection - 3 credits**

This course examines the components of building construction as they relate to fire and life safety with particular emphasis on fire fighter safety. Students learn the elements of construction and the importance of those design elements when inspecting buildings, preplanning fire operations, and operating at emergencies.

**Prerequisite:** FSC 101, F/S

**Proposed Description (include all proposed changes):**

**FSC 121 Building Construction for Fire Protection - 3 credits**

This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

**Prerequisite:** FSC 101, ENG 100 or appropriate placement score. F/S

**Rationale for the change:**

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

**For change in the number of credits, provide a description of the change in course content.**

No change in course credits

**Does the proposed change affect another department?**  
Yes ___  No XX

If yes, explain and please confer with the coordinator of the affected department.

If this change affects a program grid, please submit a Program Revision Proposal.

Program Revision Proposal Submitted with these changes
1. **Course Name & Number:** FSC 123 – Fire Protection Systems and Equipment

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   **Date:** 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   **Date:** 10/21/2010

4. **Brief Description of the Proposal:**
   A title change is recommended to reflect the material covered in this course.

5. **Effective Date:** Spring 2011 Semester

6. **Division Recommendation:**
   The Human Services & Science Division recommends approval of the title change to FSC 123 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:** _______________________________  
   **Date:** ________________
   **Recommended:** ________  
   **Not Recommended:** ________
   **Comments:**

8. **VP/Academic Affairs:** ________________________________  
   **Date:** ________________
   **Recommended:** ________  
   **Not Recommended:** ________
   **Comments:**

9. **Academic Affairs Committee:** __________________________  
   **Date:** ________________
   **Recommended:** ________  
   **Not Recommended:** ________
   **Comments:**

10. **VP/Academic Affairs:** ________________________________  
    **Date:** ________________
    **Approved:** ________  
    **Not Approved:** ________
    **Comments:**
# Course Revision Proposal

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<tr>
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<th>Prerequisite</th>
<th>Corequisite</th>
<th>Number</th>
<th>Title</th>
<th>#credits</th>
<th>Elective Type</th>
<th>other (explain)</th>
</tr>
</thead>
</table>

Course Discipline or Department: Fire Science  
Division: Human Services and Sciences

Current Course Title: Fire Protection Systems and Equipment  
Current Course Number: FSC 123

Current Course Description (as it appears in the college catalog):

**FSC 123 Fire Protection Systems and Equipment - 3 credits**  
This course focuses on design and operation of fire detection and alarm systems. Students learn about heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. F/S

Proposed Description (include all proposed changes):

**FSC 123 Introduction to Fire Protection Systems and Equipment - 3 credits**  
This course focuses on design and operation of fire detection and alarm systems. Students learn about heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers. F/S

Rationale for the change:

After reviewing the outcomes for the new national curriculum Fire Prevention course the Fire Science Department voted to put the new version of this course in the fourth semester and require four courses. Adding “Introduction to” allows for less confusion of the students and advisors while the course is listed in the college catalog.

For change in the number of credits, provide a description of the change in course content.

No change in course credits

Does the proposed change affect another department?  Yes ___  No XX

If yes, explain and please confer with the coordinator of the affected department.

If this change affects a program grid, please submit a Program Revision Proposal.

Program Revision Proposal Submitted with these changes
QUINSIGAMOND COMMUNITY COLLEGE

NEW COURSE PROPOSAL

1. **Course Name & Number:** FSC 151 Occupational Safety and Health for Emergency Services

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   Date: 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   Date: 10/21/2010

4. **Brief Description of the Proposal:**

   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the *Fire and Emergency Services Higher Education (FESHE)* network in 2009. The proposed course description and outcomes will follow the FESHE curriculum.

5. **Effective Date:** Fall 2011 Semester

6. **Division Recommendation:**

   The Human Services & Science Division recommends approval of the course FSC 151 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:** _______________________________ Date: ________________

   Recommended: _______  Not Recommended: _______

   Comments: ____________

8. **VP/Academic Affairs:** _______________________________ Date: ________________

   Recommended: _______  Not Recommended: _______

   Comments: ____________

9. **Academic Affairs Committee:** __________________________ Date: ________________

   Recommended: _______  Not Recommended: _______

   Comments: ____________

10. **VP/Academic Affairs:** _______________________________ Date: ________________

   Approved: _______  Not Approved: _______

   Comments: ____________
Quinsigamond Community College
New Course Proposal

<table>
<thead>
<tr>
<th>Course Discipline or Department: Fire Science</th>
<th>Division: Human Services and Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title: Occupational Safety and Health for Emergency Services</td>
<td></td>
</tr>
<tr>
<td>Course Number: FSC 151</td>
<td></td>
</tr>
<tr>
<td>Prerequisites and/or corequisites (confer with affected department coordinator): None  (Conferred with Fire Science Department)</td>
<td></td>
</tr>
<tr>
<td>CIP code (check with IR Office): 43.0201</td>
<td></td>
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<tr>
<td>Effective Term/year: Fall 2011 Semester</td>
<td></td>
</tr>
</tbody>
</table>

Give a rationale for the new course. Be sure to indicate whether this course replaces another course.

This is a new course and is an elective. This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations.

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

Is the course content similar to other courses now offered?  Yes ___  No  XX

If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives

XX Elective
___ Discipline specific (name the discipline)
___ Interdisciplinary (confer with Liberal Arts Coordinator)

XX Program specific
___ Multiple perspective (confer with the Liberal Arts Coordinator)

Is this course required for a program?  If yes, submit a separate Program Revision Proposal or New Program Proposal.
Expected enrollment per term: 12-25  Expected enrollment per year: 12-25

Will any of the following be required:

Additional staff ___  Additional space ___  Additional equipment ____

Provide a rationale for any needs indicated above and include approximate cost of equipment.

No additional needs will be required.

Library print and non-print resources in support of this course: $500

Course Materials

Course title: Occupational Safety and Health for Emergency Services
Course number: FSC 151
Credits: 3

Lecture Hours: 45  Lab hours: N/A  Clinic Hours: N/A

General course description and prerequisites (as it will appear in the catalog):

FSC 151 Occupational Safety and Health for Emergency Services – 3 credits

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Prerequisite: None. F/S

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text):

Occupational Safety and Health in the Emergency Service, (2005); James S. Angle, Delmar, Cengage

Instructional Objectives (list):

1. Describe the history of occupational health and safety.
2. Identify occupational health and safety programs for industry and emergency services today.
3. Compare the difference between standards and regulations.
4. List and describe the components of risk identification, risk evaluation, and incident management.
5. Describe the relevance for safety in the work place including the importance of PPE.
6. Apply the knowledge of an effective safety plan to pre-incident planning, response, and training activities.
7. Explain the components of an accountability system in emergency service operations.
8. Discuss the need for and the process used for post-incident analysis.
9. Describe the components and value of critical incident management programs.
10. Describe the responsibilities of individual responders, supervisors, safety officers, and incident commanders, safety program managers, safety committees and fire department managers as they relate to health and safety programs.
11. Describe the components of a wellness/fitness plan.
12. Identify and analyze the major causes involved in line-of-duty firefighter deaths related to health, wellness, fitness and vehicle operations.

Teaching procedures: (provide suggested teaching methodology):

This class will use lectures, demonstration, self-guided study, group discussions, small group workshops, and presentations to cover the topics in this course. PowerPoint presentations and videotapes may be utilized. Students are strongly encouraged to complete assigned readings prior to each class session and to actively engage in discussions and activities to facilitate their understanding of classroom presentations. Participants are responsible for all assigned text, class handouts, and lecture materials.
The class will also be supplemented with materials on Blackboard or The “Q”. This website will be explained during class.

Every effort will be made to meet the individual needs and various learning styles of the participants of this course. It is of the utmost importance that you inform the instructor at the beginning of the semester of your particular needs. If you have concerns about this course, please make an appointment with the instructor.

If your concerns are about a learning disability or another special need, please make an appointment with a counselor from the Disability Services Office. All information is strictly confidential.

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

Suggested Course Topic

1) Introduction
   a) History of Occupational Safety and Health in Industry
   b) History of Occupational Safety and Health in Emergency Service Organizations
   c) Identification of Safety Problems
   d) Review of National Injury Statistics
   e) National, State, and Private Organizations Involved with Occupational Safety and Health

2) Safety-Related Regulations and Standards
   a) Regulations vs. Standards
   b) Federal Regulations Pertaining to Occupational Safety and Health
   c) NFPA Standards Pertaining to Occupational Safety and Health

3) Risk Management
   a) Risk Evaluation
   b) Risk Control

4) Safety Program Development and Management
   a) Essential Elements
   b) Setting Goals and Objectives
   c) Cost Benefit Analysis
   d) Training
   e) Developing Standard Operating Procedures
   f) Collecting Data
   g) Publishing Health and Safety Information
   h) Evaluating the Results

5) Employee Fitness/Wellness Programs
   a) Hazards Faced
   b) Organizational Development
   c) Employee Acceptance
   d) Medical Examinations
   e) Physical Fitness

6) Pre-incident Safety
   a) Hazards Faced
   b) Station Safety
   c) Apparatus Safety
   d) Response Safety
   e) Pre-incident Planning

7) Safety at Fire Emergencies
   a) Hazards Faced
   b) Incident Priorities and Safety
   c) Incident Management Systems
   d) Accountability
   e) Rapid Intervention
   f) Rehabilitation

8) Safety at EMS Emergencies
   a) Hazards Faced
   b) Infection Control
   c) Personal Protective Equipment
   d) Incident Management Systems
   e) Scene Safety

9) Safety at Specialized Incidents
   a) Hazards Faced
   b) Safety at Hazards Materials Incidents
   c) Safety at Technical Rescue Incidents
   d) Safety at Terrorism Incidents
   e) Safety at Natural Disasters

10) Post-incident Safety Management
    a) Incident Termination
    b) Post-Incident Analysis
    c) Critical Incident Stress Management

11) Personal roles
    a) Individuals
b) Supervisors  
c) Managers  
d) Incident Commanders  
e) Safety Officers  
f) Safety Program Managers  
g) Safety Committees

12) Making It Happen  
a) Determining, Measuring, and Showcasing the Benefits  
b) Selling Management  
c) Selling Employees

13) Negligence  
14) Judicial System  
   a) The Court System  
   b) U.S. Supreme Court  
   c) Special Courts  
   d) Local Courts  
   e) Penalties

Other information:  
- Suggested basis for student grading and criteria for evaluating student performance  
  - Students will be evaluated on their knowledge of the material outlined in this syllabus and assigned by the course instructor. Evaluation tools will include weekly questions, quizzes, and letters on an ongoing basis. Students are responsible for material contained in the syllabus, material covered during class, material in handouts, and/or material assigned through the text.  
  - **Quizzes:** Your lowest quiz grade will be dropped at the end of the semester (not for your midterm grade.) The lowest quiz grade dropped can be the result of not taking a quiz due to an absence. The quiz material will be reviewed at the end of the preceding class. Students are responsible for all material assigned and covered during class.  
  - **Letter:** The students will compose at least four business letters. The business letter will be on a topic mutually decided upon by the instructor and student. The letter will be evaluated based on the business letter grading form attached to the course syllabus.  
    - An appeal letters defending or changing your quiz answer can also be written and will count as a up to two business letter. Students will take home the quiz and review the quiz and turn in a letter at the beginning of the next class. The letter needs to be at least one page in length and explains the correct answers. The student will need to support and defend their answer(s) or state the correct answer(s) with supporting documentation. The student will need to elaborate on why their new or old answer is correct. The letter (see attached letter grading form) will receive a grade. The appeal letter grade will be averaged with the associated quiz grade to become the new quiz grade. An example of how this works is that a student receives an 80 on a quiz and decides to write an appeal letter; the student's appeal letter receives a 100 and the student's new quiz grade would become a 90. Students can write an appeal letter with every quiz.  
  - **Participation/Attendance:** Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoena, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see attached participation grading form) will incorporate attendance into your grade.  

- Suggested attendance policy  
  - Students are expected to attend their scheduled classes. Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoena, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see attached participation grading form) will incorporate attendance into your grade. Tardiness and leaving early is disrespectful and disruptive to the class. If a student is absent, then the student is responsible for missed work.

- Suggested plagiarism statement  
  - Academic honesty is the basic understanding that every assignment or project should be the student's original work; appropriate credit should be given to all sources used. It is considered plagiarism if you use someone else's work and do NOT cite the work properly. The event will be reported to the appropriate college authority. Refer to our college's student handbook for further information.
Recommended Student Learning Outcomes and Assessment Methodology

<table>
<thead>
<tr>
<th></th>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number. See attached list.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Describe the history of occupational health and safety.</td>
<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>2</td>
<td>Identify occupational health and safety programs for industry and emergency services today.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,2</td>
</tr>
<tr>
<td>3</td>
<td>Compare the difference between standards and regulations.</td>
<td>quiz, business letter, final exam</td>
<td>2,10</td>
<td>1,2,3</td>
</tr>
<tr>
<td>4</td>
<td>List and describe the components of risk identification, risk evaluation, and incident management.</td>
<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1,2</td>
</tr>
<tr>
<td>5</td>
<td>Describe the relevance for safety in the workplace including the importance of PPE.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,9</td>
<td>1</td>
</tr>
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<td>6</td>
<td>Apply the knowledge of an effective safety plan to pre-incident planning, response, and training activities.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,2</td>
</tr>
<tr>
<td>7</td>
<td>Explain the components of an accountability system in emergency service operations.</td>
<td>quiz, business letter, final exam</td>
<td>2</td>
<td>1,3</td>
</tr>
<tr>
<td>8</td>
<td>Discuss the need for and the process used for post-incident analysis.</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
<td>1,2,3,4</td>
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<tr>
<td>9</td>
<td>Describe the components and value of critical incident management programs.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,2</td>
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<td>10</td>
<td>Describe the responsibilities of individual responders, supervisors, safety officers, and incident commanders, safety program managers, safety committees and fire department managers as they relate to health and safety programs.</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
<td>1,3</td>
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<td>11</td>
<td>Describe the components of a wellness/fitness plan.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,9,10</td>
<td>1,3</td>
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<td>12</td>
<td>Identify and analyze the major causes involved in line-of-duty firefighter deaths related to health, wellness, fitness and vehicle operations</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
<td>1,2,3,4</td>
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</table>

**GENERAL EDUCATION LEARNING GOALS**

General education at Quinsigamond Community College provides students with the skills, knowledge and perspectives that enable them to achieve their academic, professional and personal goals. The following learning goals/competencies for general education are integrated into the courses that are required for each associate degree program.

1. **Communication Skills:** Students will be able to write and speak effectively.

2. **Information Literacy:** Students will be able to locate, evaluate and apply reliable and appropriate information.
3. **Quantitative Reasoning**: Students will apply the concepts and methods of mathematics to solve problems.

4. **Scientific Reasoning**: Students will relate scientific methods of inquiry to the acquisition of knowledge.

5. **Technical Literacy**: Students will utilize computer and emerging technologies effectively.

6. **Aesthetics**: Students will appreciate the variety of human experiences as expressed through the arts.

7. **Multiple Perspectives**: Students will demonstrate knowledge and appreciation of diverse cultures.

8. **Ethics**: Students will develop an awareness of personal obligations and responsibilities in one’s community of influence.

9. **Impact of Technology**: Students will reflect on the impact of scientific and technological advances on the individual, society and the environment.

10. **Civic Literacy**: Students will demonstrate awareness of the responsibilities of local, national and international citizenship.

Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

1) Students are expected to grasp and display an understanding of fire service in general.

2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

3) Students will demonstrate knowledge about basic rules, regulations, mores, and laws pertaining to fire service as promulgated at the national, state, and local level.

4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.

Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

1) Students are expected to grasp and display an understanding of fire service in general.

2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

3) Students will demonstrate knowledge about basic rules, regulations, mores, and laws pertaining to fire service as promulgated at the national, state, and local level.

4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.
Course Name & Number: FSC 201 Principles of Fire and Emergency Services Safety and Survival

1. Originator: Pat Schmohl, Fire Science Coordinator Date: 10/21/2010

2. Division Dean: Nancy Schoenfeld, Human Services and Sciences Date: 10/21/2010

3. Brief Description of the Proposal:

   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed course description and outcomes will follow the FESHE curriculum.

4. Effective Date: Fall 2011 Semester

5. Division Recommendation:

   The Human Services & Science Division recommends approval of the course FSC 201 at the 10/21/10 Division meeting.

6. Academic Affairs Staff: _______________________________ Date: _________________

   Recommended: ________ Not Recommended: ________

   Comments:

7. VP/Academic Affairs: _________________________________ Date: _________________

   Recommended: ________ Not Recommended: ________

   Comments:

8. Academic Affairs Committee: __________________________ Date: _________________

   Recommended: ________ Not Recommended: ________

   Comments:

9. VP/Academic Affairs: _________________________________ Date: _________________

   Approved: ________ Not Approved: ________

   Comments:
<table>
<thead>
<tr>
<th>Course Discipline or Department: Fire Science</th>
<th>Division: Human Services and Sciences</th>
</tr>
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<tbody>
<tr>
<td>Course Title: Principles of Fire and Emergency Services Safety and Survival</td>
<td></td>
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<tr>
<td>Course Number: FSC 201</td>
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</tr>
<tr>
<td>Prerequisites and/or corequisites (confer with affected department coordinator): FSC 104, FSC 121 (Conferred with Fire Science Department)</td>
<td></td>
</tr>
<tr>
<td>CIP code (check with IR Office): 43.0202</td>
<td></td>
</tr>
<tr>
<td>Effective Term/year: Fall 2011 Semester</td>
<td></td>
</tr>
</tbody>
</table>

Give a rationale for the new course. Be sure to indicate whether this course replaces another course.

This course will prepare the third semester student to understand Fire and Emergency Services Safety and Survivability.

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has crosswalked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

Is the course content similar to other courses now offered? Yes ___ No XX

If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives

XX Elective
___ Discipline specific (name the discipline)
___ Interdisciplinary (confer with Liberal Arts Coordinator)
___ Program specific
___ Multiple perspective (confer with the Liberal Arts Coordinator)

Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal.

Yes and the Program Revision Proposal is submitted with this course request.
Course Materials

Course title: Principles of Fire and Emergency Services Safety and Survival

Course number: FSC 201

Credits: 3

Lecture Hours: 45  Lab hours: N/A  Clinic Hours: N/A

General course description and prerequisites (as it will appear in the catalog):

FSC 201 Principles of Fire and Emergency Services Safety and Survival – 3 credits

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

Prerequisite: FSC 104, FSC 121. F/S

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text):

- 16 Firefighter Life Safety Initiatives found on website: www.everyonegoeshome.com
- Firefighter Life Safety Summit Initial Report and additional summit reports (Wildland firefighting, Health-Wellness-Fitness, Structural Firefighting, Emergency Vehicles and Roadway Safety, Culture Change) found on website: www.everyonegoeshome.com

Instructional Objectives (list):

1. Define and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility.
2. Explain the need for enhancements of personal and organizational accountability for health and safety.
3. Define how the concepts of risk management affect strategic and tactical decision-making.
4. Describe and evaluate circumstances that might constitute an unsafe act.
5. Explain the concept of empowering all emergency services personnel to stop unsafe acts.
6. Validate the need for national training standards as they correlate to professional development inclusive of qualifications, certifications, and re-certifications.
7. Defend the need for annual medical evaluations and the establishment of physical fitness criteria for emergency services personnel throughout their careers.
8. Explain the vital role of local departments in national research and data collection systems.
9. Illustrate how technological advancements can produce higher levels of emergency services safety and survival.
10. Explain the importance of investigating all near-misses, injuries and fatalities.
11. Discuss how incorporating the lessons learned from investigations can support cultural change throughout the emergency services.
12. Describe how obtaining grants can support safety and survival initiatives.
13. Formulate an awareness of how adopting standardized policies for responding to emergency scenes can minimize near-misses, injuries and deaths.
14. Explain how the increase in violent incidents impacts safety for emergency services personnel when responding to emergency scenes.
15. Recognize the need for counseling and psychological support for emergency services personnel, their families, as well as, identify access to local resources and services.
16. Describe the importance of public education as a critical component of life safety programs.
17. Discuss the importance of fire sprinklers and code enforcement.
18. Explain the importance of safety in the design of apparatus and equipment.

Teaching procedures: (provide suggested teaching methodology):

This class will use lectures, demonstration, self-guided study, group discussions, small group workshops, and presentations to cover the topics in this course. PowerPoint presentations and videotapes may be utilized. Students are strongly encouraged to complete assigned readings prior to each class session and to actively engage in discussions and activities to facilitate their understanding of classroom presentations. Participants are responsible for all assigned text, class handouts, and lecture materials.

The class will also be supplemented with materials on Blackboard or The “Q”. This website will be explained during class.

Every effort will be made to meet the individual needs and various learning styles of the participants of this course. It is of the utmost importance that you inform the instructor at the beginning of the semester of your particular needs. If you have concerns about this course, please make an appointment with the instructor.

If your concerns are about a learning disability or another special need, please make an appointment with a counselor from the Disability Services Office. All information is strictly confidential.

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

<table>
<thead>
<tr>
<th>Suggested Course Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Introduction</td>
</tr>
<tr>
<td>a) History of fire service culture</td>
</tr>
<tr>
<td>b) Organizational culture</td>
</tr>
<tr>
<td>c) Individual role in culture/behavior</td>
</tr>
<tr>
<td>d) History of line of duty deaths and injuries statistics</td>
</tr>
<tr>
<td>e) Defining the nature of the problem</td>
</tr>
<tr>
<td>2) The national context, health and safety</td>
</tr>
<tr>
<td>a) NFPA, OSHA</td>
</tr>
<tr>
<td>b) Medical and fitness standards</td>
</tr>
<tr>
<td>c) Data Collection (NFIRS)</td>
</tr>
<tr>
<td>d) Research/Investigation NIST, NIOSH</td>
</tr>
<tr>
<td>3) Training, equipment, response</td>
</tr>
<tr>
<td>a) Training, certification, credentialing</td>
</tr>
<tr>
<td>b) Apparatus and equipment</td>
</tr>
<tr>
<td>c) Emergency response – response to emergency scenes</td>
</tr>
<tr>
<td>d) Violent incidents</td>
</tr>
<tr>
<td>e) Emerging technologies</td>
</tr>
<tr>
<td>4) Organizational health and safety profile</td>
</tr>
<tr>
<td>a) Personal and organizational accountability</td>
</tr>
<tr>
<td>b) Present condition/culture</td>
</tr>
<tr>
<td>c) Investigations - internal</td>
</tr>
<tr>
<td>d) Analyzing your profile</td>
</tr>
<tr>
<td>e) Utilizing grants to meet needs</td>
</tr>
<tr>
<td>5) Risk Management</td>
</tr>
<tr>
<td>a) Risk management concepts and practices</td>
</tr>
<tr>
<td>b) Unsafe acts</td>
</tr>
<tr>
<td>c) Empowerment definition</td>
</tr>
<tr>
<td>6) Prevention</td>
</tr>
<tr>
<td>a) Home fire sprinklers</td>
</tr>
<tr>
<td>b) Code enforcement</td>
</tr>
<tr>
<td>c) Public education/ fire and life safety</td>
</tr>
<tr>
<td>d) Counseling and psychological support</td>
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Other information:

- Suggested basis for student grading and criteria for evaluating student performance
  - Students will be evaluated on their knowledge of the material outlined in this syllabus and assigned by the course instructor. Evaluation tools will include weekly questions, quizzes, and letters on an ongoing basis. Students are responsible for material contained in the syllabus, material covered during class, material in handouts, and/or material assigned through the text.
  - **Quizzes**: Your lowest quiz grade will be dropped at the end of the semester (not for your midterm grade.) The lowest quiz
grade dropped can be the result of not taking a quiz due to an absence. The quiz material will be reviewed at the end of
the preceding class. Students are responsible for all material assigned and covered during class.

  o **Letter:** The students will compose at least four business letters. The business letter will be on a topic mutually decided
upon by the instructor and student. The letter will be evaluated based on the business letter grading form attached to the
course syllabus.
    - An appeal letters defending or changing your quiz answer can also be written and will count as a up to two
business letter. Students will take home the quiz and review the quiz and turn in a letter at the beginning of the
next class. The letter needs to be at least one page in length and explains the correct answers. The student
will need to support and defend their answer(s) or state the correct answer(s) with supporting documentation.
The student will need to elaborate on why their new or old answer is correct. The letter (see attached letter
grading form) will receive a grade. The appeal letter grade will be averaged with the associated quiz grade to
become the new quiz grade. An example of how this works is that a student receives an 80 on a quiz and
decides to write an appeal letter; the student's appeal letter receives a 100 and the student's new quiz grade
would become a 90. Students can write an appeal letter with every quiz.

  o **Participation/Attendance:** Attendance is highly recommended to all classes. Students will not be penalized for absence
accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances
include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities
sponsored by the College, subpoenas, jury duty, military service, and religious observances. It is the responsibility of the
student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form
(see last page of syllabus) will incorporate attendance into your grade.

  o **Suggested attendance policy**
    - Students are expected to attend their scheduled classes. Attendance is highly recommended to all classes. Students will
not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate
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possible. Your class participation grading form (see attached participation grading form) will incorporate attendance into
your grade. Tardiness and leaving early is disrespectful and disruptive to the class. If a student is absent, then the
student is responsible for missed work.

  o **Suggested plagiarism statement**
    - Academic honesty is the basic understanding that every assignment or project should be the student’s original work;
appropriate credit should be given to all sources used. It is considered plagiarism if you use someone else’s work and do
NOT cite the work properly. The event **will be reported** to the appropriate college authority. Refer to our college’s
student handbook for further information.

**Recommended Student Learning Outcomes and Assessment Methodology**

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number. See attached list.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
</tr>
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<tbody>
<tr>
<td>1 Define and describe the need for cultural and behavioral change within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,9,10</td>
<td>1</td>
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<td>2 Explain the need for enhancements of personal and organizational accountability for health and safety.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,10</td>
<td>1,2,3,4</td>
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<td>3 Define how the concepts of risk management affect strategic and tactical decision-making.</td>
<td>quiz, business letter, final exam</td>
<td>2</td>
<td>1,2,3</td>
</tr>
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<td>4 Describe and evaluate circumstances that might constitute an unsafe act.</td>
<td>quiz, business letter, final exam</td>
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<td>Validate the need for national training standards as they correlate to professional development inclusive of qualifications, certifications, and re-certifications.</td>
<td>quiz, business letter, final exam</td>
<td>2,10</td>
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<td>Recognize the need for counseling and psychological support for emergency services personnel, their families, as well as, identify access to local resources and services.</td>
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GENERAL EDUCATION LEARNING GOALS

General education at Quinsigamond Community College provides students with the skills, knowledge and perspectives that enable them to achieve their academic, professional and personal goals. The following learning goals/competencies for general education are integrated into the courses that are required for each associate degree program.

1. Communication Skills: Students will be able to write and speak effectively.

2. Information Literacy: Students will be able to locate, evaluate and apply reliable and appropriate information.

3. Quantitative Reasoning: Students will apply the concepts and methods of mathematics to solve problems.

4. Scientific Reasoning: Students will relate scientific methods of inquiry to the acquisition of knowledge.

5. Technical Literacy: Students will utilize computer and emerging technologies effectively.

6. Aesthetics: Students will appreciate the variety of human experiences as expressed through the arts.

7. Multiple Perspectives: Students will demonstrate knowledge and appreciation of diverse cultures.

8. Ethics: Students will develop an awareness of personal obligations and responsibilities in one’s community of influence.

9. Impact of Technology: Students will reflect on the impact of scientific and technological advances on the individual, society and the environment.

10. Civic Literacy: Students will demonstrate awareness of the responsibilities of local, national and international citizenship.

Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

1) Students are expected to grasp and display an understanding of fire service in general.

2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

3) Students will demonstrate knowledge about basic rules, regulations, mores, and laws pertaining to fire service as promulgated at the national, state, and local level.

4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.
1. Course Name & Number: FSC 203 Fire Prevention
2. Originator: Pat Schmohl, Fire Science Coordinator Date: 10/21/2010
3. Division Dean: Nancy Schoenfeld, Human Services and Sciences Date: 10/21/2010
4. Brief Description of the Proposal:
   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed course description and outcomes will follow the FESHE curriculum.
5. Effective Date: Fall 2011 Semester
6. Division Recommendation:
   The Human Services & Science Division recommends approval of the course FSC 203 at the 10/21/10 Division meeting.
7. Academic Affairs Staff: _______________________________ Date: _________________
   Recommended: __________ Not Recommended: __________
   Comments: ____________________________
8. VP/Academic Affairs: ________________________________ Date: _________________
   Recommended: __________ Not Recommended: __________
   Comments: ____________________________
9. Academic Affairs Committee: ________________________ Date: _________________
   Recommended: __________ Not Recommended: __________
   Comments: ____________________________
10. VP/Academic Affairs: ______________________________ Date: _________________
    Approved: __________ Not Approved: __________
    Comments: ____________________________
**New Course Proposal**

<table>
<thead>
<tr>
<th>Course Discipline or Department: Fire Science</th>
<th>Division: Human Services and Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Title:</strong> Fire Prevention</td>
<td></td>
</tr>
<tr>
<td><strong>Course Number:</strong> FSC 203</td>
<td></td>
</tr>
<tr>
<td><strong>Prerequisites and/or corequisites:</strong> FSC 104, FSC 121</td>
<td>(Conferred with Fire Science Department)</td>
</tr>
<tr>
<td><strong>CIP code:</strong> 43.0201</td>
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<td><strong>Effective Term/year:</strong> Fall 2011 Semester</td>
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**Give a rationale for the new course. Be sure to indicate whether this course replaces another course.**

This course will prepare the third semester student to understand Fire and Emergency Services Safety and Survivability.

The FESHE mission is to: *Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.*

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

**Is the course content similar to other courses now offered?** Yes ___ No XX  
If yes, attach a statement for the coordinator of the department offering the similar course.

**Please indicate if this course will serve as any of the following types of electives**

XX Elective

___ Discipline specific (name the discipline)

___ Interdisciplinary (confer with Liberal Arts Coordinator)

___ Program specific

___ Multiple perspective (confer with the Liberal Arts Coordinator)

**Is this course required for a program?** If yes, submit a separate Program Revision Proposal or New Program Proposal.

Yes and the Program Revision Proposal is submitted with this course request.
### Expected enrollment per term:

- 12-25
- 24-50

### Will any of the following be required:

- Additional staff ___  Additional space ___  Additional equipment ___

Provide a rationale for any needs indicated above and include approximate cost of equipment.

No additional needs will be required.

Library print and non-print resources in support of this course: $500

---

## Course Materials

### Course title: Fire Prevention

**Course number:** FSC 203

**Credits:** 3

**Lecture Hours:** 45  
**Lab hours:** N/A  
**Clinic Hours:** N/A

### General course description and prerequisites (as it will appear in the catalog):

**FSC 203 Fire Prevention – 3 credits**

This course provides advanced knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

**Prerequisite:** FSC 104, FSC 121, ENG 101. F/S

### All required texts and paperbacks, including information on publisher and edition used (provide a suggested text): Pick any book below

- *Fundamentals of Fire Protection* (2004); Arthur E. Cote, NFPA.
- *Introduction to Fire Prevention* (2004); Brady, Current Ed.
- *NFPA Fire Protection Handbook* (2008); (NFPA CD-ROM licensing agreement available)
- *Principles of Fire Prevention* (2005); David Diamantes, Delmar, Current Ed.

### Instructional Objectives (list):

1. Define the national fire problem and role of fire prevention.
2. Identify and describe fire prevention organizations and associations.
3. Define laws, rules, regulations, and codes and identify those relevant to fire prevention of the authority having jurisdiction.
4. Define the functions of a fire prevention bureau.
5. Describe inspection practices and procedures.
7. List opportunities in professional development for fire prevention personnel.
8. Describe the history and philosophy of fire prevention.

### Teaching procedures: (provide suggested teaching methodology):

This class will use lectures, demonstration, self-guided study, group discussions, small group workshops, and presentations to cover the topics in this course. PowerPoint presentations and videotapes may be utilized. Students are strongly encouraged to complete assigned readings prior to each class session and to actively engage in discussions and activities to facilitate their understanding of classroom presentations. Participants are responsible for all assigned text, class
handouts, and lecture materials.

The class will also be supplemented with materials on Blackboard or The “Q”. This website will be explained during class.

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If your concerns are about a learning disability or another special need, please make an appointment with a counselor from the Disability Services Office. All information is strictly confidential.

### Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

**Suggested Course Topics**

1. **National Fire Problem and Role of Fire Prevention**
   - a) Definition
   - b) Historical Overview
   - c) Data Analysis/GIS
   - d) Current Trends of Fire Prevention
2. **Fire Prevention Organizations and Associations**
   - a) Public -- Federal, State and Local
   - b) Private – International, National and Regional
3. **Laws, Rules, Regulations and Codes**
   - a) Definitions
   - b) Applicability
   - c) Interrelationship
   - d) Limitations
4. **Fire Prevention Bureau Functions**
   - a) Data Collection and Analysis
   - b) Plans Review
   - c) Fire Inspections
   - d) Fire and Life Safety Education
   - e) Fire Investigations
5. **Tools and Equipment**
   - a) Data Collection and Analysis
   - b) Plans Review
   - c) Fire Inspections
   - d) Fire and Life Safety Education
   - e) Fire Investigations
6. **Roles and Responsibilities of Fire Prevention Personnel**
   - a) Data Collection and Analysis
   - b) Code Development and Interpretation
   - c) Training and Education
   - d) Enforcement
   - e) Management
7. **Professional Certification**
   - a) Categories and Levels
   - b) Local
   - c) State
   - d) National
8. **Professional Development**
   - a) National Fire Prevention Development Model
   - b) Training and Education
   - c) Certification systems

### Other information:

- **Suggested basis for student grading and criteria for evaluating student performance**
  - Students will be evaluated on their knowledge of the material outlined in this syllabus and assigned by the course instructor. Evaluation tools will include weekly questions, quizzes, and letters on an ongoing basis. Students are responsible for material contained in the syllabus, material covered during class, material in handouts, and/or material assigned through the text.
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- **Participation/Attendance:** Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoenas, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see last page of syllabus) will incorporate attendance into your grade.

**Suggested attendance policy**

- Students are expected to attend their scheduled classes. Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoenas, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see attached participation grading form) will incorporate attendance into your grade. Tardiness and leaving early is disrespectful and disruptive to the class. If a student is absent, then the student is responsible for missed work.

**Suggested plagiarism statement**

- Academic honesty is the basic understanding that every assignment or project should be the student’s original work; appropriate credit should be given to all sources used. It is considered plagiarism if you use someone else’s work and do NOT cite the work properly. The event will be reported to the appropriate college authority. Refer to our college’s student handbook for further information.

### Recommended Student Learning Outcomes and Assessment Methodology

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<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>2 Identify and describe fire prevention organizations and associations.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>3 Define laws, rules, regulations, and codes and identify those relevant to fire prevention of the authority having jurisdiction.</td>
<td>quiz, business letter, final exam</td>
<td>2,10</td>
<td>1,2,3</td>
</tr>
<tr>
<td>4 Define the functions of a fire prevention bureau.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,9</td>
<td>1,2,3</td>
</tr>
<tr>
<td>5 Describe inspection practices and procedures.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,9</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>6 Identify and describe the standards for professional</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,2,3,4</td>
</tr>
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</table>
GENERAL EDUCATION LEARNING GOALS

General education at Quinsigamond Community College provides students with the skills, knowledge and perspectives that enable them to achieve their academic, professional and personal goals. The following learning goals/competencies for general education are integrated into the courses that are required for each associate degree program.

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4. **Scientific Reasoning**: Students will relate scientific methods of inquiry to the acquisition of knowledge.

5. **Technical Literacy**: Students will utilize computer and emerging technologies effectively.

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7. **Multiple Perspectives**: Students will demonstrate knowledge and appreciation of diverse cultures.

8. **Ethics**: Students will develop an awareness of personal obligations and responsibilities in one’s community of influence.

9. **Impact of Technology**: Students will reflect on the impact of scientific and technological advances on the individual, society and the environment.

10. **Civic Literacy**: Students will demonstrate awareness of the responsibilities of local, national and international citizenship.

Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

1) Students are expected to grasp and display an understanding of fire service in general.

2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

3) Students will demonstrate knowledge about basic rules, regulations, mores, and laws pertaining to fire service as promulgated at the national, state, and local level.

4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.
Course Name & Number: FSC 223 Fire Protection Systems

1. Originator: Pat Schmohl, Fire Science Coordinator  Date: 10/21/2010

2. Division Dean: Nancy Schoenfeld, Human Services and Sciences  Date: 10/21/2010

3. Brief Description of the Proposal:
The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed course description and outcomes will follow the FESHE curriculum.

4. Effective Date: Fall 2011 Semester

5. Division Recommendation:
The Human Services & Science Division recommends approval of the course FSC 223 at the 10/21/10 Division meeting.

6. Academic Affairs Staff: _______________________________ Date: _________________
Recommended: ________  Not Recommended: ________
Comments: ________________

7. VP/Academic Affairs: _________________________________ Date: _________________
Recommended: ________  Not Recommended: ________
Comments: ________________

8. Academic Affairs Committee: __________________________ Date: _________________
Recommended: ________  Not Recommended: ________
Comments: ________________

9. VP/Academic Affairs: _________________________________ Date: _________________
Approved: ________  Not Approved: ________
Comments: ________________
Course Discipline or Department: Fire Science
Division: Human Services and Sciences

Course Title: Fire Protection Systems
Course Number: FSC 223

Prerequisites and/or corequisites (confer with affected department coordinator): FSC 203 (Conferred with Fire Science Department)

CIP code (check with IR Office): 43.0201

Effective Term/year: Fall 2011 Semester

Give a rationale for the new course. Be sure to indicate whether this course replaces another course.

This course provides information relating to the advanced features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.

The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

Is the course content similar to other courses now offered? Yes ___ No XX

If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives

XX Elective

___ Discipline specific (name the discipline)
___ Interdisciplinary (confer with Liberal Arts Coordinator)
___ Program specific
___ Multiple perspective (confer with the Liberal Arts Coordinator)

Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal.

Yes and the Program Revision Proposal is submitted with this course request.
Expected enrollment per term: 12-25 | Expected enrollment per year: 25-50

Will any of the following be required:

   Additional staff ___   Additional space ___   Additional equipment ___

Provide a rationale for any needs indicated above and include approximate cost of equipment.

   No additional needs will be required.

Library print and non-print resources in support of this course: $500

Course Materials

Course title: Fire Protection Systems

Course number: FSC 223

Credits: 3

Lecture Hours: 45 | Lab hours: N/A | Clinic Hours: N/A

General course description and prerequisites (as it will appear in the catalog):

   **FSC 223 Fire Protection Systems – 3 credits**

   This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

   **Prerequisite:** FSC 203. F/S

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text): Pick any book below

- *Fire Protection Handbook (2008); NFPA*
- *Operation of Fire Protection Systems (2003); Arthur E. Cote, National Fire Protection Association*
- *Fire Protection Systems (2009), Maurice Jones, Delmar/Cengage*

Instructional Objectives (list):

1. Explain the benefits of fire protection systems in various types of structures.
2. Describe the basic elements of a public water supply system including sources, distribution networks, piping and hydrants.
3. Explain why water is a commonly used extinguishing agent.
4. Identify the different types and components of sprinkler, standpipe and foam systems.
5. Review residential and commercial sprinkler legislation.
6. Identify the different types of non-water based fire suppression systems.
7. Explain the basic components of a fire alarm system.
8. Identify the different types of detectors and explain how they detect fire.
9. Describe the hazards of smoke and list the four factors that can influence smoke movement in a building.
10. Discuss the appropriate application of fire protection systems.
11. Explain the operation and appropriate application for the different types of portable fire protection systems.

Teaching procedures: (provide suggested teaching methodology):

   This class will use lectures, demonstration, self-guided study, group discussions, small group workshops, and presentations to cover the topics in this course. PowerPoint presentations and videotapes may be utilized. Students are strongly encouraged to complete assigned readings prior to each class session and to actively engage in discussions and activities to facilitate their understanding of classroom presentations. Participants are responsible for all assigned text, class
The class will also be supplemented with materials on Blackboard or The “Q”. This website will be explained during class. Every effort will be made to meet the individual needs and various learning styles of the participants of this course. It is of the utmost importance that you inform the instructor at the beginning of the semester of your particular needs. If you have concerns about this course, please make an appointment with the instructor.

If your concerns are about a learning disability or another special need, please make an appointment with a counselor from the Disability Services Office. All information is strictly confidential.

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

<table>
<thead>
<tr>
<th>Suggested Course Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Introduction to Fire Protection Systems</td>
</tr>
<tr>
<td>a) The role fire protection systems play in protecting the life, safety and welfare of the general public and firefighters</td>
</tr>
<tr>
<td>b) Overview of the different types of fire protection systems</td>
</tr>
<tr>
<td>c) The role of codes &amp; standards in fire protection system design</td>
</tr>
<tr>
<td>2) Water Supply Systems for Fire Protection Systems</td>
</tr>
<tr>
<td>a) Sources of fire protection water supply</td>
</tr>
<tr>
<td>b) Distribution networks</td>
</tr>
<tr>
<td>c) Piping</td>
</tr>
<tr>
<td>d) Hydrants</td>
</tr>
<tr>
<td>e) Utility company interface with the fire department</td>
</tr>
<tr>
<td>3) Water-based fire suppression systems</td>
</tr>
<tr>
<td>a) Properties of water</td>
</tr>
<tr>
<td>i) Water as an effective extinguishing agent</td>
</tr>
<tr>
<td>ii) How water extinguishes fire</td>
</tr>
<tr>
<td>b) Sprinkler Systems</td>
</tr>
<tr>
<td>i) Types of systems &amp; applications</td>
</tr>
<tr>
<td>ii) Types of sprinklers &amp; applications</td>
</tr>
<tr>
<td>iii) Piping, valves, hangers &amp; alarm devices</td>
</tr>
<tr>
<td>iv) Fire department operations in buildings with sprinkler systems</td>
</tr>
<tr>
<td>c) Residential sprinkler systems</td>
</tr>
<tr>
<td>d) Standpipe systems</td>
</tr>
<tr>
<td>i) Types &amp; applications</td>
</tr>
<tr>
<td>ii) Fire department operations in buildings with standpipes</td>
</tr>
<tr>
<td>e) Foam systems</td>
</tr>
<tr>
<td>f) Water mist systems</td>
</tr>
<tr>
<td>g) Fire pumps</td>
</tr>
<tr>
<td>i) Types</td>
</tr>
<tr>
<td>ii) Components</td>
</tr>
<tr>
<td>iii) Operation</td>
</tr>
<tr>
<td>iv) Fire pump curves</td>
</tr>
<tr>
<td>4) Non-water-based fire suppression systems</td>
</tr>
<tr>
<td>a) Carbon dioxide systems</td>
</tr>
<tr>
<td>i) Applications</td>
</tr>
<tr>
<td>ii) Extinguishing properties</td>
</tr>
<tr>
<td>iii) System components</td>
</tr>
<tr>
<td>b) Halogenated systems</td>
</tr>
<tr>
<td>i) Halon 1301 and the environment</td>
</tr>
<tr>
<td>ii) Halon alternatives</td>
</tr>
<tr>
<td>iii) Extinguishing properties</td>
</tr>
<tr>
<td>iv) System components</td>
</tr>
<tr>
<td>c) Dry/Wet Chemical Extinguishing systems</td>
</tr>
<tr>
<td>i) Extinguishing properties</td>
</tr>
<tr>
<td>ii) Applications</td>
</tr>
<tr>
<td>iii) UL 300</td>
</tr>
<tr>
<td>5) Fire alarm systems</td>
</tr>
<tr>
<td>a) Components</td>
</tr>
<tr>
<td>b) Types of fire alarm systems</td>
</tr>
<tr>
<td>c) Detectors</td>
</tr>
<tr>
<td>i) Smoke</td>
</tr>
<tr>
<td>ii) Heat</td>
</tr>
<tr>
<td>iii) Flame</td>
</tr>
<tr>
<td>d) Audible/visual devices</td>
</tr>
<tr>
<td>e) Alarm monitoring</td>
</tr>
<tr>
<td>f) Testing &amp; maintenance of fire alarm systems</td>
</tr>
<tr>
<td>6) Smoke management systems</td>
</tr>
<tr>
<td>a) Hazards of smoke</td>
</tr>
<tr>
<td>b) Smoke movement in buildings</td>
</tr>
</tbody>
</table>
c) Types of smoke management systems
d) Firefighter operations in buildings with smoke management systems

7) Portable fire extinguishers
   a) Types & applications
   b) Selection
   c) Placement
   d) Maintenance
   e) Portable fire extinguisher operations

Other information:

- Suggested basis for student grading and criteria for evaluating student performance
  
  o Students will be evaluated on their knowledge of the material outlined in this syllabus and assigned by the course instructor. Evaluation tools will include weekly questions, quizzes, and letters on an ongoing basis. Students are responsible for material contained in the syllabus, material covered during class, material in handouts, and/or material assigned through the text.
  
  o **Quizzes**: Your lowest quiz grade will be dropped at the end of the semester (not for your midterm grade.) The lowest quiz grade dropped can be the result of not taking a quiz due to an absence. The quiz material will be reviewed at the end of the preceding class. Students are responsible for all material assigned and covered during class.
  
  o **Letter**: The students will compose at least four business letters. The business letter will be on a topic mutually decided upon by the instructor and student. The letter will be evaluated based on the business letter grading form attached to the course syllabus.
    
    ▪ An appeal letters defending or changing your quiz answer can also be written and will count as a up to two business letter. Students will take home the quiz and review the quiz and turn in a letter at the beginning of the next class. The letter needs to be at least one page in length and explains the correct answers. The student will need to support and defend their answer(s) or state the correct answer(s) with supporting documentation. The student will need to elaborate on why their new or old answer is correct. The letter (see attached letter grading form) will receive a grade. The appeal letter grade will be averaged with the associated quiz grade to become the new quiz grade. An example of how this works is that a student receives an 80 on a quiz and decides to write an appeal letter; the student's appeal letter receives a 100 and the student's new quiz grade would become a 90. Students can write an appeal letter with every quiz.
  
  o **Participation/Attendance**: Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoenas, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see last page of syllabus) will incorporate attendance into your grade.

- Suggested attendance policy
  
  o Students are expected to attend their scheduled classes. Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoenas, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see attached participation grading form) will incorporate attendance into your grade. Tardiness and leaving early is disrespectful and disruptive to the class. If a student is absent, then the student is responsible for missed work.

- Suggested plagiarism statement
  
  o Academic honesty is the basic understanding that every assignment or project should be the student’s original work; appropriate credit should be given to all sources used. It is considered plagiarism if you use someone else’s work and do NOT cite the work properly. The event will be reported to the appropriate college authority. Refer to our college’s student handbook for further information.

Recommended Student Learning Outcomes and Assessment Methodology

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate</th>
<th>Does this outcome fulfill a program goal? Attach a list</th>
</tr>
</thead>
</table>

AA Committee 11/09/10
<table>
<thead>
<tr>
<th></th>
<th>Objective</th>
<th>Exam Type</th>
<th>Goal(s)</th>
<th>Course(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Explain the benefits of fire protection systems in various types of structures.</td>
<td>quiz, business letter, final exam</td>
<td>1.2</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>2</td>
<td>Describe the basic elements of a public water supply system including sources, distribution networks, piping and hydrants.</td>
<td>quiz, business letter, final exam</td>
<td>1.2</td>
<td>1,2,3,4</td>
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<td>3</td>
<td>Explain why water is a commonly used extinguishing agent.</td>
<td>quiz, business letter, final exam</td>
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<td>1,2</td>
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<td>Identify the different types and components of sprinkler, standpipe and foam systems.</td>
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<td>1,2,3</td>
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<td>5</td>
<td>Review residential and commercial sprinkler legislation.</td>
<td>quiz, business letter, final exam</td>
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<td>1,2,3</td>
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<td>Explain the basic components of a fire alarm system.</td>
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<td>1,2,3</td>
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<td>Discuss the appropriate application of fire protection systems.</td>
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<td>1,2,3</td>
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<td>11</td>
<td>Explain the operation and appropriate application for the different types of portable fire protection systems.</td>
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<td>1,2,3</td>
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Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

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2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

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4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.
QUINSIGAMOND COMMUNITY COLLEGE

NEW COURSE PROPOSAL

1. Course Name & Number: FSC 230 Fire Investigation I

2. Originator: Pat Schmohl, Fire Science Coordinator Date: 10/21/2010

3. Division Dean: Nancy Schoenfeld, Human Services and Sciences Date: 10/21/2010

4. Brief Description of the Proposal:
   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed course description and outcomes will follow the FESHE curriculum.

5. Effective Date: Fall 2011 Semester

6. Division Recommendation:
   The Human Services & Science Division recommends approval of the course FSC 230 at the 10/21/10 Division meeting.

7. Academic Affairs Staff: ___________________________ Date: _________________
   Recommended: _______  Not Recommended: _______
   Comments: __________

8. VP/Academic Affairs: _____________________________ Date: _________________
   Recommended: _______  Not Recommended: _______
   Comments: __________

9. Academic Affairs Committee: ______________________ Date: _________________
   Recommended: _______  Not Recommended: _______
   Comments: __________

10. VP/Academic Affairs: _____________________________ Date: _________________
    Approved: _______  Not Approved: _______
    Comments: __________
### New Course Proposal

**Course Discipline or Department:** Fire Science  
**Division:** Human Services and Sciences

**Course Title:** Fire Investigation I  
**Course Number:** FSC 230

**Prerequisites and/or corequisites (confer with affected department coordinator):** FSC 104, FSC 121  
*(Conferred with Fire Science Department)*

**CIP code (check with IR Office):** 43.0201

**Effective Term/year:** Fall 2011 Semester

**Give a rationale for the new course. Be sure to indicate whether this course replaces another course.**

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes.

The FESHE mission is to: *Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.*

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

**Is the course content similar to other courses now offered?**  
Yes ___  No XX

If yes, attach a statement for the coordinator of the department offering the similar course.

**Please indicate if this course will serve as any of the following types of electives**

XX Elective  
___ Discipline specific (name the discipline)  
___ Interdisciplinary (confer with Liberal Arts Coordinator)  
XX Program specific  
___ Multiple perspective (confer with the Liberal Arts Coordinator)

**Is this course required for a program?**  
If yes, submit a separate Program Revision Proposal or New Program Proposal.
Expected enrollment per term: 12-25

Expected enrollment per year: 12-25

Will any of the following be required:
   
   Additional staff ___ Additional space ___ Additional equipment ___

Provide a rationale for any needs indicated above and include approximate cost of equipment.

No additional needs will be required.

Library print and non-print resources in support of this course: $500

Course Materials

Course title: Fire Investigation I

Course number: FSC 230

Credits: 3

Lecture Hours: 45  Lab hours: N/A  Clinic Hours: N/A

General course description and prerequisites (as it will appear in the catalog):

**FSC 230 Fire Investigation I – 3 credits**

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the firesetter, and types of fire causes. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

**Prerequisite:** FSC 104, FSC 121. F/S

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text): Pick any book below

- *Fire Investigation; 1st Ed; (2009)*; Russ Chandler, Delmar Cengage

Instructional Objectives (list):

1. Identify the responsibilities of a firefighter when responding to the scene of a fire, including scene security and evidence preservation.
2. Describe the implications of constitutional amendments as they apply to fire investigations.
3. Identify key case law decisions that have affected fire investigations.
4. Define the common terms used in fire investigations.
5. Explain the basic elements of fire dynamics and how they affect cause determination.
6. Compare the types of building construction on fire progression.
7. Describe how fire progression is affected by fire protection systems and building design.
8. Discuss the basic principles of electricity as an ignition source.
9. Recognize potential health and safety hazards.
10. Describe the process of conducting investigations using the scientific method.
11. Identify cause and origin and differentiate between accidental and incendiary.
12. Explain the procedures used for investigating vehicle fires.
13. Identify the characteristics of an incendiary fire and common motives of the fire setter.
Teaching procedures: (provide suggested teaching methodology):

This class will use lectures, demonstration, self-guided study, group discussions, small group workshops, and presentations to cover the topics in this course. PowerPoint presentations and videotapes may be utilized. Students are strongly encouraged to complete assigned readings prior to each class session and to actively engage in discussions and activities to facilitate their understanding of classroom presentations. Participants are responsible for all assigned text, class handouts, and lecture materials.

The class will also be supplemented with materials on Blackboard or The “Q”. This website will be explained during class.

Every effort will be made to meet the individual needs and various learning styles of the participants of this course. It is of the utmost importance that you inform the instructor at the beginning of the semester of your particular needs. If you have concerns about this course, please make an appointment with the instructor.

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Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

<table>
<thead>
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<th>Suggested Course Topics</th>
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</thead>
<tbody>
<tr>
<td>1) National Fire Problem and Role of Fire Prevention</td>
</tr>
<tr>
<td>a) Definition</td>
</tr>
<tr>
<td>b) Historical Overview</td>
</tr>
<tr>
<td>c) Data Analysis/GIS</td>
</tr>
<tr>
<td>d) Current Trends of Fire Prevention</td>
</tr>
<tr>
<td>2) Fire Prevention Organizations and Associations</td>
</tr>
<tr>
<td>a) Public – Federal, State and Local</td>
</tr>
<tr>
<td>b) Private – International, National and Regional</td>
</tr>
<tr>
<td>3) Laws, Rules, Regulations and Codes</td>
</tr>
<tr>
<td>a) Definitions</td>
</tr>
<tr>
<td>b) Applicability</td>
</tr>
<tr>
<td>c) Interrelationship</td>
</tr>
<tr>
<td>d) Limitations</td>
</tr>
<tr>
<td>4) Fire Prevention Bureau Functions</td>
</tr>
<tr>
<td>a) Data Collection and Analysis</td>
</tr>
<tr>
<td>b) Plans Review</td>
</tr>
<tr>
<td>c) Fire Inspections</td>
</tr>
<tr>
<td>d) Fire and Life Safety Education</td>
</tr>
<tr>
<td>e) Fire Investigations</td>
</tr>
<tr>
<td>5) Tools and Equipment</td>
</tr>
<tr>
<td>a) Data Collection and Analysis</td>
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<td>b) Plans Review</td>
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<td>c) Fire Inspections</td>
</tr>
<tr>
<td>d) Fire and Life Safety Education</td>
</tr>
<tr>
<td>e) Fire Investigations</td>
</tr>
<tr>
<td>6) Roles and Responsibilities of Fire Prevention Personnel</td>
</tr>
<tr>
<td>a) Data Collection and Analysis</td>
</tr>
<tr>
<td>b) Code Development and Interpretation</td>
</tr>
<tr>
<td>c) Training and Education</td>
</tr>
<tr>
<td>d) Enforcement</td>
</tr>
<tr>
<td>e) Management</td>
</tr>
<tr>
<td>7) Professional Certification</td>
</tr>
<tr>
<td>a) Categories and Levels</td>
</tr>
<tr>
<td>b) Local</td>
</tr>
<tr>
<td>c) State</td>
</tr>
<tr>
<td>d) National</td>
</tr>
<tr>
<td>8) Professional Development</td>
</tr>
<tr>
<td>a) National Fire Prevention Development Model</td>
</tr>
<tr>
<td>b) Training and Education</td>
</tr>
<tr>
<td>c) Certification systems</td>
</tr>
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Other information:

- Suggested basis for student grading and criteria for evaluating student performance
  - Students will be evaluated on their knowledge of the material outlined in this syllabus and assigned by the course instructor. Evaluation tools will include weekly questions, quizzes, and letters on an ongoing basis. Students are responsible for material contained in the syllabus, material covered during class, material in handouts, and/or
**Quizizzos:** Your lowest quiz grade will be dropped at the end of the semester (not for your midterm grade.) The lowest quiz grade dropped can be the result of not taking a quiz due to an absence. The quiz material will be reviewed at the end of the preceding class. Students are responsible for all material assigned and covered during class.

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  - An appeal letters defending or changing your quiz answer can also be written and will count as a up to two business letter. Students will take home the quiz and review the quiz and turn in a letter at the beginning of the next class. The letter needs to be at least one page in length and explains the correct answers. The student will need to support and defend their answer(s) or state the correct answer(s) with supporting documentation. The student will need to elaborate on why their new or old answer is correct. The letter (see attached letter grading form) will receive a grade. The appeal letter grade will be averaged with the associated quiz grade to become the new quiz grade. An example of how this works is that a student receives an 80 on a quiz and decides to write an appeal letter; the student's appeal letter receives a 100 and the student's new quiz grade would become a 90. Students can write an appeal letter with every quiz.

- **Participation/Attendance:** Attendance is highly recommended to all classes. Students will not be penalized for absence accompanied by proper documentation that was due to an unavoidable or legitimate circumstance. Such circumstances include, but are not limited to, verified illness, participation in intercollegiate athletic events or other group activities sponsored by the College, subpoenas, jury duty, military service, and religious observances. It is the responsibility of the student to notify the instructor of such circumstances as far in advance as possible. Your class participation grading form (see last page of syllabus) will incorporate attendance into your grade.

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### Recommended Student Learning Outcomes and Assessment Methodology

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<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
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<tbody>
<tr>
<td>1 Identify the responsibilities of a firefighter when responding to the scene of a fire, including scene security and evidence preservation.</td>
<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>2 Describe the implications of constitutional amendments as they apply to fire investigations.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,3</td>
</tr>
<tr>
<td>3 Identify key case law decisions that have affected fire investigations.</td>
<td>quiz, business letter, final exam</td>
<td>2,10</td>
<td>1,3</td>
</tr>
<tr>
<td>4 Define the common terms used in fire investigations.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Explain the basic elements of fire dynamics and how they affect cause determination.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,9</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>6</td>
<td>Compare the types of building construction on fire progression.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
</tr>
<tr>
<td>7</td>
<td>Describe how fire progression is affected by fire protection systems and building design.</td>
<td>quiz, business letter, final exam</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Discuss the basic principles of electricity as an ignition source.</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Recognize potential health and safety hazards.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,10</td>
</tr>
<tr>
<td>10</td>
<td>Describe the process of conducting investigations using the scientific method.</td>
<td>quiz, business letter, final exam</td>
<td>1,4</td>
</tr>
<tr>
<td>11</td>
<td>Identify cause and origin and differentiate between accidental and incendiary.</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Explain the procedures used for investigating vehicle fires.</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Identify the characteristics of an incendiary fire and common motives of the fire setter.</td>
<td>quiz, business letter, final exam</td>
<td>1,8,10</td>
</tr>
</tbody>
</table>

**GENERAL EDUCATION LEARNING GOALS**

General education at Quinsigamond Community College provides students with the skills, knowledge and perspectives that enable them to achieve their academic, professional and personal goals. The following learning goals/competencies for general education are integrated into the courses that are required for each associate degree program.

1. **Communication Skills:** Students will be able to write and speak effectively.

2. **Information Literacy:** Students will be able to locate, evaluate and apply reliable and appropriate information.

3. **Quantitative Reasoning:** Students will apply the concepts and methods of mathematics to solve problems.

4. **Scientific Reasoning:** Students will relate scientific methods of inquiry to the acquisition of knowledge.

5. **Technical Literacy:** Students will utilize computer and emerging technologies effectively.

6. **Aesthetics:** Students will appreciate the variety of human experiences as expressed through the arts.

7. **Multiple Perspectives:** Students will demonstrate knowledge and appreciation of diverse cultures.

8. **Ethics:** Students will develop an awareness of personal obligations and responsibilities in one’s community of influence.

9. **Impact of Technology:** Students will reflect on the impact of scientific and technological advances on the individual, society and the environment.

10. **Civic Literacy:** Students will demonstrate awareness of the responsibilities of local, national and international citizenship.
Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

1) Students are expected to grasp and display an understanding of fire service in general.

2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

3) Students will demonstrate knowledge about basic rules, regulations, mores, and laws pertaining to fire service as promulgated at the national, state, and local level.

4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.
1. **Course Name & Number:** FSC 241 – Fire Protection Hydraulics and Water supply

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   **Date:** 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   **Date:** 10/21/2010

4. **Brief Description of the Proposal:**
   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed changes to the course description and outcomes will follow the FESHE curriculum. Change in the pre-requisite based upon Math Department Coordinator recommendation.

5. **Effective Date:** Fall 2011 Semester

6. **Division Recommendation:**
   The Human Services & Science Division recommends approval of the course description change and prerequisite change to FSC 241 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:**  
   **Date:** ____________
   **Recommended:** _______  **Not Recommended:** _______
   **Comments:**

8. **VP/Academic Affairs:**  
   **Date:** ____________
   **Recommended:** _______  **Not Recommended:** _______
   **Comments:**

9. **Academic Affairs Committee:**  
   **Date:** ____________
   **Recommended:** _______  **Not Recommended:** _______
   **Comments:**

10. **VP/Academic Affairs:**  
    **Date:** ____________
    **Approved:** _______  **Not Approved:** _______
    **Comments:**
### Quinsigamond Community College

#### Course Revision Proposal

<table>
<thead>
<tr>
<th>Type of Revision:</th>
<th>X Description X Prerequisite ___Corequisite ___ Number ___ Title ___ #credits ___ Elective Type ___ other (explain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Discipline or Department: Fire Science</td>
<td>Division: Human Services and Sciences</td>
</tr>
<tr>
<td>Current Course Title: Fire Protection Hydraulics and Water Supply</td>
<td>Current Course Number: FSC 241</td>
</tr>
<tr>
<td>Current Course Description (as it appears in the college catalog):</td>
<td></td>
</tr>
<tr>
<td><strong>FSC 241 Fire Protection Hydraulics and Water Supply - 3 credits</strong></td>
<td></td>
</tr>
<tr>
<td>This course covers the theoretical knowledge necessary to understand the principles of the use of water in fire protection. Students learn to analyze situations and to apply hydraulic principles to solve water supply problems.</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: MAT 100 or appropriate placement score. F/S</td>
<td></td>
</tr>
<tr>
<td>Proposed Description (include all proposed changes):</td>
<td></td>
</tr>
<tr>
<td><strong>FSC 241 Fire Protection Hydraulics and Water Supply - 3 credits</strong></td>
<td></td>
</tr>
<tr>
<td>This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: MAT 95 or appropriate placement score. F/S</td>
<td></td>
</tr>
<tr>
<td>Rationale for the change:</td>
<td></td>
</tr>
<tr>
<td>The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.</td>
<td></td>
</tr>
<tr>
<td>The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.</td>
<td></td>
</tr>
<tr>
<td>For change in the number of credits, provide a description of the change in course content.</td>
<td></td>
</tr>
<tr>
<td>No change in course credits</td>
<td></td>
</tr>
<tr>
<td>Does the proposed change affect another department?</td>
<td>Yes ___ No XX</td>
</tr>
<tr>
<td>If yes, explain and please confer with the coordinator of the affected department.</td>
<td></td>
</tr>
<tr>
<td>Change in the Pre-requisite based upon Math Department Coordinator recommendation.</td>
<td></td>
</tr>
<tr>
<td>If this change affects a program grid, please submit a Program Revision Proposal.</td>
<td></td>
</tr>
<tr>
<td>Program Revision Proposal Submitted with these changes</td>
<td></td>
</tr>
</tbody>
</table>
QUINSIGAMOND COMMUNITY COLLEGE

NEW COURSE PROPOSAL

1. **Course Name & Number:** FSC 263 – Introduction to Fire and Emergency Services Administration

2. **Originator:** Pat Schmohl, Fire Science Coordinator  
   **Date:** 10/21/2010

3. **Division Dean:** Nancy Schoenfeld, Human Services and Sciences  
   **Date:** 10/21/2010

4. **Brief Description of the Proposal:**
   The Fire Science Department recommends that this course follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network in 2009. The proposed course description and outcomes will follow the FESHE curriculum.

5. **Effective Date:** Fall 2011 Semester

6. **Division Recommendation:**
   The Human Services & Science Division recommends approval of the course FSC 263 at the 10/21/10 Division meeting.

7. **Academic Affairs Staff:** _______________________________  
   **Date:** _________________
   **Recommended:** _______  
   **Not Recommended:** _______
   **Comments:**

8. **VP/Academic Affairs:** _______________________________  
   **Date:** _________________
   **Recommended:** _______  
   **Not Recommended:** _______
   **Comments:**

9. **Academic Affairs Committee:** __________________________  
   **Date:** _________________
   **Recommended:** _______  
   **Not Recommended:** _______
   **Comments:**

10. **VP/Academic Affairs:** _______________________________  
    **Date:** _________________
    **Approved:** _______  
    **Not Approved:** _______
    **Comments:**

   AA Committee 11/09/10
### Quinsigamond Community College

**New Course Proposal**

<table>
<thead>
<tr>
<th>Course Discipline or Department: Fire Science</th>
<th>Division: Human Services and Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title: Introduction to Fire and Emergency Services Administration</td>
<td></td>
</tr>
<tr>
<td>Course Number: FSC 263</td>
<td></td>
</tr>
<tr>
<td>Prerequisites and/or corequisites (confer with affected department coordinator): FSC 203, SPH 101 (Conferred with Speech Coordinator and Fire Science Department)</td>
<td></td>
</tr>
<tr>
<td>CIP code (check with IR Office): 43.0202</td>
<td></td>
</tr>
<tr>
<td>Effective Term/year: Fall 2011 Semester</td>
<td></td>
</tr>
</tbody>
</table>

**Give a rationale for the new course. Be sure to indicate whether this course replaces another course.**

This course will prepare the fourth semester student to understand Fire and Emergency Services Administration and prepare the student to take the Bachelor level Fire and Emergency Services Administration course.

The FESHE mission is to: *Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.*

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

**Is the course content similar to other courses now offered?  Yes ___   No  XX**

If yes, attach a statement for the coordinator of the department offering the similar course.

**Please indicate if this course will serve as any of the following types of electives**

XX Elective

___ Discipline specific (name the discipline)

___ Interdisciplinary (confer with Liberal Arts Coordinator)

___ Program specific

___ Multiple perspective (confer with the Liberal Arts Coordinator)

**Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal.**

Yes and the Program Revision Proposal is submitted with this course request.
Expected enrollment per term: 12-25
Expected enrollment per year: 24-50

Will any of the following be required:
  Additional staff ___    Additional space ___    Additional equipment ___

Provide a rationale for any needs indicated above and include approximate cost of equipment.

No additional needs will be required.

Library print and non-print resources in support of this course: $500

Course Materials

Course title: Introduction to Fire and Emergency Services Administration

Course number: FSC 263

Credits: 3

Lecture Hours: 45    Lab hours: N/A    Clinic Hours: N/A

General course description and prerequisites (as it will appear in the catalog):

**FSC 263 Introduction to Fire and Emergency Services Administration- 3 credits**

This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer. This course follows the curriculum established by the Fire and Emergency Services Higher Education (FESHE) network.

**Prerequisite:** FSC 203, SPH 101. F/S

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text): Pick any book below

- **Company Officer;** (2005); Clinton Smoke, Delmar, Cengage
- **Management in the Fire Service, 4th Ed;** (2008); Carter & Rausch, Jones & Bartlett
- **Fire Service Personnel Management (2006);** Stephen Edwards, Brady, 2nd Ed..

Instructional Objectives (list):

1. Acknowledge career development opportunities and strategies for success.
2. Recognize the need for effective communication skills both written and verbal.
3. Identify and explain the concepts of span and control, effective delegation, and division of labor.
4. Select and implement the appropriate disciplinary action based upon an employee’s conduct.
5. Explain the history of management and supervision methods and procedures.
6. Discuss the various levels of leadership, roles, and responsibilities within the organization.
7. Describe the traits of effective versus ineffective management styles.
8. Identify the importance of ethics as it relates to fire and emergency services.
9. Identify the roles of the National Incident Management System (NIMS) and Incident Management System (ICS).

Teaching procedures: (provide suggested teaching methodology):

This class will use lectures, demonstration, self-guided study, group discussions, small group workshops, and presentations to cover the topics in this course. PowerPoint presentations and videotapes may be utilized. Students are strongly encouraged to complete assigned readings prior to each class session and to actively engage in discussions and activities to facilitate their understanding of classroom presentations. Participants are responsible for all assigned text.
class handouts, and lecture materials.

The class will also be supplemented with materials on Blackboard or The “Q”. This website will be explained during class. Every effort will be made to meet the individual needs and various learning styles of the participants of this course. It is of the utmost importance that you inform the instructor at the beginning of the semester of your particular needs. If you have concerns about this course, please make an appointment with the instructor.

If your concerns are about a learning disability or another special need, please make an appointment with a counselor from the Disability Services Office. All information is strictly confidential.

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

Suggested Course Topics

1) New challenges and opportunities
   a) Duties
   b) National Standards
   c) Career Opportunities
   d) Education and Training

2) Communication Process
   a) Verbal
   b) Written
   c) Active Listening Skills

3) Management Principles
   a) Span of Control
   b) Delegation/Division of Labor
   c) Unity of Command
   d) Chain of Command
   e) Organizational Structure

4) Tools for Employee Development
   a) Evaluation and Appraisal of Employees
   b) Rewards and Motivation
   c) Progressive System of Discipline
   d) Grievance Procedures

5) Management and Supervision
   a) Theories
   b) History

6) Managing Resources for Emergency and Non-emergency
   a) Equipment
   b) Personnel
   c) Time

7) Leadership
   a) Managers
   b) Leaders
   c) Roles and Responsibilities

8) Supervision and Management
   a) Styles
   b) Traits
   c) Effectiveness

9) Safety Assessment
   a) Non-Emergency
   b) Emergency

10) Ethics
    a) Harassment
    b) Conflict of Interest
    c) Public Trust
    d) Code of Ethics
    e) Diversity
    f) Morality

11) Incident Management System
    a) Duties and Responsibilities
    b) Transfer of Command

12) Records Management
    a) Formal Documentation
    b) Informal Documentation
Other information:

- **Suggested basis for student grading and criteria for evaluating student performance**
  
  o Students will be evaluated on their knowledge of the material outlined in this syllabus and assigned by the course instructor. Evaluation tools will include weekly questions, quizzes, and letters on an ongoing basis. Students are responsible for material contained in the syllabus, material covered during class, material in handouts, and/or material assigned through the text.

  o **Quizzes:** Your lowest quiz grade will be dropped at the end of the semester (not for your mid-term grade.) The lowest quiz grade dropped can be the result of not taking a quiz due to an absence. The quiz material will be reviewed at the end of the preceding class. Students are responsible for all material assigned and covered during class.

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<td>1</td>
<td>Acknowledge career development opportunities and strategies for success.</td>
<td>quiz, business letter, final exam</td>
<td>2,8,10</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Recognize the need for effective communication skills both written and verbal.</td>
<td>quiz, business letter, final exam</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Identify and explain the concepts of span and control, effective delegation, and division of labor.</td>
<td>quiz, business letter, final exam</td>
<td>2</td>
<td>1,2,3</td>
</tr>
<tr>
<td>4</td>
<td>Select and implement the appropriate disciplinary action based upon an employee’s conduct.</td>
<td>quiz, business letter, final exam</td>
<td>1,2,8,10</td>
<td>1,2</td>
</tr>
<tr>
<td>5</td>
<td>Explain the history of management and supervision methods and procedures.</td>
<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1,2</td>
</tr>
<tr>
<td>6</td>
<td>Discuss the various levels of leadership, roles, and responsibilities within the organization.</td>
<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1,2</td>
</tr>
<tr>
<td>7</td>
<td>Describe the traits of effective versus ineffective management styles</td>
<td>quiz, business letter, final exam</td>
<td>1,2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Identify the importance of ethics as it relates to fire and emergency services.</td>
<td>quiz, business letter, final exam</td>
<td>2,8</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Identify the roles of the National Incident Management System (NIMS) and Incident Management System (ICS).</td>
<td>quiz, business letter, final exam</td>
<td>2,5,10</td>
<td>1,2</td>
</tr>
</tbody>
</table>
GENERAL EDUCATION LEARNING GOALS

General education at Quinsigamond Community College provides students with the skills, knowledge and perspectives that enable them to achieve their academic, professional and personal goals. The following learning goals/competencies for general education are integrated into the courses that are required for each associate degree program.

1. Communication Skills: Students will be able to write and speak effectively.

2. Information Literacy: Students will be able to locate, evaluate and apply reliable and appropriate information.

3. Quantitative Reasoning: Students will apply the concepts and methods of mathematics to solve problems.

4. Scientific Reasoning: Students will relate scientific methods of inquiry to the acquisition of knowledge.

5. Technical Literacy: Students will utilize computer and emerging technologies effectively.

6. Aesthetics: Students will appreciate the variety of human experiences as expressed through the arts.

7. Multiple Perspectives: Students will demonstrate knowledge and appreciation of diverse cultures.

8. Ethics: Students will develop an awareness of personal obligations and responsibilities in one’s community of influence.

9. Impact of Technology: Students will reflect on the impact of scientific and technological advances on the individual, society and the environment.

10. Civic Literacy: Students will demonstrate awareness of the responsibilities of local, national and international citizenship.

Program goals and objectives found in the 2002 – 2003 Quinsigamond Community College Fire Science Internal Program Review document on page 17.

1) Students are expected to grasp and display an understanding of fire service in general.

2) Students apply the knowledge gained in order to perform a risk analysis, develop a plan of action, act on the plan, reconsider the actions taken, and possibly reformulate the entire order.

3) Students will demonstrate knowledge about basic rules, regulations, mores, and laws pertaining to fire service as promulgated at the national, state, and local level.

4) Students will demonstrate independent thinking and at the same time recall how interdependence, in the form of teamwork, will allow the student to safely and successfully complete potentially dangerous objectives.
QUINSIGAMOND COMMUNITY COLLEGE

DEGREE PROGRAM OR CERTIFICATE REVISION PROPOSAL

1. Program Name: Fire Science – Associate in Science

2. Originator: Pat Schmohl, Fire Science Coordinator Date: 10/21/2010

3. Division Dean: Nancy Schoenfeld, Human Services and Sciences Date: 10/21/2010

4. Brief Description of the Proposal:
The Fire Science Department has produced a new grid that will follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network. The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has crosswalked Fire Officer I - IV competencies with national level courses that included FESHE model associates and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

5. Effective Date: Fall 2011 Semester

6. Division Recommendation:
The Human Services & Science Division recommends approval of the FSC Program change at the 10/21/10 Division meeting.

7. Academic Affairs Staff: _______________________________ Date: _________________
   Recommended: ________  Not Recommended: ________
   Comments: 

8. VP/Academic Affairs: _________________________________ Date: _________________
   Recommended: ________  Not Recommended: ________
   Comments: 

9. Academic Affairs Committee: __________________________ Date: _________________
   Recommended: ________  Not Recommended: ________
   Comments: 

10. VP/Academic Affairs: _________________________________ Date: _________________
    Approved: ________  Not Approved: ________
    Comments: 

AA Committee 11/09/10
Quinsigamond Community College  
Degree Program or Certificate Revision Proposal

<table>
<thead>
<tr>
<th>Program: Fire Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division: Human Services and Sciences</td>
</tr>
<tr>
<td>Degree type: Associates in Science</td>
</tr>
</tbody>
</table>

Provide a detailed list of the proposed changes to the program effective Fall 2011 Semester.

1) FSC 101 – Course revision – course description and outcomes revised
2) FSC 103 – Course revision – title change
3) FSC 104 – Course revision – course description, prerequisites, and outcomes revised
4) FSC 121 – Course revision – course description, prerequisites, and outcomes revised
5) FSC 123 – Course revision – title change
6) FSC 151 – Add new Elective course
7) FSC 201 – Add new Required course
8) FSC 203 – Add new Required course
9) FSC 223 – Add new Required course
10) FSC 230 – Add new Elective course
11) FSC 241 – Course revision – course description, prerequisites, and outcomes revised
12) FSC 263 – Add new Required course
13) Semester 1- Grid Change
   a) ENG 101, FSC 101 – no change
   b) Change MAT 100 to Math elective (MAT 122 recommended)
   c) Add EMT 101 (or take two Fire Science Electives)
   d) Remove FSC 103
   e) Move FSC 104 to Semester 2
14) Semester 2- Grid Change
   a) ENG 102, CIS 111(or CIS 112) – no change
   b) Add FSC 104 – add ENG 100 or appropriate placement score and FSC 101 as prerequisite
   c) FSC 121 – add ENG 100 or appropriate placement score and FSC 101 as prerequisite
   d) Add SPH 101
   e) Move Social Science Elective to Semester 4
   f) Remove FSC 123
15) Semester 3- Grid Change
   a) One Fire Science Elective – No Change
   b) Add new course FSC 201 and remove FSC 241
   c) Add new course FSC 203 and one Fire Science Elective
   d) Change Social Science Elective to PSY 101
   e) Change Physical Science, Physics, or Chemistry Elective to any Lab Science Elective
16) Semester 4- Grid Change
   a) One Fire Science Elective – No Change
   b) Add new course FSC 263 and remove FSC 242
   c) Change Social Science Elective from Semester 2 to SOC 101 or SOC 111
   d) Add new course FSC 223 and move EMT 101 into Semester 1
   e) Change Physical Science, Physics, or Chemistry Elective to any Lab Science Elective
<table>
<thead>
<tr>
<th><strong>Attachments:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Current program grid</td>
</tr>
<tr>
<td>✓ Proposed program grid</td>
</tr>
<tr>
<td>✓ Course descriptions for any new courses or revised courses that are part of the program revision</td>
</tr>
</tbody>
</table>

Submit separate proposals for any new courses or revised courses in the program. Separate proposals are attached.

**Provide a rationale for the proposed changes**

The Fire Science Department has produced a new grid that will follow the United States Fire Administration’s National Fire Academy (NFA) curriculum established by the Fire and Emergency Services Higher Education (FESHE) network. The FESHE mission is to: Establish an organization of post-secondary institutions to promote higher education and to enhance the recognition of the fire and emergency services as profession to reduce loss of life and property from fire and other hazards.

The Fire Science Department has produced a new grid which also has cross-walked Fire Officer I - IV competencies with national level courses that included FESHE model associate’s and general education courses recommended by the International Association of Fire Chiefs (IAFC) in its Officer Development Handbook. Adopting these specific FESHE courses and general education courses will allow the student to line up with the National Fire Protection Association (NFPA) standards.

Do any of the proposed changes affect another department? Examples include the deletion or addition of program courses that are offered by other departments. Please confer with the coordinators of affected departments.

No

Do any of the proposed changes affect articulation agreements? Consult with the Transfer Coordinator.

Yes. We will be changing the one existing agreement and developing agreements with at least eight other schools.

For an associate degree program, are there any changes in the number of general education credits that could affect MassTransfer?

Yes, we went from 11 FSC based courses to 10 FSC Courses and added SPH 101. The net change was the increase of three general education credits. This program is still one social science elective and 2 humanities electives short. Our degree program does not meet the MassTransfer requirements before and after these proposed changes.

Will any of the following be required:

- Additional staff ___
- Additional space ____
- Additional equipment ___

Provide a rationale for any needs indicated and include approximate cost of equipment.

No additional staff, space, or equipment anticipated unless we have an increase in students.
# FIRE SCIENCE - Associate in Science (Study Option: FS) (Current Grid)

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course #</th>
<th>Offered</th>
<th>Plan to Take</th>
<th>Grade</th>
<th>Credit</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td></td>
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<tr>
<td>English Composition &amp; Literature I</td>
<td>ENG 101</td>
<td>F/S/SU</td>
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<td>3</td>
<td>ENG 100</td>
</tr>
<tr>
<td>Principles of Emergency Services</td>
<td>FSC 101</td>
<td>F</td>
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<td>3</td>
<td></td>
</tr>
<tr>
<td>Fire Prevention</td>
<td>FSC 103</td>
<td>F/S</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fire Behavior and Combustion</td>
<td>FSC 104</td>
<td>F/S</td>
<td></td>
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<td>3</td>
<td>MAT 099 with a “C” or better on the final exam or placement by the Computerized Placement Test</td>
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<tr>
<td>College Algebra</td>
<td>MAT 100</td>
<td>F/S/SU</td>
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<tr>
<td>Semester 2</td>
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<tr>
<td>English Composition &amp; Literature II</td>
<td>ENG 102</td>
<td>F/S/SU</td>
<td></td>
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<td>3</td>
<td>ENG 101</td>
</tr>
<tr>
<td>Building Construction for Fire Protection</td>
<td>FSC 121</td>
<td>F/S</td>
<td></td>
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<td>3</td>
<td>FSC 101</td>
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<tr>
<td>Fire Protection Systems and Equipment</td>
<td>FSC 123</td>
<td>F/S</td>
<td></td>
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<td>3</td>
<td></td>
</tr>
<tr>
<td>Introduction to Microcomputer Applications</td>
<td>CIS 111</td>
<td>F/S/SU</td>
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<td></td>
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<tr>
<td>or Advanced Microcomputer Applications</td>
<td>CIS 112</td>
<td>F/S/SU</td>
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<tr>
<td>Social Science Elective</td>
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<td>Semester 3</td>
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<tr>
<td>Fire Protection Hydraulics and Water Supply</td>
<td>FSC 241</td>
<td>F/S</td>
<td></td>
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<td>MAT 100</td>
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<td>FSC ---</td>
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<tr>
<td>Social Science Elective</td>
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<tr>
<td>Physical Science, Physics or Chemistry</td>
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<tr>
<td>Elective</td>
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<tr>
<td>Semester 4</td>
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<tr>
<td>Hazardous Materials</td>
<td>FSC 242</td>
<td>F/S</td>
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<tr>
<td>Basic Emergency Medical Technology</td>
<td>EMT 101</td>
<td>F/S/SU</td>
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<td>Fire Science Elective</td>
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<tr>
<td>Physical Science, Physics or Chemistry</td>
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<tr>
<td>Elective</td>
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<tr>
<td>Total credits required</td>
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</tr>
</tbody>
</table>

The Degree: Associate in Science

The Program: Fire Science

Admission Requirements:
- High School Diploma or GED (refer to page 9)

Your Next Step:
Continue to advance in the Firefighting Profession, enter the workforce, or transfer to a four-year program.
- This program has transfer articulation agreements

More information on transfer is available on pages 20 - 21 or at www.qcc.mass.edu/transfer

Program Coordinator:
Pat Schmohl 508.854.2741
pschmohl@qcc.mass.edu

Program Footnotes:
This Program is designed to align seamlessly with the Fire and Emergency Services Higher Education (FESHE) Model for Associate degree Programs in Fire Science.
Contact Experience Based Education for credentialing courses taken at the Massachusetts Firefighting Academy, or at Worcester Fire Academy.

Technical Performance Standards:
Prior to application to this program, please review the Technical Performance Standards requirements on pages 15 - 17.
### FIRE SCIENCE - Associate in Science (PROPOSED for FALL 2011)

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Course #</th>
<th>Offered</th>
<th>Plan to Take</th>
<th>Grade</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>Semester 1</td>
<td></td>
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<tr>
<td>English Composition &amp; Literature I</td>
<td>ENG 101</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
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<td>ENG 100 or appropriate placement score</td>
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<tr>
<td>Math Elective* (MAT 122 recommended)</td>
<td>MAT ------</td>
<td></td>
<td></td>
<td>3</td>
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<td>MAT 099</td>
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<tr>
<td>Principles of Emergency Services</td>
<td>FSC 101</td>
<td>F/S/SU</td>
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<td>3</td>
<td></td>
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</tr>
<tr>
<td>Basic Emergency Medical Technology** (or take two Fire Science Electives)</td>
<td>EMT 101</td>
<td>F/S/SU</td>
<td></td>
<td>6-7</td>
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<td>Semester 2</td>
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<td>English Composition &amp; Literature II</td>
<td>ENG 102</td>
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<td>Intro Microcomputer Applications (or Advanced Microcomputer Applications)</td>
<td>CIS 111 (CIS 112)</td>
<td>F/S/SU</td>
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<td>Fire Behavior and Combustion</td>
<td>FSC 104</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
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<td>FSC 101, ENG 100 or appropriate placement score</td>
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<tr>
<td>Building Construction for Fire Protection</td>
<td>FSC 121</td>
<td>F/S/SU</td>
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<td>FSC 101, ENG 100 or appropriate placement score</td>
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<td>Speech Communication Skills</td>
<td>SPH 101</td>
<td>F/S/SU</td>
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<td>Pre/Coreq-ENG 101</td>
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<td>Semester 3</td>
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<tr>
<td>Lab Science Elective***</td>
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<tr>
<td>Introduction to Psychology</td>
<td>PSY 101</td>
<td>F/S/SU</td>
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<td>ENG 100 or appropriate placement score</td>
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<tr>
<td>Principles of Fire and Emergency Services Safety and Survival</td>
<td>FSC 201</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
<td></td>
<td>FSC 104, FSC 121</td>
</tr>
<tr>
<td>Fire Prevention</td>
<td>FSC 203</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
<td></td>
<td>FSC 104, FSC 121, ENG 101</td>
</tr>
<tr>
<td>Fire Science Elective</td>
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<td>3</td>
<td></td>
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<tr>
<td>Semester 4</td>
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<tr>
<td>Lab Science Elective***</td>
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<td>4</td>
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</tr>
<tr>
<td>Introduction to Sociology (or Social Problems &amp; Social Changes)</td>
<td>SOC 101 (SOC 111)</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
<td></td>
<td>ENG 100 or appropriate placement score</td>
</tr>
<tr>
<td>Fire Systems Protection</td>
<td>FSC 223</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
<td></td>
<td>FSC 203</td>
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<tr>
<td>Introduction to Fire and Emergency Services Administration</td>
<td>FSC 263</td>
<td>F/S/SU</td>
<td></td>
<td>3</td>
<td></td>
<td>FSC 203, SPH 101</td>
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<td>Fire Science Elective</td>
<td>---</td>
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<td>3</td>
<td></td>
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<tr>
<td>Total credits required</td>
<td></td>
<td></td>
<td></td>
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<td>62-63</td>
</tr>
</tbody>
</table>

**Note:**
- MAT 100, MAT 121, MAT 122, or higher.
- MAT 122 recommended
- Credit for EMT 101 – Basic EMT may be earned through credentialing for students with current EMT Basic, EMT I or EMT Paramedic certification. Please contact Experience-Based Education at (508)854-4380 for more information. Current credentialing fees apply.
- Recommend taking BIO 101 and BIO 111 as lab science electives if you are considering to become a paramedic. See Paramedic Technology Program for Admission requirements and program details.

### Technical Performance Standards:
Prior to application to this program, please review the Technical Performance Standards requirements on pages 165 - 167.
1. **Course/Program Title:** CST 231 Internetworking Protocols - Computer Systems Engineering Technology Program

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

   **Recommendation:**  
   Effective Fall 2011, change the title of CST 231 Internetworking Protocols to Internetworking Principles and Protocols.

   **Rationale:**  
   This recommendation is made as a result of the CSET APR. This title change more accurately reflects current course content. No change in course content is being recommended.

   This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

   This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

   Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ____________________________  
   **Not Recommended:** ____________________________

   **Academic Affairs Staff:** ____________________________  
   **Date:** ____________________________  
   **Comments:** ____________________________________________

5. **Recommended:** ____________________________  
   **Not Recommended:** ____________________________

   **VP/Academic Affairs:** ____________________________  
   **Date:** ____________________________  
   **Comments:** ____________________________________________

6. **Recommended:** ____________________________  
   **Not Recommended:** ____________________________

   **Academic Affairs Committee:** ____________________________  
   **Date:** ____________________________  
   **Comments:** ____________________________________________

7. **Approved:** ____________________________  
   **Not Approved:** ____________________________

   **VP/Academic Affairs:** ____________________________  
   **Date:** ____________________________  
   **Comments:** ____________________________________________
Course Description

Current:

CST 231 Internetworking Protocols 3 credits
This course presents a detailed overview of the implementation of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite. It prepares students with the necessary concepts and skills needed to configure, manage, and troubleshoot the TCP/IP environment. Upon completion of the course, students are able to configure TCP/IP clients and resources, configure and manage TCP/IP services, and troubleshoot network problems using TCP/IP utilities.
Corequisite: CSC 234. F/S

Proposed:

CST 231 Internetworking Principles and Protocols 3 credits
This course presents a detailed overview of the implementation of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite. It prepares students with the necessary concepts and skills needed to configure, manage, and troubleshoot the TCP/IP environment. Upon completion of the course, students are able to configure TCP/IP clients and resources, configure and manage TCP/IP services, and troubleshoot network problems using TCP/IP utilities.
Corequisite: CSC 234. F/S
1. **Course/Program Title:** CST 235 Network Management - Computer Systems Engineering Technology

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

**Recommendations:**

Effective Fall 2011:

1. Change the title from CST 235 Network Management to Network Infrastructure Management.
2. Make minor change in course description to specify that the course prepares students to sit for the Microsoft Network Infrastructure Configuration exam.

**Rationale:**

These recommendations are made as a result of the CSET APR.

1. The new title more closely aligns with industry certification taught in the course.
2. Change in course description more accurately reflects current course contents. No change in course content is being recommended.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

Note: This document is one of 11 in which *changes* to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ____________________  **Not Recommended:** ____________________

   **Academic Affairs Staff:** ____________________  **Date:** ____________________  **Comments:** ____________________

5. **Recommended:** ____________________  **Not Recommended:** ____________________

   **VP/Academic Affairs:** ____________________  **Date:** ____________________  **Comments:** ____________________

6. **Recommended:** ____________________  **Not Recommended:** ____________________

   **Academic Affairs Committee** ____________________  **Date:** ____________________  **Comments:** ____________________

7. **Approved:** ____________________  **Not Approved:** ____________________

   **VP/Academic Affairs:** ____________________  **Date:** ____________________  **Comments:** ____________________
Course Description

Current:

CST 235 Network Management  3 credits
This course represents the concepts and technologies employed to manage computer networks. It has a technical focus, employing the latest techniques in the disciplines of Network Management to provide a central solution to managing distributed Network Resources. Students design, document, and plan the implementation of a complex network environment including security, configure/use network management systems to control and troubleshoot networking equipment, and configure and use software to maintain and troubleshoot remote computer systems and resources from a central command center.
Prerequisite: CSC 234.
Corequisite: CST 231. F/SU

Proposed:

CST 235 Network Infrastructure Management  3 credits
This course represents the concepts and technologies employed to manage computer networks. It has a technical focus, employing the latest techniques in the disciplines of Network Management to provide a central solution to managing distributed Network Resources. Students design, document, and plan the implementation of a complex network environment including security, configure/use network management systems to control and troubleshoot networking equipment, and configure and use software to maintain and troubleshoot remote computer systems and resources from a central command center. This course prepares students to sit for the Microsoft Network Infrastructure Configuration exam.
Prerequisite: CSC 234.
Corequisite: CST 231. F/S/SU
1. **Course/Program Title:** CST 238 Enterprise Networking - Computer Systems Engineering Technology

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

**Recommendations:**

**Effective Fall 2011:**

1. Change the title from CST 238 Enterprise Networking to Enterprise Networking and Application Infrastructure.
2. Remove prerequisites of CSC 233 Computer Hardware and Support and CST 245 UNIX Operating Systems.
3. Remove corequisite of CST 231 Internetworking Protocols.
4. Change CSC 241 from a prerequisite to a co-requisite.
5. Make minor change in course description to specify that the course prepares students to sit for the Microsoft Applications Infrastructure exam.

**Rationale:**

These recommendations are made as a result of the CSET APR.

1. The new title more closely aligns with industry certification taught in the course.
2. The content of CSC 233 and CST 245 is not required for success in this course.
3. CST 231 and CST 238 are offered in different clusters.
4. Change in pre/corequisite more closely aligns this subject matter with how it is taught in industry.
5. Change in course description more accurately reflects current course content. No change in course content is being recommended.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ____________________________  **Not Recommended:** ____________________________

   **Academic Affairs Staff:** ______________________  **Date:** ____________________________

   **Comments:** ________________________________

5. **Recommended:** ____________________________  **Not Recommended:** ____________________________

   **VP/Academic Affairs:** ______________________  **Date:** ____________________________

   **Comments:** ________________________________

6. **Recommended:** ____________________________  **Not Recommended:** ____________________________

   **Academic Affairs Committee:** ______________________  **Date:** ____________________________

   **Comments:** ________________________________

7. **Approved:** ____________________________  **Not Approved:** ____________________________

   **VP/Academic Affairs:** ______________________  **Date:** ____________________________

   **Comments:** ________________________________
Course Description

Current:
CST 238 Enterprise Networking 4 credits
This course covers the many things that turn a Local Area Network (LAN) into an Enterprise Network. The focus is on the interconnectivity between multiple operating systems and services commonly deployed in business today, such as email services, database services, and Web servers. Principles of network design and management employed in the enterprise are also researched. Current trends are further illustrated with the current technology and network operating systems in wide use today.
Prerequisites:  CSC 233, CSC 241, CST 245.
Corequisite:  CST 231.  S

Proposed:
CST 238 Enterprise Networking and Application Infrastructure 4 credits
This course covers the many things that turn a Local Area Network (LAN) into an Enterprise Network. The focus is on the interconnectivity between multiple operating systems and services commonly deployed in business today, such as email services, database services, and Web servers. Principles of network design and management employed in the enterprise are also researched. Current trends are further illustrated with the current technology and network operating systems in wide use today. This course prepares students to sit for the Microsoft Applications Infrastructure exam.
Corequisite:  CSC 241.  S
1. **Course Name & Number:** CSC 201 Systems Programming

2. **Originator:** Paul Sluckis and Betty Lauer  
   **Date:** 6.29.10

3. **Division Dean:** Kathy Rentsch  
   **Date:** 9.16.10

4. **Brief Description of the Proposal:**

   The recommendation to create a new course, CSC 201 Systems Programming, is made as a result of the CSET APR. Development of this course was approved at the March 25, 2010 Business & Technology Division meeting and subsequently tabled at the March 31, 2010 Academic Affairs Staff meeting pending completion of the CSET Academic Program Review.

   Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

5. **Effective Date:** Fall/Spring 2011

6. **Division Recommendation:** Approved

7. **Academic Affairs Staff:** _______________________________  
   **Date:** ________________

   **Recommended:** _______  
   **Not Recommended:** _______

   **Comments:**

8. **VP/Academic Affairs:** _______________________________  
   **Date:** ________________

   **Recommended:** _______  
   **Not Recommended:** _______

   **Comments:**

9. **Academic Affairs Committee:** ___________________________  
   **Date:** ________________

   **Recommended:** _______  
   **Not Recommended:** _______

   **Comments:**

10. **VP/Academic Affairs:** _________________________________  
    **Date:** ________________

    **Approved:** _______  
    **Not Approved:** _______

    **Comments:**

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AA Committee 11/09/10

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**Quinsigamond Community College**  
**New Course Proposal**

<table>
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<tr>
<th>Course Discipline/Division: Computer Systems Engineering Technology/Business &amp; Technology Division</th>
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<th>Course Title: Systems Programming</th>
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<th>Course Number: CSC 201</th>
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| Prerequisites and/or corequisites (confer with affected department coordinator):  
Prerequisite: CSC 141; Corequisite: CST 245 |
|---|

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<tr>
<th>CIP code (send course description to IR Office): 11.0202</th>
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<th>Effective Term/year: Spring 2011</th>
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Give a rationale for the new course. Be sure to indicate whether this course replaces another course.

The recommendation to create this course is made as a result of the 2009-2010 CSET APR.

Is the course content similar to other courses now offered? Yes ___ No __x__

If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives

___ Elective  
___ Discipline specific (name the discipline)  
___ Interdisciplinary (confer with Liberal Arts Coordinator)  
__x__ Program specific  
___ Multiple perspective (confer with the Liberal Arts Coordinator)

Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal.

Required for CSET A.S. degree, CSET PCS Certificate, and UNIX Certificate (pending approval)

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<tr>
<th>Expected enrollment per term: 20+</th>
<th>Expected enrollment per year: 40</th>
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Will any of the following be required:

Additional staff ___  
Additional space ___  
Additional equipment __x__

Provide a rationale for any needs indicated above and include approximate cost of equipment.

There may be some additional equipment needed if virtualization is not effective.

Library print and non-print resources in support of this course: $500
Course Materials

Course title: Systems Programming

Course number: CSC 201

Credits: 3

Lecture Hours: 45 | Lab hours: 0 | Clinic Hours: 0

General course description and prerequisites (as it will appear in the catalog):

This course provides an introduction to writing programs for use by operating systems. Students examine scripting within both Windows and Linux. Topics include command line operating system syntax, basic rules of scripting, examination of tools used for script creation, and creating scripts using both command line and graphical user interface tools.

Prerequisite: CSC 141; Corequisite: CST 245. F/S

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text):

1. Microsoft WSH and VB Script Programming for the Absolute Beginner, 3rd Edition


4. Advanced Linux Programming
   Mark Mitchell, Jeffrey Oldham and Alex Samuel, Pearson Education: ISBN-10: 0735710430
   (book in public domain – PDF available)

Instructional Objectives (list):
1. Define the purpose of scripting and system programming
2. Explain tools available for scripting in both Windows and Linux
3. Install scripting tools within Windows and Linux
4. Compare/contrast scripting and programming
5. Explain programming fundamentals of order, iteration, and decision constructs
6. Define tasks using pseudo code
7. Convert pseudo code into formalized scripting or programming language
8. Create scripts from the command line without additional scripting tools
9. Use both WSH and PowerShell to create scripts
10. Create command line BASH at TC scripts within Linux
11. Create basic C programs that utilize programming fundamentals
12. Create C programs that exhibit system programming characteristics

Teaching procedures: (provide suggested teaching methodology):

Lecture, supervision of students doing hands-on programming work
Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

**Week One:**
- Introduction
- Course overview
- Syllabus review
- Capabilities of scripting, and tools used for scripting

Reading assignments: none

Homework Assigned: Install Linux and Windows in a dual boot environment on a class hard drive or configure virtual machines

**Week Two:**
- Review of basic programming concepts
- Review of DOS (Windows) syntax
- Basic programming concepts applied to the DOS command line environment
- Creating Windows scripts using the command line

Reading assignments:
- Web-based: An overview of DOS [http://userpages.wittenberg.edu/bshelburne/dos.htm](http://userpages.wittenberg.edu/bshelburne/dos.htm)
- MS Dos and command prompt [http://www.computerhope.com/msdos.htm#02](http://www.computerhope.com/msdos.htm#02)
- Information on batch files [http://www.computerhope.com/batch.htm](http://www.computerhope.com/batch.htm)

Homework Assigned: Pseudo coding of a sample task(s) and creation of the batch file with DOS commands

**Week Three:**
- Introducing Windows Scripting Host (WSH)

Reading assignments:
- Hall (WSH) Chapter 1 – Getting Started with the WSH and VB Script
- Hall (WSH) Chapter 2 – An Introduction to the Windows Scripting Host
- Hall (WSH) Chapter 3 – VB Script Basics

Homework Assigned: Document installation procedure of WSH in current Windows environment

**Week Four:**
- Using WSH to create scripts

Reading assignments:
- Hall (WSH) Chapter 4 – Constants, Variables and Arrays
- Hall (WSH) Chapter 5 – Conditional Logic
- Hall (WSH) Chapter 6 – Processing Collections of Data

Homework Assigned: Pseudo coding of a sample task(s) and creation of script using Windows Scripting Host

**Week Five:**
- Continued use of WSH

Reading assignments:
- Hall (WSH) Chapter 8 – Storing and Retrieving Data
- Hall (WSH) Chapter 9 – Handling Script Errors
- Hall (WSH) Chapter 10 – Using the Windows Registry to Configure Script Settings
- Hall (WSH) Appendix A – WSH Administrative Scripting
Homework Assigned: Pseudo coding of a sample task(s) and creation of another script using Windows Scripting Host

**Week Six:**
Introducing Windows PowerShell

Reading Assignments:
- Hall (PowerShell) Chapter 1 – Introducing Windows PowerShell
- Hall (PowerShell) Chapter 2 – Interacting with the WPS Command Line and Graphical Env.
- Hall (PowerShell) Chapter 3 – Object Based Scripting with .NET

Homework Assigned:
- Document installation procedure of PowerShell in current Windows environment

**Week Seven:**
Using PowerShell to Create Scripts

Reading Assignments:
- Hall (PowerShell) Chapter 4 – Working with Variables, Arrays and Hashes
- Hall (PowerShell) Chapter 5 – Implementing Conditional Logic
- Hall (PowerShell) Chapter 6 – Using Loops to Process Data

Homework Assigned: Pseudo coding of a sample task(s) and creation of a script using PowerShell

**Week Eight:**
Continued Use of PowerShell

Reading Assignments:
- Hall (PowerShell) Chapter 8 – Working with Files and folders
- Hall (PowerShell) Chapter 9 – Basic System Administration

Homework Assigned: Pseudo coding of a sample task(s) and creation of a script using PowerShell

**Week Nine:**
Midterm Exam
Linux Syntax Review and Scripting Options

Reading Assignments:
- Sobell Chapter 8 – The Bourne Again Shell
- Sobell Chapter 9 – The TC Shell

Homework Assigned: Compare the BASH and TC shells

**Week Ten:**
BASH Scripting Basics

Reading Assignments:
- Sobell Chapter 10 – Programming in the Bourne Again Shell

Homework Assigned: Pseudo coding of a sample task(s) and creation of a script using the BASH shell

**Week Eleven:**
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Assignments</th>
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</thead>
<tbody>
<tr>
<td>Week Twelve</td>
<td>Alternatives to BASH Scripting</td>
<td>Sobell Chapter 11 – The PERL Scripting Language  &lt;br&gt;Sobell Chapter 12 – AWK Pattern Processing Language</td>
</tr>
<tr>
<td></td>
<td>An Introduction to C and its Application to System Programming</td>
<td>Homework Assigned: Comparing BASH shell programming to PERL, and AWK</td>
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<td>Homework Assigned: Pseudo coding of a sample task(s) and creation of a C program within Linux</td>
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<tr>
<td>Week Fourteen</td>
<td>Creating C Programs for Use in System Programming</td>
<td>Reading Assignments:  &lt;br&gt;Mitchell Chapter 1 – Advanced UNIX Programming with Linux  &lt;br&gt;Mitchell Chapter 3 – Processes</td>
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<td>Homework Assigned: Pseudo coding of additional sample task(s) and creation of a C program within Linux</td>
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<tr>
<td>Week Fifteen</td>
<td>Continue Creating C Programs for Use in System Programming</td>
<td>Reading Assignments:  &lt;br&gt;Mitchell Chapter 7 – The /proc File System  &lt;br&gt;Mitchell Chapter 10 – Security</td>
</tr>
<tr>
<td></td>
<td>Other Options for System Programming</td>
<td>Homework Assigned: Pseudo coding of additional sample task(s) and creation of a C program within Linux</td>
</tr>
</tbody>
</table>
Other information:

- Suggested basis for student grading and criteria for evaluating student performance

Final grades for this course are based on the following:

Attendance: 10%
Exams (Midterm and final) 20%
10 quizzes 20%
Homework 50%

100%

The official letter grade will be assigned according to the suggested grading system published in the 2010-2011 College Catalog on pg. 41.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numeric Grade</th>
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<tbody>
<tr>
<td>A</td>
<td>95-100</td>
<td>C</td>
<td>73-76</td>
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<td>A-</td>
<td>90-94</td>
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<td>B+</td>
<td>87-89</td>
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<td>83-86</td>
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<td>C+</td>
<td>77-79</td>
<td>F</td>
<td>Below 60</td>
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</table>

See Assessment Plan, following.

- Suggested attendance policy

In accordance with the Class Attendance standards listed under Student Responsibilities on pg. 272 of the 2010-2011 QCC Student Handbook, students are expected to attend all classes. Students that must miss class are required to make up all missed work. Students should also email instructor as soon as possible to report a class absence and obtain any make-up assignments.

- Suggested plagiarism statement

See the Plagiarism statement in the College Policies section on pg. 234 of the 2010-2011 QCC Student Handbook.
# Assessment Plan

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Learning Outcome</th>
<th>Instructional Methodology</th>
<th>Faculty Resources</th>
<th>Student Resources</th>
<th>Pre Assessment</th>
<th>Post Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction&lt;br&gt;Review of Syllabus&lt;br&gt;Capabilities of Scripting and Tools Used for Scripting</td>
<td>• Students understand the course materials to be covered&lt;br&gt;• Students able to explain the advantages of scripting/programming&lt;br&gt;• Students able to describe various methods used to create scripts/programs</td>
<td>Lecture</td>
<td>Syllabus</td>
<td>• Syllabus&lt;br&gt;• Handouts</td>
<td>Informal quiz</td>
<td>• Weekly quiz&lt;br&gt;• Homework&lt;br&gt;• Midterm exam (in week #9)</td>
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<tr>
<td>Week 2</td>
<td>Review of Basic Programming Concepts&lt;br&gt;Review of DOS (Windows) Syntax&lt;br&gt;Basic Programming Concepts Applied to the DOS Command Line Environment&lt;br&gt;Creating Windows Scripts at Command Line</td>
<td>• Students able to navigate the DOS command line environment&lt;br&gt;• Students know a basic set of DOS commands&lt;br&gt;• Students able to use DOS in a virtual machine environment&lt;br&gt;• Students able to create batch files</td>
<td>Lecture – review of Web-based materials&lt;br&gt;Lecture – hands-on instruction of DOS within Microsoft Virtual PC</td>
<td>Web-based materials such as: Overview of DOS <a href="http://userpages.Wittenberg.edu/bshelburne/dos.htm">http://userpages.Wittenberg.edu/bshelburne/dos.htm</a>&lt;br&gt;MS Dos and command prompt <a href="http://www.computerhope.com/msdos.htm#02">http://www.computerhope.com/msdos.htm#02</a>&lt;br&gt;Information on batch files <a href="http://www.computerhope.com/batch.htm">http://www.computerhope.com/batch.htm</a></td>
<td>• Handouts&lt;br&gt;• Use of DOS in MS Virtual PC</td>
<td>Informal quiz</td>
<td>• Weekly quiz&lt;br&gt;• Homework&lt;br&gt;• Midterm exam (in week #9)</td>
</tr>
</tbody>
</table>
| Week 3 | Introducing Windows Scripting Host (WSH) | • Students able to explain the evolution of scripting from the use of batch files to the use of more formalized scripting technologies  
• Students able to define the requirements and functionality of Windows Scripting Host | Lecture  
• Review of text  
• Hands-on use of WSH | Textbook | • Textbook  
• Handouts  
• Use of WSH in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Midterm exam (in week #9) |
| Week 4 | Using WSH to Create Scripts | • Students able to explain the basic programming ideas of order, iteration, and decision constructs as they apply to Windows Scripting Host | Lecture  
• Review of text  
• Hands-on use of WSH | Textbook | • Textbook  
• Handouts  
• Use of WSH in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Midterm exam (in week #9) |
| Week 5 | Continued Use of WSH | • Students able to execute system programming activities within a DOS/Windows environment | Lecture  
• Review of text  
• Hands-on use of WSH | Textbook | • Textbook  
• Handouts  
• Use of WSH in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Midterm exam (in week #9) |
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<th>Faculty Resources</th>
<th>Student Resources</th>
<th>Pre Assessment</th>
<th>Post Assessment</th>
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</thead>
</table>
| Week 6 | Introducing Windows PowerShell | • Students able to explain the evolution of scripting from WSH to PowerShell  
• Students able to interact with PowerShell at the command line and in the graphical environment  
• Students able to define the purpose of object-based scripting | Lecture  
• Review of text  
• Hands-on use of PowerShell | Textbook | • Textbook  
• Handouts  
• Use of PowerShell in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Midterm exam (in week #9) |
| Week 7 | Using PowerShell to Create Scripts | • Students able to apply previously-reviewed scripting fundamentals (order, iteration, decision constructs) in the context of Windows PowerShell | Lecture  
• Review of text  
• Hands-on use of PowerShell | Textbook | • Textbook  
• Handouts  
• Use of PowerShell in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Midterm exam (in week #9) |
| Week 8 | Continued Use of PowerShell | • Students able to apply PowerShell at the command line and graphically to perform system programming tasks | Lecture  
• Review of text  
• Hands-on use of PowerShell | Textbook | • Textbook  
• Handouts  
• Use of PowerShell in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Midterm exam (in week #9) |
<table>
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<tr>
<th>Week</th>
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<tbody>
<tr>
<td>Week 9</td>
<td>Midterm Exam</td>
<td>• Students able to communicate knowledge of prior materials via the Midterm Exam</td>
<td>Lecture</td>
<td>Textbook</td>
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<td>Informal quiz</td>
<td>• Weekly quiz</td>
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<td>Linux Syntax Review</td>
<td>• Students able to run Linux commands using non-graphical means (the command line)</td>
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<td>and Scripting Options</td>
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<td>• Use of Linux in</td>
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<td>• Students able to identify open source options for scripting and programming via</td>
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<tr>
<th>Week</th>
<th>Topic</th>
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</thead>
</table>
| Week 10 | BASH Scripting Basics | • Students able to once again apply programming fundamentals (order, iteration, decision constructs) – this time to a new operating system: Linux  
• Students able to create introductory scripts based on the requirements of the Linux operating system; learners able to execute scripts  
• Students able to identify and correct errors in coding | Lecture  
• Review of text  
• Hands-on use of Linux | Textbook | • Textbook  
• Handouts  
• Use of Linux in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Final exam |
| Week 11 | Advanced BASH Scripting | • Students able to perform BASH scripting activities to customize the operating system at the level of the command prompt | Lecture  
• Review of text  
• Hands-on use of Linux | Textbook | • Textbook  
• Handouts  
• Use of Linux in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Final exam |
| Week 12 | Alternatives to BASH Scripting  
An Introduction to C and its Application to System Programming | • Students able to identify scripting alternatives to BASH, both at the command line and in the graphical environment; students able to compare/contrast scripting and programming | Lecture  
• Review of text  
• Hands-on use of Linux | Textbook | • Textbook  
• Handouts  
• Use of Linux in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Final exam |
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Learning Outcome</th>
<th>Instructional Methodology</th>
<th>Faculty Resources</th>
<th>Student Resources</th>
<th>Pre Assessment</th>
<th>Post Assessment</th>
</tr>
</thead>
</table>
| Week 13 | Creating Introductory C Programs          | • Students able to create initial C programs by applying proper programming fundamentals within the chosen language  
• Students know how to debug and execute programs | Lecture  
• Review of Web resources  
• Hands-on use of Linux | Web resources:  
C programming tutorials  
http://www.cprogramming.com/tutorial.htm  
#ctutorial  
http://www.physics.drexel.edu/courses/comp_Phys/general/C_basics/ | • Textbook  
• Handouts  
• Use of Linux in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Final exam |
| Week 14 | Creating C Programs for Use in System Programming | • Students expand on programming fundamentals to create C programs that demonstrate system programming | Lecture  
• Review of text  
• Hands-on use of Linux | Textbook (via Web) | • Textbook  
• Handouts  
• Use of Linux in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Final exam |
| Week 15 | Continue Creating C Programs for Use in System Programming, Other Options for System Programming, Final exam | • Students are exposed to additional C programming, leading to more advances system program behaviors  
• Students exposed to alternative system programming methods | Lecture  
• Review of text  
• Hands-on use of Linux | Textbook (via Web) | • Textbook  
• Handouts  
• Use of Linux in virtual machine or on student hard drive | Informal quiz | • Weekly quiz  
• Homework  
• Final exam |
<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number. See attached list.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students are able to explain the advantages of scripting/programming. Students are able to describe various methods used to create scripts/programs.</td>
<td>Weekly quiz, Homework, Hands-on projects, Mid-term exam (week #9), Final exam (week #15)</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>2. Students are able to navigate the DOS command line environment. Students know a basic set of DOS commands. Students are able to use DOS in a virtual machine environment. Students are able to create batch files.</td>
<td>Weekly quiz, Homework, Hands-on projects, Mid-term exam (week #9), Final exam (week #15)</td>
<td>4, 5</td>
<td>6, 10</td>
</tr>
<tr>
<td>3. Students are able to explain the evolution of scripting from the use of batch files to the use of more formalized scripting technologies. Students are able to define the requirements and functionality of Windows Scripting Host.</td>
<td>Weekly quiz, Homework, Hands-on projects, Mid-term exam (week #9), Final exam (week #15)</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>4. Students are able to explain the basic programming ideas of order, iteration, and decision constructs as they apply to windows Scripting Host.</td>
<td>Weekly quiz, Homework, Hands-on projects, Mid-term exam (week #9), Final exam (week #15)</td>
<td>3, 4, 5</td>
<td>14</td>
</tr>
<tr>
<td>5. Students are able to execute system programming activities within a DOS/Windows environment.</td>
<td>Weekly quiz, Homework, Hands-on projects, Mid-term exam (week #9), Final exam (week #15)</td>
<td>3, 4, 5</td>
<td>6, 10</td>
</tr>
</tbody>
</table>
|   | Students are able to explain the evolution of scripting from WSH to PowerShell.  
|   | Students are able to interact with PowerShell at the command line and in the graphical environment.  
|   | Students are able to define the purpose of object based scripting. | Weekly quiz  
|   | Homework  
|   | Hands-on projects  
|   | Mid-term exam (week #9)  
|   | Final exam (week #15) | 1, 3, 4, 5  
|   | 6, 10, 11, 14 |
| 7 | Students are able to apply previously reviewed scripting fundamentals (order, iteration, decision constructs) in the context of Windows PowerShell | Weekly quiz  
|   | Homework  
|   | Hands-on projects  
|   | Mid-term exam (week #9)  
|   | Final exam (week #15) | 3, 4, 5  
|   | 6, 10, 11, 14 |
| 8 | Students are able to apply PowerShell at the command line and graphically to perform system programming tasks. | Weekly quiz  
|   | Homework  
|   | Hands-on projects  
|   | Mid-term exam (week #9)  
|   | Final exam (week #15) | 3, 4, 5  
|   | 6, 10, 11, 14 |
| 9 | Students are able to run Linux commands using non-graphical means (the command line) through a review of appropriate syntax  
|   | Students are able to identify open source options for scripting and programming via the command line and GUI environments | Weekly quiz  
|   | Homework  
|   | Hands-on projects  
|   | Mid-term exam (week #9)  
|   | Final exam (week #15) | 3, 4, 5  
|   | 6, 10, 11, 14 |
| 10 | Students are able to apply programming fundamentals (order, iteration, decision constructs) – this time to a new operating system, Linux.  
|   | Students are able to create introductory scripts based on the requirements of the Linux operating system. Students are able to execute scripts.  
|   | Students are able to identify and correct errors in coding. | Weekly quiz  
|   | Homework  
|   | Hands-on projects  
|   | Mid-term exam (week #9)  
|   | Final exam (week #15) | 3, 4, 5  
|   | 6, 10, 11, 14 |
| 11 | Students are able to perform BASH | Weekly quiz | 3, 4, 5  
|   | 6, 10, 11, 14 |
scripting activities to customize the operating system at the level of the command prompt

Homework
Hands-on projects
Mid-term exam (week #9)
Final exam (week #15)

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| #1    | Knows fundamental business methods including communications, math, and writing through 21 credits of Liberal Arts | CSET A.S.
CSET – Computer Forensics Option A.S. |
| #2    | Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software in an office environment. | CSET A.S.
Personal Computer Specialist Certificate |
| #3    | Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, Voice over IP, interactive response systems, and voice switches | CSET A.S.
Network Associate Certificate
Network Professional Certificate |
<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Certifications</th>
</tr>
</thead>
</table>
| #4 | Performs support and maintenance of computer hardware.                      | CSET A.S.  
      |                               | CEST – Computer Forensics Option A.S.  
      |                               | Computer Forensics Certificate  
      |                               | Personal Computer Specialist Certificate  
      |                               | Windows Systems Admin. Certificate  
      |                               | UNIX System Admin. Certificate |
| #5 | Analyzes and applies operating systems concepts to implement and support multiple industry standard computer operating systems in enterprise networking environments. | CSET A.S.  
      |                               | CEST – Computer Forensics Option A.S.  
      |                               | Computer Forensics Certificate  
      |                               | Personal Computer Specialist Certificate  
      |                               | Network Associate Certificate |
| #6 | Applies an understanding of basic programming structures and algorithms to develop script and programs to make their operations more efficient. | CSET A.S.  
      |                               | Personal Computer Specialist Certificate  
      |                               | Windows Systems Admin. Certificate  
      |                               | UNIX System Admin. Certificate |
| #7 | Applies networking concepts to design, implement and maintain local and wide area computer networks to support today’s broad data convergence. | CSET A.S.  
      |                               | Network Associate Certificate  
      |                               | Network Professional Certificate |
| #8 | Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities. | CSET A.S.  
      |                               | CEST – Computer Forensics Option A.S.  
      |                               | Network Associate Certificate  
      |                               | Network Professional Certificate |
| #9 | Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches. | CSET A.S.  
      |                               | CEST – Computer Forensics Option A.S.  
      |                               | CyberSecurity Certificate  
      |                               | Network Professional Certificate  
      |                               | UNIX System Admin Certificate |
| #10| Defines and manages network services to effect efficient and effective network performance. | CSET A.S.  
      |                               | CEST – Computer Forensics Option A.S.  
      |                               | Network Professional Certificate  
      |                               | Network Professional certificate  
      |                               | Windows Systems Admin. Certificate |
| #11| Designs data storage solution that meet the enterprise’s varied needs, including fault tolerance and disaster recovery. | CSET A.S.  
      |                               | Network Associate Certificate  
      |                               | Network Professional Certificate  
      |                               | Network Professional certificate  
      |                               | Windows Systems Admin. Certificate |
| #12| Deploys and manages common third party applications to support business needs. | CSET A.S.  
      |                               | Windows System Admin. Certificate |
| #13| Demonstrates the management of IT infrastructures and projects involving their implementation. | CSET A.S.  
      |                               | |
| #14| Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes. | CSET A.S.  
      |                               | CEST – Computer Forensics Option A.S.  
      |                               | |
| #15 | Troubleshoots computer networking infrastructures to resolve user problems and support business needs | CSET A.S.  
CSET – Computer Forensics Option A.S.  
Computer Forensics Certificate  
Network Associate Certificate  
Network Professional Certificate  
UNIX Systems Admin. Certificate  
Windows Systems Admin. Certificate |
|-----|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| #16 | Demonstrates the implementation of IT in a business environment through cooperative education and seminars or service learning experience. | CSET A.S.  
CSET – Computer Forensics Option A.S. |

Upon graduation from QCC with an Associate of Science in Computer Systems Engineering Technology, a student:

- Knows fundamental business methods including communications, math, and writing through 21 credits of liberal arts.
- Demonstrates the application of information technology to common business functions including the implementation and use of basic end user software in an office environment.
- Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, Voice over IP, interactive response systems, and voice switches.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard computer operating systems in enterprise networking environments.
- Applies an understanding of basic programming structures and algorithms to develop script and programs to make their operations more efficient.
- Applies networking concepts to design, implement and maintain local and wide area computer networks to support today’s broad data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.
- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Defines and manages network services to effect efficient and effective network performance.
- Designs data storage solutions that meet the enterprises’ varied needs, including fault tolerance and disaster recovery.
- Deploys and manages common third party applications to support business needs.
- Demonstrates the management of IT infrastructures and projects involving their implementation.
- Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes.
- Troubleshoots computer networking infrastructures to resolve user problems and support business needs.
- Demonstrates the implementation of IT in a business environment through cooperative education and seminars or service learning experience.
1. **Course Name & Number**: CST 207 Telecommunications in Business

2. **Originator**: Betty Lauer  
   **Date**: 8.11.10

3. **Division Dean**: Kathy Rentsch  
   **Date**: 9.16.10

4. **Brief Description of the Proposal**:

   The recommendation to create this course is made as a result of the CSET APR. This course provides skills in voice and data communications, which are a big part of any information technology infrastructure and are needed by IT professionals today. Currently, no coursework with this content is available at QCC.

   Creation of this course was previously approved at the March 25, 2010 Business & Technology Division meeting but tabled at the March 31, 2010 Academic Affairs Staff meeting pending completion of the CSET Academic Program Review.

   Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

5. **Effective Date**: Fall 2011

6. **Division Recommendation**: Approved

7. **Academic Affairs Staff**: ___________________________  
   **Date**: ________________
   
   **Recommended**: ______   **Not Recommended**: ______
   
   **Comments**:

8. **VP/Academic Affairs**: ____________________________  
   **Date**: ________________
   
   **Recommended**: ______   **Not Recommended**: ______
   
   **Comments**:

9. **Academic Affairs Committee**: ______________________  
   **Date**: ________________
   
   **Recommended**: ______   **Not Recommended**: ______
   
   **Comments**:

10. **VP/Academic Affairs**: ____________________________  
    **Date**: ________________
    
    **Approved**: ______   **Not Approved**: ______
    
    **Comments**:

AA Committee 11/09/10
Course Discipline/Division: Computer Systems Engineering Technology/Business & Technology Division

Course Title: Telecommunications in Business

Course Number: CST 207

Prerequisites and/or corequisites (confer with affected department coordinator):
Prerequisite: ENG 100 or appropriate Placement score

CIP code (send course description to IR Office): 11.0901

Effective Term/year: Fall 2011

Give a rationale for the new course. Be sure to indicate whether this course replaces another course. This course provides skills in voice and data communications, which are a big part of any information technology infrastructure and are needed by IT professionals today. Currently, no coursework with this content is available at QCC.

Is the course content similar to other courses now offered? Yes ___ No _x__
If yes, attach a statement for the coordinator of the department offering the similar course.

Please indicate if this course will serve as any of the following types of electives
_x__ Elective
___ Discipline specific (name the discipline)
___ Interdisciplinary (confer with Liberal Arts Coordinator)
_x__ Program specific
___ Multiple perspective (confer with the Liberal Arts Coordinator)

Is this course required for a program? If yes, submit a separate Program Revision Proposal or New Program Proposal.

CSET A.S. degree

Expected enrollment per term: 30

Expected enrollment per year: 30

Will any of the following be required:

Additional staff ___ Additional space ___ Additional equipment _x__

Provide a rationale for any needs indicated above and include approximate cost of equipment.
This program has invested $8,000 on related equipment. Note: a portion of this funding was received from Perkins in 2010.

Library print and non-print resources in support of this course: $500

Course Materials

Course title: Telecommunications in Business
<table>
<thead>
<tr>
<th>Course number: CST 207</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits: 3</td>
</tr>
<tr>
<td>Lecture Hours: 45</td>
</tr>
</tbody>
</table>

General course description and prerequisites (as it will appear in the catalog):

This course provides students with the key technical and business strategies needed to leverage telecommunications technologies effectively in the business enterprise today. This course covers the principles of implementing and managing secure integrated voice, video, and data for a converged network solution, as well as providing an understanding of the importance of the convergence of voice and data in today’s enterprise. This course covers voice technologies including VOIP, IVR, phone systems, and call center management; reviews video technologies including IPTV and video conferencing; and explores the implementation of LAN and WAN-based technologies including circuit and packet-switched networks.

Prerequisite: ENG 100 or appropriate Placement score.

All required texts and paperbacks, including information on publisher and edition used (provide a suggested text):
A collection of small textbooks to be defined.

Instructional Objectives (list):

Through a combination of lectures, demonstrations, research assignments, weekly readings, and classroom hands-on projects, students:

- Differentiate between home and business telecommunications approaches, methods, and technology
- Understand telecommunications history
- Learn telecommunications laws that define the telecommunications environment today
- Identify telecommunication standards organizations in the United States and world-wide to review important policy
- Define legacy, modern, and futuristic WAN technology/protocols and their common components and usage
- Understand the structure of the Internet and services provided
- Review the role of Internet Service Providers (ISPs) in the Internet today
- Understand voice technology utilized in business, including traditional analog and modern digital Voice Over IP (VOIP)
- Understand teleconferencing and videoconferencing in today’s businesses
- Understand the role of IPTV in telecommunications
- Implement common business-related voice services utilizing digital voice/PBX/phone switches
- Understand the needs of call centers and common tools for implementing such services
- Understand the convergence of voice and data in the business environment and the related tools utilized to leverage technology to enhance business
- Implement common communications technology, including email, instant message (IM) services, and Short Message Services (SMS)
- Understand modern cell phone usage in the business environment
- Identify common application and data center needs for businesses utilizing a WAN environment
- Define common disaster recovery and failover services in a WAN environment
- Identify security issues and application of security tools in telecommunications
- Identify workplace issues within businesses utilizing telecommunications technology

Teaching procedures: (provide suggested teaching methodology):

This course will provide students with a working knowledge of telecommunications in the business environment through:

- Classroom lecture
- Classroom discussion
- Online and textbook-based reading assignments
- Instructor-led hands-on projects in class
- Self-guided hands-on projects in CSET Open Lab
- Research projects
- Case studies
- Quizzes
- Exams

Course topics and/or assignments and/or required and/or supplemental reading (provide a list of suggested course topics):

See course outline.

Other information:

- Suggested basis for student grading and criteria for evaluating student performance
  A student’s grade will be determined according to the following method:

  30% Homework assignments – approximately 14 assignments requiring students to research topics and/or perform computer-related work in the CSET lab
  30% Weekly quizzes – weekly quizzes covering topics from lecture materials, research projects and textbook reading assignments
  30% Midterm & Final Exams – two exams on topics covered from lecture materials, research projects, hands-on computer-related projects, and reading assignments
  10% Participation – students will attend and participate in classroom lectures and group projects

- Suggested attendance policy
  In accordance with the Class Attendance standards listed under Student Responsibilities on pg. 272 of the 2010-2011 QCC Student Handbook, students are expected to attend all classes. Students that must miss class are required to make up all missed work. Students should also email instructor as soon as possible to report a class absence and obtain any make-up assignments.

- Suggested plagiarism statement
  See the Plagiarism statement in the College Policies section on pg. 234 of the 2010-2011 QCC Student Handbook.
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Assignments</th>
<th>Learning Objectives</th>
<th>Assessment</th>
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</thead>
<tbody>
<tr>
<td>One</td>
<td>Course Overview</td>
<td>Readings online</td>
<td>Define major differences between home and work telecommunication systems</td>
<td>Quiz</td>
</tr>
<tr>
<td></td>
<td>Differentiating between home Telecom and business Telecom</td>
<td>Project: Describe Telecom environments at home, work, or other site</td>
<td></td>
<td>Participation</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Project report</td>
</tr>
<tr>
<td>Two</td>
<td>The State of Telecommunications Today (Part 1)</td>
<td>Reading online and textbook excerpts</td>
<td>Historical organization of telecommunication environment</td>
<td>Quiz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project -</td>
<td>The regional Bell systems</td>
<td>Participation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The laws and federal mandates leading to the system today and the Telecom divestiture</td>
<td>Project report</td>
</tr>
<tr>
<td>Three</td>
<td>The State of Telecommunications Today (Part 2)</td>
<td>Reading online and textbook excerpts</td>
<td>The POTS</td>
<td>Quiz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project -</td>
<td>WAN: Protocols and transports including ATM, T-carrier, legacy, DSL, fiber optic</td>
<td>Participation</td>
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<td>Project report</td>
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<tr>
<td>Four</td>
<td>The State of Telecommunications Today (Part 3)</td>
<td>Reading online and textbook excerpts</td>
<td>Cable</td>
<td>Quiz</td>
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<td></td>
<td>The Internet (Part 1)</td>
<td>Project -</td>
<td>Wireless</td>
<td>Participation</td>
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<td></td>
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<td></td>
<td>WiMaxx</td>
<td>Project report</td>
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<td></td>
<td></td>
<td></td>
<td>What is the Internet?</td>
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<tr>
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<td></td>
<td>Historical view of the Internet</td>
<td></td>
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<tr>
<td>Five</td>
<td>The Internet (Part 2)</td>
<td>Reading online and textbook excerpts</td>
<td>Is there a backbone?</td>
<td>Quiz</td>
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<tr>
<td></td>
<td></td>
<td>Project - hands-on review of tools</td>
<td>A quick introduction to DNS</td>
<td>Participation</td>
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<tr>
<td></td>
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<td></td>
<td>How do businesses connect to the Internet?</td>
<td>Project report</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Tools – tracert, ping, nslookup, etc.</td>
<td></td>
</tr>
<tr>
<td>Six</td>
<td>Voice Communications (Part 1)</td>
<td>Reading online and textbook excerpts</td>
<td>PBX/switch</td>
<td>Quiz</td>
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<tr>
<td></td>
<td></td>
<td>Project – hands-on experiment with disk management and Windows Explorer</td>
<td>IVR</td>
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<td></td>
<td>Outgoing voice messaging (automated)</td>
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<td></td>
<td></td>
<td>Videoconferencing</td>
<td></td>
</tr>
</tbody>
</table>
| Seven | Voice Communications (Part 2) | Reading online and textbook excerpts | Call center management  
- Hardware  
- Software  
- Management systems incoming/outgoing/routing | Exam  
- Participation  
- Project report |
|---|---|---|---|---|
| Eight | Convergence of Voice and Data | Reading online and textbook excerpts | VOIP  
- Teleconferencing  
- Videoconferencing  
- IPTV  
- Quality of service (QoS) needs | Quiz  
- Participation  
- Project report |
| Nine | Cell Phones – Voice and Data Integration | Reading online and textbook excerpts | Cell phone technology review  
- Why integrate?  
- Voice integration  
- Data integration | Quiz  
- Participation  
- Project report |
| Ten | Electronic Communications (Part 1) | Reading online and textbook excerpts | Email  
- Where is my server?  
- Why is it there?  
- Backup/compliance Instant Messaging systems  
- Overview  
- Internal hosting vs. external hosting  
- Security  
- Legal issues | Quiz  
- Participation  
- Project report |
| Eleven | Electronic Communications (Part 2) | Reading online and textbook excerpts | SMS (text messaging)  
- Overview of SMS  
- The role of SMS  
- Why can’t our company have a short code?  
- Shared short codes  
- Future of SMS and business  
- Uses in a business  
- Voting  
- Sending ads – location awareness?  
- Notifying users of updates  
- Twitter | Quiz  
- Participation  
- Project report |
<table>
<thead>
<tr>
<th>Twelve</th>
<th>Data Management and Technologies (Part 1)</th>
<th>Reading online and textbook excerpts</th>
<th>Application servers</th>
<th>Quiz</th>
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<tr>
<td></td>
<td></td>
<td>Project -</td>
<td>Cloud computing</td>
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<td>Virtualization</td>
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<td>In-house vs. hosted</td>
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<td>Thirteen</td>
<td>Data Management and Technologies (Part 2)</td>
<td>Disaster recovery/failover services</td>
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<td>Security</td>
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<tr>
<td>Fourteen</td>
<td>Issues in the Workplace</td>
<td>Acceptable use</td>
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<td>Social networking in the workplace</td>
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<td>Accessing the Internet for non-work activities</td>
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<td>• Email</td>
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<td></td>
<td>• Legal responsibilities</td>
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<td>• Employee productivity</td>
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<td>• Ethical concerns</td>
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<tr>
<td>Fifteen</td>
<td>Final exam</td>
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<td>Exam</td>
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</tbody>
</table>
### Recommended Student Learning Outcomes and Assessment Methodology

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Methodology</th>
<th>Does this outcome fulfill a Gen Ed Goal? Indicate which goal(s) by number. See attached list.</th>
<th>Does this outcome fulfill a program goal? Attach a list of program goals and use numbers.</th>
</tr>
</thead>
</table>
| 1  Students are able to define major differences between home and work telecommunication systems. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 5                                                                                              | 2                                                                                           |
| 2  Students are able to understand the historical organization of the telecommunication environment, including the regional Bell systems, and laws and federal mandates leading to the system today and the telecom divestiture. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 1, 5                                                                                          | 2                                                                                           |
| 3  Students are able to utilize WAN technologies (POTS, ATM, T-Carrier, legacy, DSL, Fiber Optic) to design enterprise telecommunications/networking solutions. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 4                                                                                              | 3, 5                                                                                         |
| 4  Students are able to understand, utilize, and configure modern community and residential telecom service offerings. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 3, 4, 5                                                                                        | 3                                                                                           |
| 5  Students are able to define Intra and Internet history, functionality, technologies, and require components.  
Students are able to utilize industry standard tools to troubleshoot connectivity. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 3, 4, 5                                                                                        | 2, 3, 5, 7, 8, 10, 15                                                                      |
| 6  Students are able to understand, utilize, and configure modern enterprise communications services (PBX/switch, IVR, outgoing voice messaging, teleconferencing, videoconferencing, etc.). | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 1, 3, 4, 5                                                                                   | 3, 5, 7, 8, 12                                                                             |
| 7  Students are able to understand business needs regarding customer relations management systems, and configure common call center management services (hardware, software, management systems, incoming/outgoing routing, IVR). | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams | 1, 3, 4, 5                                                                                   | 2, 3, 5, 7, 8, 9, 12                                                                      |
### Students are able to design and configure converged networks (VOIP, teleconferencing, videoconferencing, IPTV).

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| 8     | Students are able to design and configure converged networks (VOIP, teleconferencing, videoconferencing, IPTV). | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams  
1, 3, 4, 5  
3, 5, 7, 8, 9, 10, 12, 15 |

### Students are able to understand personal and business cell phone technology and modern uses.

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| 9     | Students are able to understand personal and business cell phone technology and modern uses. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams  
1, 3, 4, 5  
2 |

### Students are able to explore, install, and configure modern business approaches to data-based communications (email, instant messaging systems, SMS, etc.) and their legal and security issues.

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| 10    | Students are able to explore, install, and configure modern business approaches to data-based communications (email, instant messaging systems, SMS, etc.) and their legal and security issues. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams  
1, 3, 4, 5  
2, 3, 5, 7, 8, 9, 10, 12, 15 |

### Students are able to define and implement modern approaches to enterprise application servers (cloud computing, virtualization, in-house vs. hosted).

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| 11    | Students are able to define and implement modern approaches to enterprise application servers (cloud computing, virtualization, in-house vs. hosted). | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams  
3, 4  
2, 3, 5, 7, 8, 9, 10, 12, 15 |

### Students are able to define home and enterprise approaches for disaster recovery/failover services for telecommunications/networks.

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| 12    | Students are able to define home and enterprise approaches for disaster recovery/failover services for telecommunications/networks. | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams  
3, 4  
3, 10, 12, 15 |

### Students are able to define legal and security-related issues regarding telecommunications/networking technologies (acceptable use, remote access for workers, social networking in the workplace, accessing the Internet for non-work activities, email, legal responsibilities, employee productivity, ethical concerns).

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| 13    | Students are able to define legal and security-related issues regarding telecommunications/networking technologies (acceptable use, remote access for workers, social networking in the workplace, accessing the Internet for non-work activities, email, legal responsibilities, employee productivity, ethical concerns). | Weekly quiz  
Classroom participation  
Homework  
Project reports  
Mid-term and final exams  
1, 5  
2, 3, 9 |

### CSET Student Learning Outcomes

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Learning Outcome</th>
<th>Program/Certificate</th>
</tr>
</thead>
</table>
| #1    | Knows fundamental business methods including communications, math, and writing through 21 credits of Liberal Arts | CSET A.S.  
CSET – Computer Forensics Option A.S. |
| #2    | Demonstrates the application of information technology to common business functions, including the implementation and use of basic end user software in an office environment. | CSET A.S.  
Personal Computer Specialist Certificate |
| #3    | Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, Voice over IP, interactive response systems, and voice switches | CSET A.S.  
Network Associate Certificate  
Network Professional Certificate |
<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>#4</td>
<td>Performs support and maintenance of computer hardware.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CEST – Computer Forensics Option A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Forensics Certificate</td>
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<tr>
<td></td>
<td></td>
<td>Personal Computer Specialist Certificate</td>
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<tr>
<td></td>
<td></td>
<td>Windows Systems Admin. Certificate</td>
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<tr>
<td></td>
<td></td>
<td>UNIX System Admin. Certificate</td>
</tr>
<tr>
<td>#5</td>
<td>Analyzes and applies operating systems concepts to implement and support multiple industry standard computer operating systems in enterprise networking environments.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CEST – Computer Forensics Option A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Computer Forensics Certificate</td>
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<tr>
<td></td>
<td></td>
<td>Personal Computer Specialist Certificate</td>
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<tr>
<td></td>
<td></td>
<td>Network Associate Certificate</td>
</tr>
<tr>
<td>#6</td>
<td>Applies an understanding of basic programming structures and algorithms to develop script and programs to make their operations more efficient.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personal Computer Specialist Certificate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Windows Systems Admin. Certificate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UNIX System Admin. Certificate</td>
</tr>
<tr>
<td>#7</td>
<td>Applies networking concepts to design, implement and maintain local and wide area computer networks to support today’s broad data convergence.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network Associate Certificate</td>
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<tr>
<td></td>
<td></td>
<td>Network Professional Certificate</td>
</tr>
<tr>
<td>#8</td>
<td>Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CEST – Computer Forensics Option A.S.</td>
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<tr>
<td></td>
<td></td>
<td>Network Associate Certificate</td>
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<tr>
<td></td>
<td></td>
<td>Network Professional Certificate</td>
</tr>
<tr>
<td>#9</td>
<td>Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.</td>
<td>CSET A.S.</td>
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<td></td>
<td></td>
<td>CEST – Computer Forensics Option A.S.</td>
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<tr>
<td></td>
<td></td>
<td>CyberSecurity Certificate</td>
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<td></td>
<td>Network Professional Certificate</td>
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<td></td>
<td>UNIX System Admin Certificate</td>
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<tr>
<td>#10</td>
<td>Defines and manages network services to effect efficient and effective network performance.</td>
<td>CSET A.S.</td>
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<td></td>
<td>CEST – Computer Forensics Option A.S.</td>
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<td></td>
<td></td>
<td>Network Professional Certificate</td>
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<td></td>
<td></td>
<td>Network Professional certificate</td>
</tr>
<tr>
<td>#11</td>
<td>Designs data storage solution that meet the enterprise’s varied needs, including fault tolerance and disaster recovery.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td>#12</td>
<td>Deploys and manages common third party applications to support business needs.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Windows System Admin. Certificate</td>
</tr>
<tr>
<td>#13</td>
<td>Demonstrates the management of IT infrastructures and projects involving their implementation.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td>#14</td>
<td>Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes.</td>
<td>CSET A.S.</td>
</tr>
<tr>
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<td>CEST – Computer Forensics Option A.S.</td>
</tr>
<tr>
<td>#15</td>
<td>Troubleshoots computer networking infrastructures to resolve user problems and support business needs</td>
<td>CSET A.S.</td>
</tr>
<tr>
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<td>CEST – Computer Forensics Option A.S.</td>
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<td>Computer Forensics Certificate</td>
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<td>Network Associate Certificate</td>
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<td>Network Professional Certificate</td>
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<td></td>
<td>UNIX Systems Admin. Certificate</td>
</tr>
<tr>
<td>#16</td>
<td>Demonstrates the implementation of IT in a business environment through cooperative education and seminars or service learning experience.</td>
<td>CSET A.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CEST – Computer Forensics Option A.S.</td>
</tr>
</tbody>
</table>
Upon graduation from QCC with an Associate of Science in Computer Systems Engineering Technology, a student:

- Knows fundamental business methods including communications, math, and writing through 21 credits of liberal arts.
- Demonstrates the application of information technology to common business functions including the implementation and use of basic end user software in an office environment.
- Demonstrates the fundamentals of telecommunications in a modern business environment, including management of voice, call centers, Voice over IP, interactive response systems, and voice switches.
- Performs support and maintenance of computer hardware.
- Analyzes and applies operating systems concepts to implement and support multiple industry standard computer operating systems in enterprise networking environments.
- Applies an understanding of basic programming structures and algorithms to develop script and programs to make their operations more efficient.
- Applies networking concepts to design, implement and maintain local and wide area computer networks to support today’s broad data convergence.
- Ability to design and implement basic and advanced routing utilizing the TCP/IP and other common networking protocols and utilities.
- Analyzes and applies security in computer and networking infrastructures while detecting any legal and ethical breaches.
- Defines and management network services to effect efficient and effective network performance.
- Designs data storage solutions that meet the enterprises’ varied needs, including fault tolerance and disaster recovery.
- Deploys and manages common third party applications to support business needs.
- Demonstrates the management of IT infrastructures and projects involving their implementation.
- Develops documentation appropriate to clearly communicate computer network specification, configuration, and/or processes.
- Troubleshoots computer networking infrastructures to resolve user problems and support business needs.
- Demonstrates the implementation of IT in a business environment through cooperative education and seminars or service learning experience.
1. **Course/Program Title:** CSC 241 Windows Server Operating Systems – Computer Systems Engineering Technology

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

   **Recommendation:**  
   Effective Fall 2011, drop the prerequisite of CSC 234 Networking Technologies.

   **Rationale:**  
   This recommendation is a result of the CSET APR. CSC 141 more accurately reflects course materials students need in order to be successful in CSC 241, and aligns with Microsoft certification needs.

   This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

   This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

   Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ______________________  
   **Not Recommended:** ______________________

   **Academic Affairs Staff:** ______________________  
   **Date:** ______________________  
   **Comments:** ______________________

5. **Recommended:** ______________________  
   **Not Recommended:** ______________________

   **VP/Academic Affairs:** ______________________  
   **Date:** ______________________  
   **Comments:** ______________________

6. **Recommended:** ______________________  
   **Not Recommended:** ______________________

   **Academic Affairs Committee:** ______________________  
   **Date:** ______________________  
   **Comments:** ______________________

7. **Approved:** ______________________  
   **Not Approved:** ______________________

   **VP/Academic Affairs:** ______________________  
   **Date:** ______________________  
   **Comments:** ______________________
Course Description

Current

CSC 241 Windows Server Operating Systems 3 credits
This course introduces students to current Microsoft Windows server operating systems and the techniques utilized to network computers with Windows client and server operating systems. Topics covered include establishing a user environment including permissions and rights, print servers, files system management, and advance configuration and connectivity. Students use hands-on projects and project cases to emphasize what is covered in the lecture. This course prepares students to sit for the Microsoft Certified Professional certification examination in the area of the current Microsoft server operating system.
Prerequisite: CSC 141, CSC 234. F/SU

Note: Current catalog (0910) shows the above prerequisites in the program grids but shows only CSC 234 as a prerequisite in the course description.

Proposed

CSC 241 Windows Server Operating Systems 3 credits
This course introduces students to current Microsoft Windows server operating systems and the techniques utilized to network computers with Windows client and server operating systems. Topics covered include establishing a user environment including permissions and rights, print servers, files system management, and advance configuration and connectivity. Students use hands-on projects and project cases to emphasize what is covered in the lecture. This course prepares students to sit for the Microsoft Certified Professional certification examination in the area of the current Microsoft server operating system.
Prerequisite: CSC 141. F/S/SU
1. **Course/Program Title:** Computer Systems Engineering Technology – Certificate - Personal Computer Specialist

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

**Recommendations:**

**Effective Fall 2011:**
- Remove ENG 101 English Composition & Literature I from Semester 1 and replace it with the new course CSC 201 Systems Programming.
- Move CST 245 UNIX Operating Systems I from Semester 2 to Semester 1.

**Rationale:**
These recommendations are made as a result of the CSET APR. Modifications to curriculum are required to keep certificates content current and applicable for today’s environment.
- The addition of CSC 201 provides technical subject matter more appropriate to the needs of students in this Certificate program.
- Moving CST 245 to Semester 1 allows students to fulfill this prerequisite for CSC 201, which is offered in Semester 2.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

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   **Academic Affairs Staff:** ______________________ **Date:** ____________________________
   **Comments:** __________________________

5. **Recommended:** __________________________ **Not Recommended:** ______________________
   **VP/Academic Affairs:** __________________________ **Date:** ____________________________
   **Comments:** __________________________

6. **Recommended:** __________________________ **Not Recommended:** ______________________
   **Academic Affairs Committee:** __________________________ **Date:** __________________________
   **Comments:** __________________________

7. **Approved:** __________________________ **Not Approved:** ______________________
   **VP/Academic Affairs:** __________________________ **Date:** ____________________________
   **Comments:** __________________________
1. **Course/Program Title:** Computer Systems Engineering Technology – Certificate - Network Specialist

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

**Recommendations:**

**Effective Fall 2011:**
1. Change the Certificate name from Network Specialist to Network Associate.
2. Remove ELT 105 CAD for Technicians and replace it with the new course CST 207 Telecommunications in Business.

**Rationale:**

These recommendations are the result of the CSET APR. Modifications to curriculum are required to keep certificates content current and applicable for today’s environment.

1. Changing the Certificate name more closely aligns it with Cisco naming conventions.
2. CST 207 is more relevant to the needs of students in this Certificate.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ____________________________  
   **Not Recommended:** ____________________________

   **Academic Affairs Staff:** ____________________________  
   **Date:** ____________________________

   **Comments:** _______________________________________

5. **Recommended:** ____________________________  
   **Not Recommended:** ____________________________

   **VP/Academic Affairs:** ____________________________  
   **Date:** ____________________________

   **Comments:** _______________________________________

6. **Recommended:** ____________________________  
   **Not Recommended:** ____________________________

   **Academic Affairs Committee:** ____________________________  
   **Date:** ____________________________

   **Comments:** _______________________________________

7. **Approved:** ____________________________  
   **Not Approved:** ____________________________

   **VP/Academic Affairs:** ____________________________  
   **Date:** ____________________________

   **Comments:** _______________________________________
1. Course/Program Title: Computer Systems Engineering Technology - Associate in Science

2. Originator: Betty J. Lauer  Date: 03-03-2010

3. Academic Unit Dean: Kathleen Rentsch  Date: 03-03-2010

Recommendations:
Effective Fall 2011:
1. Remove Electronics Elective from Semester 1 and replace it with the new course, CST 207 Telecommunications in Business.
2. Remove CIS 105 Introduction to Information Technology from Semester 1. Add the new course, CSC 201 Systems Programming, in Semester 3.
3. Move CSC 233 Computer Hardware and Support from Semester 2 to Semester 1.
5. Move CSC 105 IT Help Desk Concepts from Semester 3 to Semester 2.
6. Move Math Elective from Semester 1 to Semester 3.

Rationale:
These recommendations are made as a result of the CSET APR. Modifications to curriculum are required to keep content current and applicable for today’s environment.
1. CST 207 provides content more appropriate to the needs of students in this Degree program.
2. CSC 201 provides content more appropriate to the needs of students in this Degree program.
3. CSC 233 is now offered with CSC 141, providing better alignment for CompTIA A+ components.
4. CSC 241 is now better aligned with other Microsoft certification exams.
5. Moving CSC 105 provides better coursework balance.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. Recommended: _______________________________ Not Recommended: _______________________________

Academic Affairs Staff: __________________________ Date: __________________________
Comments: __________________________________________________________

5. Recommended: _______________________________ Not Recommended: _______________________________

VP/Academic Affairs: __________________________ Date: __________________________
Comments: __________________________________________________________

6. Recommended: _______________________________ Not Recommended: _______________________________

Academic Affairs Committee: __________________________ Date: __________________________
Comments: __________________________________________________________

7. Approved: _______________________________ Not Approved: _______________________________

VP/Academic Affairs: __________________________ Date: __________________________
Comments: __________________________________________________________
1. **Course/Program Title:** Computer Systems Engineering Technology – Associate in Science – Computer Forensics Option

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

**Recommendations:**
Effective Fall 2011:
1. Remove CIS 105 Introduction to Information Technology from Semester 1.
4. Remove CRJ 208 Technologies in Criminal Justice from Semester 3 and replace it with CRJ 211 Evidence & Court Procedure.
5. Add BSL 103 E-Business Law & Ethics to Semester 2.
7. Move the Liberal Arts Elective from Semester 4 to Semester 3.

**Rationale:**
These recommendations are made as a result of the CSET APR. Modifications to curriculum are required to keep certificates content current and applicable for today’s environment.
1. Removing CIS 105 allows the addition to the curriculum of more relevant information.
2. CSC 241 is moved into the slot formerly occupied by CIS 105 to balance the semester load.
3. Moving CSC 241 better aligns it with Microsoft certification exams.
4. The Criminal Justice Coordinator recommends this change to provide more appropriate subject matter.
5. The addition of BSL 103 provides more appropriate subject matter in this Degree.
6. The addition of CSC 233 provides more appropriate subject matter in this Degree.
7. Moving the Liberal Arts Elective better balances the semester load.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabbed at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Staff:** ___________________  
   **Date:** __________________________

   **Comments:**

5. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **VP/Academic Affairs:** ___________________  
   **Date:** __________________________

   **Comments:**

6. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Committee** _______________  
   **Date:** __________________________

   **Comments:**

7. **Approved:** ___________________________  
   **Not Approved:** ___________________________

   **VP/Academic Affairs:** ___________________  
   **Date:** __________________________

   **Comments:**
1. **Course/Program Title:** Computer Systems Engineering Technology – Certificate - Computer Forensics

2. **Originator:** Betty J. Lauer  
   **Date:** 03-03-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 03-03-2010

**Recommendations:**  
Effective Fall 2011:

1. Remove ENG 101 English Composition & Literature I from Semester 1 and replace it with CSC 234 Networking Technologies.
2. Remove CRJ 208 Technologies in Criminal Justice from Semester 2 and replace it with CRJ 211 Evidence & Court Procedure.

**Rationale:**  
These recommendations are made as a result of the CSET APR. Modifications to curriculum are required to keep certificates content current and applicable for today’s environment.

1. The addition of CSC 234 provides technical subject matter more appropriate to the needs of students in this Certificate program.
2. The Criminal Justice Coordinator recommends this change to provide more appropriate subject matter.

This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

Note: This document is one of 11 in which changes to the CSET program are proposed. For clarity’s sake, this packet contains one set of grids that show all proposed changes.

4. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Staff:** ___________________  
   **Date:** ___________________________

   **Comments:**

5. **Recommended:** ___________________________  
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   **VP/Academic Affairs:** ___________________  
   **Date:** ___________________________

   **Comments:**

6. **Recommended:** ___________________________  
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   **Academic Affairs Committee:** _____________  
   **Date:** ___________________________

   **Comments:**

7. **Approved:** ___________________________  
   **Not Approved:** ___________________________

   **VP/Academic Affairs:** ___________________  
   **Date:** ___________________________

   **Comments:**
Computer Systems Engineering Technology
Curriculum Change Grids
## COMPUTER SYSTEMS ENGINEERING TECHNOLOGY - Associate in Science (Study Option: SE)

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## COMPUTER SYSTEMS ENGINEERING TECHNOLOGY - Certificate - Computer Forensics Option (Study Option: CF)

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**Total credits required: 27**

**Total credits required: 28**
## COMPUTER SYSTEMS ENGINEERING TECHNOLOGY – Certificate - Personal Computer Specialist (Study Option: PCS)

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## COMPUTER SYSTEMS ENGINEERING TECHNOLOGY – Certificate - Personal Computer Specialist (Study Option: PCS)

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AA Committee 11/09/10
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1. **Program Title:** Computer Systems Engineering Technology – Certificate - CyberSecurity

2. **Originator:** Betty J. Lauer  
   **Date:** 02-26-2010

3. **Academic Unit Dean:** Kathleen Rentsch  
   **Date:** 02-26-2010

   **Recommendation:**  
   Effective Fall 2011, create a new CyberSecurity certificate under the CSET Program. All courses already exist.

   **Rationale:**  
   This recommendation is made as a result of the CSET APR, and is in response to the high demand for security specialists in IT today.

   This recommendation was approved at the March 25, 2010 meeting of the Business & Technology Division.

   This recommendation was tabled at the March 31, 2010 meeting of the Academic Affairs Staff, pending completion of the CSET Academic Program Review.

4. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Staff:** ___________________  
   **Date:** ___________________________

   **Comments:** ___________________________________________________________

5. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **VP/Academic Affairs:** ___________________  
   **Date:** ___________________________

   **Comments:** ___________________________________________________________

6. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Committee** ____________  
   **Date:** ___________________________

   **Comments:** ___________________________________________________________

7. **Approved:** ___________________________  
   **Not Approved:** ___________________________

   **VP/Academic Affairs:** ___________________  
   **Date:** ___________________________

   **Comments:** ___________________________________________________________

8. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **President:** ___________________  
   **Date:** ___________________________

   **Comments:** ___________________________________________________________

9. **Approved:** ___________________________  
   **Not Approved:** ___________________________

   **Board of Trustees:** ___________________  
   **Date:** ___________________________

   **Comments:** ___________________________________________________________
## COMPUTER SYSTEMS ENGINEERING TECHNOLOGY - Certificate – CyberSecurity

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**QUINSIGAMOND COMMUNITY COLLEGE**

**DEGREE PROGRAM OR CERTIFICATE REVISION PROPOSAL**

1. **Program Name:** GENERAL STUDIES-Associate in Arts - Energy Utility Option

2. **Originator:** Sharron Gillies  
   **Date:** August 23, 2010

3. **Division Dean:** James Brown  
   **Date:** September 16, 2010

4. **Brief Description of the Proposal:**

   EUT 101 Fundamentals of the Energy Industry was approved at the 4/13/2010 meeting of the Academic Affairs Committee. This course replaces EUT 100 Introduction to Energy Industry. At that time, appropriate changes were not made in the program grid for the General Studies – Associate in Arts - Energy Utility Option to reflect the replacement of EUT 100 with EUT 101 as a corequisite for EUT 110 Electrical Principles I and a prerequisite for EUT 120 Industrial Safety. This document corrects that oversight.

1. **Effective Date:** Immediate; July 26, 2010 EUT 100/EUT 101 memo emergency approval in place

2. **Division Recommendation:**

   The Math & Social Sciences Division recommended the General Studies – Associate in Arts - Energy Utility Option replace EUT 100 with EUT 101 as a co-requisite for EUT 110 Electrical Principles I and a prerequisite for EUT 120 Industrial Safety.

3. **Academic Affairs Staff:** _______________________________  
   **Date:** _______________
   
   Recommended: ________  
   Not Recommended: ________  
   
   Comments:

4. **VP/Academic Affairs:** _________________________________  
   **Date:** _______________
   
   Recommended: ________  
   Not Recommended: ________  
   
   Comments:

5. **Academic Affairs Committee:** __________________________  
   **Date:** _______________
   
   Recommended: ________  
   Not Recommended: ________  
   
   Comments:

6. **VP/Academic Affairs:** _________________________________  
   **Date:** _______________
   
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   Not Approved: ________  
   
   Comments:
Quinsigamond Community College  
Degree Program or Certificate Revision Proposal

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<tr>
<td>Division: Math &amp; Social Sciences</td>
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<td>Degree type: A.A.</td>
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</table>

Provide a detailed list of the proposed changes to the program.

1. Amend the General Studies – Associate in Arts - Energy Utility Option grid to replace EUT 100 with EUT 101 as corequisite for EUT 110
2. Amend the General Studies – Associate in Arts - Energy Utility Option grid to replace EUT 100 with EUT 101 as a prerequisite for EUT 120

Attachments:
- Current program grid
- Proposed program grid
- Course descriptions for any new courses or revised courses that are part of the program revision

Submit separate proposals for any new courses or revised courses in the program.

Provide a rationale for the proposed changes.

EUT 101 Fundamentals of the Energy Industry was approved at the 4/13/2010 meeting of the Academic Affairs Committee. This course replaces EUT 100 Introduction to Energy Industry. At that time, appropriate changes were not made in the program grid for the General Studies – Associate in Arts - Energy Utility Option to reflect the replacement of EUT 100 with EUT 101 as a corequisite for EUT 110 Electrical Principles I and a prerequisite for EUT 120 Industrial Safety. This document corrects that oversight.

Do any of the proposed changes affect another department? Examples include the deletion or addition of program courses that are offered by other departments. Please confer with the coordinators of affected departments.

Do any of the proposed changes affect articulation agreements? Consult with the Transfer Coordinator.

For an associate degree program, are there any changes in the number of general education credits that could affect MassTransfer?

If yes please provide a rationale.

Will any of the following be required:
- Additional staff ___
- Additional space _____
- Additional equipment ___

Provide a rationale for any needs indicated and include approximate cost of equipment.
EUT 110 Electrical Principles I  
4 credits
The course examines the foundations of basic DC circuit analysis concepts. Topics include voltage and current sources, Ohm’s law, Kirchhoff’s Laws, concept of resistance, conductance, capacitance, inductance, network topologies such as elements in series and parallel, Thevenin’s and Norton’s Theorems, and transient behavior of RC and RL circuits. Students utilize computer software tools and laboratory experiments to reinforce concepts. 
Prerequisite: MAT 095 with a “C” or better on the MAT 095 departmental final exam or placement by the Computerized Placement Test.
Corequisites: ENG 100, EUT 100. F

EUT 110 Electrical Principles I  
4 credits
The course examines the foundations of basic DC circuit analysis concepts. Topics include voltage and current sources, Ohm’s law, Kirchhoff’s Laws, concept of resistance, conductance, capacitance, inductance, network topologies such as elements in series and parallel, Thevenin’s and Norton’s Theorems, and transient behavior of RC and RL circuits. Students utilize computer software tools and laboratory experiments to reinforce concepts. 
Prerequisite: MAT 095 with a “C” or better on the MAT 095 departmental final exam or placement by the Computerized Placement Test.
Corequisites: ENG 100 or appropriate placement score, EUT 101. F

EUT 120 Industrial Safety  
3 credits
This course provides an introduction to the principles of safety, guidelines for the design of equipment, and explanations of why certain practices should or should not be followed. This course will evaluate human reactions in normal and abnormal conditions. Students compare features required for safe working conditions to industry standards. 
Prerequisite: EUT 100. S

EUT 120 Industrial Safety  
3 credits
This course provides an introduction to the principles of safety, guidelines for the design of equipment, and explanations of why certain practices should or should not be followed. This course will evaluate human reactions in normal and abnormal conditions. Students compare features required for safe working conditions to industry standards. 
Prerequisite: EUT 101. S
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AA Committee 11/09/10
1. **Course/Program Title:** HVC 101 Basic Refrigeration Systems and Heat Theory

2. **Originator:** Robert Recko for the Business & Technology Division  
   **Date:** 9.9.10

3. **Academic Unit Dean:** Kathy Rentsch  
   **Date:** 9.16.10

   **Recommendation:** HVC 101 Basic Refrigeration Systems and Heat Theory

   **Rationale:** This course will provide a broad range of theory required to understand not only refrigeration and other cooling systems, but heating systems as well. Development of this course as part of the HVAC Certificate was approved at the May 11, 2010 Academic Affairs Committee meeting.

   This proposal was approved at the September 16, 2010 meeting of the Business & Technology Division. This proposal was approved at the September 22, 2010 meeting of Academic Affairs Staff. This proposal was considered, and subsequently withdrawn, at the October 12, 2010 meeting of the Academic Affairs Committee.

4. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Staff:** ______________________  
   **Date:** _____________________________________

   **Comments:**

5. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **VP/Academic Affairs:** ________________________  
   **Date:** _____________________________________

   **Comments:**

6. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Committee** ____________________  
   **Date:** _____________________________________

   **Comments:**

7. **Approved:** ___________________________  
   **Not Approved:** ___________________________

   **VP/Academic Affairs:** ________________________  
   **Date:** _____________________________________

   **Comments:**

   AA Committee 11/09/10
Quinsigamond Community College  
Request for a New Course or Course Revision  

Course Discipline Heating, Ventilation and Air Conditioning  
Division Business & Technology  
Date 9.16.10

Course Title  Basic Refrigeration Systems and Heat Theory  
Course Number  HVC 101  
Lecture Hours 45 Credits 4 Clinic Hrs 0 Lab Hrs 45  
Prerequisite  none; Enrollment limited to HVC majors only  
Corequisite  none

Application As Elective?  
Course Effective Term Spring 2011 Year Academic year 11

1) Does This Course Replace Another Course?  Yes X No  
Which Course?  
If Revision, Rationale For Revision Should Be Given Here:

2) Is Course Content Similar To Other Courses Now Offered?  Yes X No  
If Yes, Attach Statement From Chairperson Of Department Offering Similar Course.

3) For Whom Is This Course Designed?  Students in the HVAC Certificate Program

4) Required Course?  X Yes No  
Required For  HVAC Certificate Program

5) Expected Enrollment Per Term 20 Per Year 20

6) Additional Staff?  X Yes No  
Number Of Additional Staff Part-time coordinator/faculty

7) Additional Space?  X Yes No  
Amount Of Additional Space Off-site laboratory location to be identified

8) Additional Equipment?  X Yes No  
Additional Cost $  

9) Additional LRC Materials?  X Yes No  
Estimated Cost $ 500.00

Signature: ____________________________ (Library Services Director)

10) Text And Related Materials  
The following textbooks are required.

Jerry Killinger and LaDonna Killinger.  
Heating and Cooling Essentials  
Goodheart-Wilcox  

11) Attach Course Description And Outline To This Page

12) CIP Code  
47.02
COURSE DESCRIPTION:

HVC 101 Basic Refrigeration Systems and Heat Theory  
4 credits
This course introduces students to the basic concepts of heat transfer that dictate the behavior and operation of both heating and cooling systems. Topics lay the groundwork for the basic refrigeration cycle, including sensible, latent, and specific heat. Temperature and pressure concepts are also applied to refrigeration system models. This course includes a laboratory component.

Prerequisites: Enrollment limited to HVC majors only

Recommended:

A. Desired Student Outcomes/Instructional Objectives

Student Learning Outcomes/Competencies

Upon successful completion of this course, students are expected to demonstrate mastery in these areas:

1. Students demonstrate safe lab practices;
2. Students identify the significance of the HVAC/R industry in both the past, present and future;
3. Students identify the characteristics and application of copper tubing;
4. Students apply heat transfer principles to heat calculation problems;
5. Students apply knowledge of copper tubing to soldering operations;
6. Students apply heat transfer principles temperature and pressure to fluid problems;
7. Students use knowledge of temperature, pressure and heat transfer to identify and explain the operation of the basic refrigeration cycle;
8. Students apply knowledge of copper tubing to brazing operations;
9. Students apply knowledge of piping materials, tools to piping operations;
10. Students apply knowledge of Refrigerants to properly apply refrigerants to working systems;
11. Students apply knowledge of hands tools for safe and efficient operation;
12. Students solve computations involving HVAC/R material and practices;
13. Students apply knowledge of fasteners to make proper selections for appropriate fastening;

B. Course Academic Requirements and Teaching Approach

1. Students are expected to attend every class. Students who must miss a class are responsible for any assignments due for that class, and must contact the instructor in person or by e-mail to get the assignments due for the next class. Students may obtain assignments ahead of time for unavoidable, excusable absences Missed exams or quizzes due to a justified absence must be made up as soon as possible, typically within the day of the student’s return to class.
2. Assigned readings and/or exercises for a class are required and must have been completed by the assigned deadline
3. Students are expected to participate in class exercises and discussion.
4. Students are required to take all quizzes and exams and a final exam, as scheduled.
5. Students will complete all assigned lab projects by their specified deadlines. A brief extension may be granted only in case the submitted work, albeit incomplete, shows sufficient progress and promise of completion.

(3)
Teaching approach

The class will be conducted as a combination of classroom lecture, hands-on lab projects, and collaborative interactions.

Theoretical presentations will be followed by practical hands-on lab exercises, under the instructor’s supervision.

C. Required Textbooks:

The following textbooks are required:
Jerry Killinger and LaDonna Killinger. *Heating and Cooling Essentials.*

D. Course Outline

**Week One**
Introduction to the course: syllabus,
Introduction to Heating, Ventilation, Air Conditioning and Refrigeration (HVAC/R)
HVAC/R Safety
Copper Tubing

*Reading Assignments:*
Class notes
Killinger-Heating and Cooling Essentials. Chapter Three. Working with Copper Tubing Sections 3.1-3.3

*Quiz*

**Weeks Two, Three**
Basic Thermodynamic Principles

*Reading Assignments:*
Class notes

*Quiz*

**Week Four**
Soldering Coppering Tubing

*Reading Assignments:*
Class notes
Killinger-Heating and Cooling Essentials. Soldering. Sections 5.1-5.6

*Quiz*

**Week Five**
Temperature and Pressure
Measuring Temperature and Pressure
Gas Laws

*Reading Assignments:*

(4)
Class notes

**Quiz**

**Weeks Six, Seven**
Basic Refrigeration Cycle
System Operation
System Components

**Reading Assignments:**
Class notes

**Quiz**

**Week Eight**
Brazing Copper Tubing

**Reading Assignments:**

**EXAM #1**

**Week Nine**
Refrigeration Cycle Accessories

**Reading Assignments:**
Class notes
Killinger-Heating and Cooling Essentials. Other System Components. Sections 11.1-11-8

**Quiz**

**Week Ten**
Pipe Operations, Materials, and Applications

**Reading Assignments:**
Class notes
Killinger-Heating and Cooling Essentials. Working with Pipe. Sections 4.1-4.4

**Quiz**

**Weeks Eleven, Twelve**
Refrigerants
History of Refrigerants/Refrigeration

**Reading Assignments:**
Class notes

**Quiz**

**Week Thirteen**
Hand Tools Operation and Safety
**Reading Assignments:**
Class notes

**Quiz**

**Week Fourteen**
Math for HVAC/R Technicians

**Reading Assignments:**
Class notes

**Quiz**

**Applied Mathematical Problems for HVAC/R**

**Week Fifteen**
Fasteners for HVAC/R Applications

**Reading Assignments:**
Class notes

**Quiz**

**Exam #2**

**FINAL EXAM AS SCHEDULED!**

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**D. Method of Evaluation**

Final grades for this course will be based on the following:

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<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Exam 1</td>
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<td>Exam 2</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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<tr>
<td>Eleven Quizzes</td>
<td>20% (all worth the same)</td>
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<tr>
<td>Lab Projects</td>
<td>30% (all worth the same)</td>
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**Lab Project Criteria**
- All lab projects must meet current industry standards for workmanship and safety
- All lab projects will be further judged on by specific rubrics given for each project

**Plagiarism**
- Submitted assignments are expected to be the product of the student’s individual and original effort.

**Final course grade will follow the QCC grading system**
## Assessment Plan

<table>
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<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>LEARNING OUTCOME</th>
<th>INSTRUCTIONAL METHODOLOGY</th>
<th>FACULTY RESOURCES</th>
<th>STUDENT RESOURCES</th>
<th>PRE ASSESSMENT</th>
<th>POST ASSESSMENT</th>
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</table>
| Week 1 | Introduction to Heating, Ventilation, Air Conditioning and Refrigeration (HVAC/R) HVAC/R Safety Copper Tubing | 1. Students demonstrate safe Lab practices 2. Students identify the significance of the HVAC/R industry in both the past, present and future. 3. Students identify the characteristics and application of copper tubing | Lecture Group work Lab Work: Copper Tubing Operations | Course textbooks Course Handouts | Course textbooks | Class Q/A | Quiz  
Exam # 1  
Final exam |
| Week 2 | Basic Thermodynamic Principles | Students apply heat transfer principles to heat calculation problems | Lecture Group work Lab Work: Copper Tubing Operations | Course textbooks Course Handouts | Course textbooks | Class Q/A | Quiz  
Exam # 1  
Final exam |
| Week 3 | Basic Thermodynamic Principles (Cont.) | Students apply heat transfer principles to heat calculation problems | Lecture Group work Lab Work: Copper Tubing Operations | Course textbooks Course Handouts | Course textbooks | Class Q/A | Quiz  
Exam #1  
Final Exam |
| Week 4 | Soldering Coppering Tubing | Students apply knowledge of copper tubing to soldering operations | Lecture Group work Lab Work: Soldering Copper Tubing Operations | Course textbooks Course Handouts | Course textbooks | Class Q/A | Quiz  
Exam #1  
Final Exam |

(7)
<table>
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<tr>
<th>Week</th>
<th>Topic</th>
<th>Activity Description</th>
<th>Lecture</th>
<th>Course Textbooks</th>
<th>Web Links</th>
<th>Class Q/A</th>
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<td>Temperature and Pressure Measuring Temperature and Pressure Gas Laws</td>
<td>Students apply heat transfer principles temperature and pressure to fluid problems</td>
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<td>Week Six</td>
<td>Basic Refrigeration Cycle System Operation System Components</td>
<td>Students use knowledge of temperature, pressure and heat transfer to identify and explain the operation of the basic refrigeration cycle</td>
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<td>Weeks Seven</td>
<td>Basic Refrigeration Cycle System Operation System Components (Cont.)</td>
<td>Students use knowledge of temperature, pressure and heat transfer to identify and explain the operation of the basic refrigeration cycle</td>
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<td>Brazing Copper Tubing</td>
<td>Students apply knowledge of copper tubing to Brazing operations</td>
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<td>Refrigeration Cycle Accessories</td>
<td>Students identify cycle components for proper application and</td>
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<th>Students apply knowledge of piping materials, tools to piping operations</th>
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<th>Quiz</th>
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<td>Pipe Operations, Materials, and Applications</td>
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<td>Lab work: Plastic and Steel Piping Operations</td>
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<td>Final Exam</td>
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<td>Week Eleven</td>
<td>Refrigerants History of Refrigerants/Refrigeration</td>
<td>Students apply knowledge of Refrigerants to properly apply refrigerants to working systems</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab work: Building complete Refrigeration Systems</td>
<td>Course textbooks</td>
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<td>Quiz</td>
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<td>Refrigerants History of Refrigerants/Refrigeration (Cont.)</td>
<td>Students apply knowledge of Refrigerants to properly apply refrigerants to working systems</td>
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<td>Group work</td>
<td>Lab work: Building complete Refrigeration Systems</td>
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<td>Week Thirteen</td>
<td>Hand Tools Operation and Safety</td>
<td>Students apply knowledge of hands tools for safe and efficient operation</td>
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<td>Group work</td>
<td>Lab work: Building complete Refrigeration Systems</td>
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<td>Final Exam</td>
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<td>Week Fourteen</td>
<td>Math for HVAC/R Technicians</td>
<td>Students solve computations involving HVAC/R material and practices</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab work: Evacuating and charging of refrigeration systems</td>
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<td>Fasteners for HVAC/R Applications</td>
<td>Students apply knowledge of fasteners to make</td>
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<td>Quiz</td>
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<td>Proper Selections for Appropriate Fastening Applications</td>
<td>Lab Work: Refrigerant Recovery</td>
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</table>
1. **Course/Program Title:** HVC 102 Basic Electricity

2. **Originator:** Robert Recko for the Business & Technology Division  
   **Date:** 9.9.10

3. **Academic Unit Dean:** Kathy Rentsch  
   **Date:** 9.16.10

   **Recommendation:** HVC 102 Basic Electricity  
   **Rationale:** This course will provide a broad range of electrical theory that will provide the skills needed to install, diagnose and repair HVAC/R systems. Development of this course as part of the HVAC Certificate was approved at the May 11, 2010 Academic Affairs Committee meeting.

   This proposal was approved at the September 16, 2010 meeting of the Business & Technology Division. This proposal was approved at the September 22, 2010 meeting of Academic Affairs Staff. This proposal was considered, and subsequently withdrawn, at the October 12, 2010 meeting of the Academic Affairs Committee.

4. **Recommended:** __________________________  
   **Not Recommended:** __________________________

   **Academic Affairs Staff:** __________________________  
   **Date:** __________________________

   **Comments:**

5. **Recommended:** __________________________  
   **Not Recommended:** __________________________

   **VP/Academic Affairs:** __________________________  
   **Date:** __________________________

   **Comments:**

6. **Recommended:** __________________________  
   **Not Recommended:** __________________________

   **Academic Affairs Committee** __________________________  
   **Date:** __________________________

   **Comments:**

7. **Approved:** __________________________  
   **Not Approved:** __________________________

   **VP/Academic Affairs:** __________________________  
   **Date:** __________________________

   **Comments:**

(1)
Quinsigamond Community College  
Request for a New Course or Course Revision

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<th>Division</th>
<th>Business &amp; Technology</th>
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<tr>
<td>Course Title</td>
<td>HVC 102 Basic Electricity</td>
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<td>Lab Hrs</td>
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<td>Application As Elective?</td>
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<td>Year</td>
<td>Academic year 11</td>
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1) Does This Course Replace Another Course? _________________ Yes _____ No X
  
Which Course? ____________________________________________
  
If Revision, Rationale For Revision Should Be Given Here:

2) Is Course Content Similar To Other Courses Now Offered? ____ Yes ____ X____ No
   
If Yes, Attach Statement From Chairperson Of Department Offering Similar Course.

3) For Whom Is This Course Designed? __Students in the HVAC Certificate Program__

4) Required Course? X _____ Yes ____ No _____ Required For HVAC Certificate Program

5) Expected Enrollment Per Term 20 Per Year 20

6) Additional Staff? X ____ Yes ____ No Number Of Additional Staff Part-time coordinator/faculty

7) Additional Space? _______x______ Yes _______ No
   
  **Amount Of Additional Space** Off-site laboratory location to be identified

8) Additional Equipment? ___Yes ____ X ___ No Additional Cost $ _____________

9) Additional LRC Materials? x _____ Yes _____ No Estimated Cost $ 500.00

Signature: _________________________________ (Library Services Director)

10) Text And Related Materials
    
The following textbooks are required.
    
    Jerry Killinger and LaDonna Killinger.  
    *Heating and Cooling Essentials*  
    Goodheart-Wilcox  

11) Attach Course Description And Outline To This Page

12) CIP Code
    
    47.02
QUINSIGAMOND COMMUNITY COLLEGE

COURSE DESCRIPTION:

HVC 102 Basic Electricity 4 credits
Students are exposed to AC fundamentals, Ohm’s Law, and other circuit rules effecting circuit behavior, as well as basic electrical components used to develop series and parallel control circuits. Laboratory exercises focus on creating wiring diagrams, and then applying them to actual wiring practices on working circuitry. Students are trained in the use of electrical meters to develop troubleshooting procedures. Electrical Safety is incorporated into all activities. This course includes a laboratory component.

Prerequisite: Enrollment limited to HVC majors only

Recommended:

A. Desired Student Outcomes/Instructional Objectives

Student Learning Outcomes/Competencies

Upon successful completion of this course, students are expected to demonstrate mastery in these areas:

1. Students demonstrate safe lab practices;
2. Students apply knowledge of electron theory to explain basic electrical operation;
3. Students apply basic circuit rules to construct electrical schematics;
4. Students apply principles of series and parallel circuits to identify correct and safe circuit operation;
5. Students demonstrate the differences between Alternating and Direct Current;
6. Students identify and apply electrical switch symbols;
7. Students use knowledge of induction to identify and explain the operation of transformers;
8. Students apply knowledge of low voltage components used in HVAC circuits;
9. Students apply knowledge of electro-magnetic devices used as relay switching devices in HVAC/R circuits;
10. Students apply knowledge of electro-magnetic devices used as contactor and motor starter switching and protective devices in HVAC/R circuits;
11. Students apply knowledge of circuit protection devices in working HVAC/R circuits;
12. Students demonstrate knowledge of AC induction motors operation and application;
13. Students apply knowledge motor starting relays for correct application on induction motors
14. Students apply knowledge motor starting relays, motors and controls to identify common motor control circuits used in HVAC/R systems;

B. Course Academic Requirements and Teaching Approach

1. Students are expected to attend every class. Students who must miss a class are responsible for any assignments due for that class, and must contact the instructor in person or by e-mail to get the assignments due for the next class. Students may obtain assignments ahead of time for unavoidable, excusable absences. Missed exams or quizzes due to a justified absence must be made up as soon as possible, typically within the day of the student’s return to class.
2. Assigned readings and/or exercises for a class are required and must have been completed by the assigned deadline.
3. Students are expected to participate in class exercises and discussion.
4. Students are required to take all quizzes and exams and a final exam, as scheduled.
5. Students will complete all assigned lab projects by their specified deadlines. A brief extension may be granted only in case the submitted work, albeit incomplete, shows sufficient progress and promise of completion.

Teaching approach

The class will be conducted as a combination of classroom lecture, hands-on lab projects, and collaborative interactions.

Theoretical presentations will be followed by practical hands-on lab exercises, under the instructor’s supervision.

C. Required Textbooks:

The following textbooks are required:
Jerry Killinger and LaDonna Killinger. Heating and Cooling Essentials.

D. Course Outline

**Week One**
Introduction to the course: syllabus,
Understanding Electricity
HVAC/R Safety

*Reading Assignments:*
Class notes

*Quiz*

**Week Two**
Basic Circuit Rules
Ohms, Volts, Amps, and Watts

*Reading Assignments:*
Class notes
Killinger-Heating and Cooling Essentials. Chapter 22. What Is Electricity Sections 22.1.5 – 22.4.2

*Quiz*

**Week Three**
Series and Parallel Circuits

*Reading Assignments:*
Class notes

*Quiz*

**Weeks Four, Five**
Alternating Current
Direct Current
Ohm’s Law

**Reading Assignments:**
Class notes

**Quiz**

**Week Six**
Switches

**Reading Assignments:**
Class notes
Killinger. Heating and Cooling Essentials. What is Electricity? Sections 22.4.6 & 22.6.2 & 26.1 – 26.4

**Quiz**

**Week Seven**
Transformers
Induction

**Reading Assignments:**

**Quiz**

**EXAM #1**

**Week Eight**
Low Voltage Circuits and Controls

**Reading Assignments:**
Class notes
Killinger-Heating and Cooling Essentials. Chapter 29. Sections 29.1.6 – 29.1.9

**Quiz**

**Week Nine**
Relays

**Reading Assignments:**
Class notes

**Quiz**

**Week Ten**
Contactors and Motor Starters

**Reading Assignments:**
Class notes
Killinger. Heating and Cooling Essentials. Electromagnetic Devices. Sections 25.2.3 – 25.3.2

**Quiz**

**Week Eleven**
Circuit Protection

(5)
Reading Assignments:
Class notes
Killinger. Heating and Cooling Essentials. What is Electricity. Sections 22.6 – 22.6.2 & 23.4

Quiz

Weeks Twelve, Thirteen
AC Induction Motors

Reading Assignments:
Class notes

Quiz

Week Fourteen
Motor Starting Relays

Reading Assignments:

Reading Assignments:
Class notes
Killinger-Heating and Cooling Essentials. Electromagnetic Control Devices. Sections 25.2.2

Quiz

Week Fifteen
Control Circuits

Class notes
Killinger-Heating and Cooling Essentials. Electromagnetic Control Devices. Sections 25.2.3 – 25.3.2

Quiz

Exam #2

FINAL EXAM AS SCHEDULED!

D. Method of Evaluation

Final grades for this course will be based on the following:

Exam 1: 10%
Exam 2: 10%
Final Exam: 30%
Thirteen Quizzes: 20% (all worth the same)
Lab Projects: 30% (all worth the same)

Lab Project Criteria
• All lab projects must meet current industry standards for workmanship and safety
• All lab projects will be further judged on by specific rubrics given for each project

Plagiarism

• Submitted assignments are expected to be the product of the student’s individual and original effort.

Final course grade will follow the QCC grading system
<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>LEARNING OUTCOME</th>
<th>INSTRUCTIONAL METHODOLOGY</th>
<th>FACULTY RESOURCES</th>
<th>STUDENT RESOURCES</th>
<th>PRE ASSESSMENT</th>
<th>POST ASSESSMENT</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Introduction to the course: syllabus, Understanding Electricity HVAC/R Safety</td>
<td>1. Students demonstrate safe lab practices; 2. Students apply knowledge of electron theory to explain basic electrical operation;</td>
<td>Lecture Group work Lab Work: Identifying Electrical Components</td>
<td>Course textbooks</td>
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<td>Class Q/A</td>
<td>Quiz Exam # 1 Final exam</td>
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<tr>
<td>Week 2</td>
<td>Basic Circuit Rules Ohms, Volts, Amps, and Watts</td>
<td>Students apply basic circuits rules to construct electrical schematics</td>
<td>Lecture Group work Lab Work: Constructing Electrical Schematic</td>
<td>Course textbooks</td>
<td>Course textbooks</td>
<td>Class Q/A</td>
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<td>Week 3</td>
<td>Series and Parallel Circuits</td>
<td>Students apply principles of series and parallel circuits to identify correct and safe circuit operation</td>
<td>Lecture Group work Lab Work: Wiring Electrical Schematics</td>
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<td>Week 4</td>
<td>Alternating Current Direct Current Ohm’s Law</td>
<td>Students demonstrate the differences between Alternating and Direct Current</td>
<td>Lecture Group work Lab Work: Measuring AC &amp; DC Voltage</td>
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<td>Alternating Current Direct Current Ohm’s Law (Cont.)</td>
<td>Students demonstrate the differences between AC &amp;</td>
<td>Lecture Group work Lab Work: Using Electrical</td>
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<td>Switches</td>
<td>Students identify and apply electrical switch symbols</td>
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<td>Lab Work: Testing and Wiring Switches</td>
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<td>Transformers Induction</td>
<td>Students use knowledge of induction to identify and explain the operation of transformers</td>
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<td>Low Voltage Circuits and Controls</td>
<td>Students apply knowledge of low voltage components used in HVAC circuits</td>
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<td>Lab Work: Wiring Low Voltage Circuits</td>
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<td>Students apply knowledge of electro-magnetic devices used as relay switching devices in HVAC/R circuits</td>
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<td>Lab Work: Wiring Relay Circuits</td>
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<td>Contactors and Motor Starters</td>
<td>Students apply knowledge of electro-magnetic devices used as contactor and motor starter switching and</td>
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<td>Students demonstrate knowledge of AC induction motors operation and application</td>
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<td>Motor Starting Relays</td>
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<td>Fifteen</td>
<td>Control Circuits</td>
<td>Students apply knowledge motor starting relays, motors and controls to wiring complete controls circuits</td>
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1. **Course/Program Title:** HVC 103 Air Conditioning Systems

2. **Originator:** Robert Recko for the Business & Technology Division  
   **Date:** 9.9.10

3. **Academic Unit Dean:** Kathy Rentsch  
   **Date:** 9.16.10

4. **Recommendation:** HVC 103 Air Conditioning Systems

   **Rationale:** This course will provide a broad range of information on HVAC/R systems that will provide the skills needed to install, diagnose and repair HVAC/R systems. Development of this course as part of the HVAC Certificate was approved at the May 11, 2010 Academic Affairs Committee meeting.

   This proposal was approved at the September 16, 2010 meeting of the Business & Technology Division. This proposal was approved at the September 22, 2010 meeting of Academic Affairs Staff. This proposal was considered, and subsequently withdrawn, at the October 12, 2010 meeting of the Academic Affairs Committee.

4. **Recommended:**  
   **Not Recommended:**

   **Academic Affairs Staff:**  
   **Date:**

   **Comments:**

5. **Recommended:**  
   **Not Recommended:**

   **VP/Academic Affairs:**  
   **Date:**

   **Comments:**

6. **Recommended:**  
   **Not Approved:**

   **Academic Affairs Committee:**  
   **Date:**

   **Comments:**

7. **Approved:**  
   **Not Approved:**

   **VP/Academic Affairs:**  
   **Date:**

   **Comments:**
Quinsigamond Community College
Request for a New Course or Course Revision

Course Discipline Heating, Ventilation and Air Conditioning  Division Business & Technology

Course Title Air Conditioning Systems  Course Number HVC 103

Lecture Hours 45  Credits 5  Clinic Hrs 0  Lab Hrs 90

Prerequisite HVC 101; Enrollment limited to HVC majors only  Corequisite none

Application As Elective? 

Course Effective Term Spring 2011  Year Academic year 11

1) Does This Course Replace Another Course? Yes ___ No X__

Which Course? 

If Revision, Rationale For Revision Should Be Given Here:

2) Is Course Content Similar To Other Courses Now Offered? Yes ___ X__ No

If Yes, Attach Statement From Chairperson Of Department Offering Similar Course.

3) For Whom Is This Course Designed? Students in the HVAC Certificate Program

4) Required Course? X__ Yes ___ No  Required For HVAC Certificate Program

5) Expected Enrollment Per Term 20  Per Year 20

6) Additional Staff? X__ Yes ___ No  Number Of Additional Staff Part-time coordinator/faculty

7) Additional Space? X__ Yes ___ No

Amount Of Additional Space Off-site laboratory location to be identified

8) Additional Equipment? X__ Yes ___ No  Additional Cost $ 500.00

9) Additional LRC Materials? X__ Yes ___ No  Estimated Cost $ 500.00

Signature: (Library Services Director)

10) Text And Related Materials

The following textbooks are required.

Whitman/Johnson. Refrigeration & Air Conditioning Technology.

11) Attach Course Description And Outline To This Page

12) CIP Code

47.02
COURSE DESCRIPTION:

HVC 103 Air Conditioning Systems 5 credits
This course is a study of mechanical air conditioning equipment used in comfort cooling, heat pump, and other heating applications. Hands-on laboratories cover the installation and use of electrical controls, system evaluation, and mechanical and electrical troubleshooting of residential and light-commercial applications. This course includes a laboratory component.

Prerequisite: HVC 101; Enrollment limited to HVC majors only

Recommended:

A. Desired Student Outcomes/Instructional Objectives

Student Learning Outcomes/Competencies

Upon successful completion of this course, students are expected to demonstrate mastery in these areas:

1. Students demonstrate safe lab practices;
2. Students apply knowledge of refrigeration mechanisms to air conditioning applications;
3. Students apply industry standards in selecting and constructing materials used in air conditioning installations;
4. Students demonstrate the knowledge of control circuit design;
5. Students identify normal system temperatures and pressures for diagnosis of system problems;
6. Students apply knowledge of refrigeration mechanisms to air to air heat pump applications;
7. Students identify normal system temperatures and pressures for diagnosis of heat pump problems;
8. Students apply knowledge of fuel gas properties and mechanisms for application to gas heating appliances;
9. Students apply knowledge of fuel gas properties and mechanisms for application to the diagnosis of problems in gas heating appliances;
10. Students apply knowledge of fuel oil properties and mechanisms for application to oil heating appliances;
11. Students demonstrate knowledge of MA Oil Code Regulations;
12. Students apply knowledge of hydronic heating components and methods to heating systems installations;
13. Students apply knowledge of hydronic heating systems to diagnose heating systems problems;

B. Course Academic Requirements and Teaching Approach

1. Students are expected to attend every class. Students who must miss a class are responsible for any assignments due for that class, and must contact the instructor in person or by e-mail to get the assignments due for the next class. Students may obtain assignments ahead of time for unavoidable, excusable absences Missed exams or quizzes due to a justified absence must be made up as soon as possible, typically within the day of the student’s return to class.
2. Assigned readings and/or exercises for a class are required and must have been completed by the assigned deadline
3. Students are expected to participate in class exercises and discussion.
4. Students are required to take all quizzes and exams and a final exam, as scheduled.
5. Students will complete all assigned lab projects by their specified deadlines. A brief extension may be granted only in case the submitted work, albeit incomplete, shows sufficient progress and promise of completion.
Teaching approach

The class will be conducted as a combination of classroom lecture, hands-on lab projects, and collaborative interactions.

Theoretical presentations will be followed by practical hands-on lab exercises, under the instructor’s supervision.

C. Required Textbooks:

The following textbooks are required:
Whitman/Johnson. Refrigeration & Air Conditioning Technology.

D. Course Outline

Weeks One, Two
Introduction to the course: syllabus,
Refrigeration Mechanisms Applied to Air Conditioning
HVAC/R Safety

Reading Assignments:
Class notes
Whitman/Johnson. Refrigeration & Air Conditioning Technology.
Unit 36 Refrigeration Applied to Air Conditioning. 36.1 – 36.25

Quiz

Weeks Three, Four
Installation of Air Conditioning Systems

Reading Assignments:
Class notes
Whitman/Johnson. Refrigeration & Air Conditioning Technology.
Unit 38 Installation. 38.1 – 38.12

Quiz

Week Five
Air Conditioning Electrical Controls

Reading Assignments:
Class notes
Whitman/Johnson. Refrigeration & Air Conditioning Technology.
Unit 39 Controls. 39.1 – 39.11

Quiz

Weeks Six, Seven
Normal Operating Conditions of Air Conditioning Systems

Reading Assignments:
Class notes
Unit 40 Operating Conditions. 40.1 – 40.18

Quiz

**Weeks Eight, Nine**
Air to Air Heat Pumps

*Reading Assignments:*
Class notes
Unit 43 Pumps. 43.1 – 43.35

Quiz

**Exam # 1**

**Weeks Ten, Eleven**
Gas Heating Systems

*Reading Assignments:*
Unit 31 Gas Heat. 31.1 – 31.31

Quiz

**Weeks Twelve, Thirteen**
Oil Heat Systems

*Reading Assignments:*
Class notes
Unit 32 Oil Heat. 32.1 – 32.18

Quiz

**Weeks Fourteen, Fifteen**
Hydronic Heating Systems

*Reading Assignments:*
Class notes
Unit 33 Hydronic Heat. 33.1 – 33.9

Quiz

**Exam #2**

**FINAL EXAM AS SCHEDULED!**
D. **Method of Evaluation**

Final grades for this course will be based on the following:

- Exam 1: 10%
- Exam 2: 10%
- Final Exam: 30%
- Eight Quizzes: 20% (all worth the same)
- Lab Projects: 30% (all worth the same)

**Lab Project Criteria**

- All lab projects must meet current industry standards for workmanship and safety
- All lab projects will be further judged on by specific rubrics given for each project

**Plagiarism**

- Submitted assignments are expected to be the product of the student’s individual and original effort.

*Final course grade will follow the QCC grading system*
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<th>WEEK</th>
<th>TOPIC</th>
<th>LEARNING OUTCOME</th>
<th>INSTRUCTIONAL METHODOLOGY</th>
<th>FACULTY RESOURCES</th>
<th>STUDENT RESOURCES</th>
<th>PRE ASSESSMENT</th>
<th>POST ASSESSMENT</th>
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<td>Week 1</td>
<td>Introduction to the course: syllabus, Refrigeration Mechanisms Applied to Air Conditioning HVAC/R Safety</td>
<td>1. Students demonstrate safe lab practices; 2. Students apply knowledge of refrigeration mechanisms to air conditioning applications</td>
<td>Lecture Group work Lab Work: Installation of Air Conditioning Systems</td>
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<td>Week 2</td>
<td>Refrigeration Mechanisms Applied to Air Conditioning HVAC/R Safety (Cont.)</td>
<td>Students apply knowledge of refrigeration mechanisms to air conditioning applications</td>
<td>Lecture Group work Lab Work: Installation of Air Conditioning Systems</td>
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<td>Week 3</td>
<td>Installation of Air Conditioning Systems</td>
<td>Students apply industry standards in selecting and constructing materials used in air conditioning installations</td>
<td>Lecture Group work Lab Work: Ducting and Piping Practices for Air Conditioning Systems</td>
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<td>Lecture Group work Lab Work: Ducting and Piping Practices for Air Conditioning Systems</td>
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<td>Air Conditioning Electrical Controls</td>
<td>Students demonstrate the knowledge of control circuit</td>
<td>Lecture Group work Lab Work: Using Electrical</td>
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<td>Normal Operating Conditions of Air</td>
<td>Students identify normal system temperatures and pressures for</td>
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<td>Air to Air Heat Pumps</td>
<td>Students apply knowledge of refrigeration mechanisms to air to air heat</td>
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<td>Students apply knowledge of fuel gas properties and mechanisms for application to the diagnosis of problems in gas heating appliances</td>
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<td>Lab work: Hydronic heating systems diagnosis</td>
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</table>
1. **Course/Program Title:** HVC 104 Massachusetts Refrigeration Code

2. **Originator:** Robert Recko for the Business & Technology Division  
   **Date:** 9.9.10

3. **Academic Unit Dean:** Kathy Rentsch  
   **Date:** 9.16.10

4. **Recommendation:** HVC 104 Massachusetts Refrigeration Code

   **Rationale:** This course will provide the knowledge of the Massachusetts Refrigeration Code (ASHRAE 15) which is required to be applied to the installation of all refrigeration systems to ensure safety. Development of this course as part of the HVAC Certificate was approved at the May 11, 2010 Academic Affairs Committee meeting.

   This proposal was approved at the September 16, 2010 meeting of the Business & Technology Division. This proposal was approved at the September 22, 2010 meeting of Academic Affairs Staff. This proposal was considered, and subsequently withdrawn, at the October 12, 2010 meeting of the Academic Affairs Committee.

4. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Staff:** ___________________________  
   **Date:** ___________________________

   **Comments:**

5. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **VP/Academic Affairs:** ___________________________  
   **Date:** ___________________________

   **Comments:**

6. **Recommended:** ___________________________  
   **Not Recommended:** ___________________________

   **Academic Affairs Committee** ___________________________  
   **Date:** ___________________________

   **Comments:**

7. **Approved:** ___________________________  
   **Not Approved:** ___________________________

   **VP/Academic Affairs:** ___________________________  
   **Date:** ___________________________

   **Comments:**

(1)
### Quinsigamond Community College
Request for a New Course or Course Revision

**Course Discipline**: Heating, Ventilation and Air Conditioning  
**Division**: Business & Technology  
**Date**: 9.16.10

<table>
<thead>
<tr>
<th><strong>Course Title</strong></th>
<th>Massachusetts Refrigeration Code</th>
<th><strong>Course Number</strong></th>
<th>HVC 104</th>
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<tr>
<td><strong>Lecture Hours</strong></td>
<td>45</td>
<td><strong>Credits</strong></td>
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<td><strong>Prerequisite</strong></td>
<td>HVC 101; Enrollment limited to HVC majors only</td>
<td><strong>Corequisite</strong></td>
<td>none</td>
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</tbody>
</table>

**Application As Elective?**

**Course Effective Term**: Spring 2011  
**Year**: Academic year 11

1) **Does This Course Replace Another Course?**  
   - Yes [x]  
   - No [ ]

2) **Is Course Content Similar To Other Courses Now Offered?**  
   - Yes [ ]  
   - X [x] No

3) **For Whom Is This Course Designed?**  
   - Students in the HVAC Certificate Program [x]

4) **Required Course?**  
   - X [x] Yes  
   - No [ ]

5) **Expected Enrollment Per Term**  
   - 20  
   - Per Year  
   - 20

6) **Additional Staff?**  
   - X [x] Yes  
   - No [ ]

7) **Additional Space?**  
   - X [x] Yes
   - No [ ]

   **Amount Of Additional Space**: Off-site laboratory location to be identified

8) **Additional Equipment?**  
   - X [x] Yes  
   - No [ ]

   **Additional Cost**: $ 500.00

9) **Additional LRC Materials?**  
   - X [x] Yes  
   - No [ ]

   **Estimated Cost**: $ 500.00

10) **Text And Related Materials**

    The following textbooks are required.

    - American Society of Heating, Refrigeration and Air Conditioning Engineers
    - ISSN 1041-2336
    - www.ashrae.org

    - Commonwealth of Massachusetts Refrigeration Regulations
    - 522 CMR 9.00
    - 528 CMR 10.00 – 13.00
    - 528 CMR 10.00

11) **Attach Course Description And Outline To This Page**

(2)
QUINSIGAMOND COMMUNITY COLLEGE

COURSE DESCRIPTION:

HVC 104 Massachusetts Refrigeration Code   4 credits
This class explores the regulations of the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE 15) and the Refrigeration Safety Code to ensure that systems are assembled and installed to code specifications as well as being safe for buildings and its occupants. Laboratory exercises apply ASHRAE 15 and Environmental Protection Agency regulations to shop-built projects that illustrate compliance in both installation and service procedures. This course includes a laboratory component.

Prerequisite: HVC 101; Enrollment limited to HVC majors only

Recommended:

A. Desired Student Outcomes/Instructional Objectives

Student Learning Outcomes/Competencies

Upon successful completion of this course, students are expected to demonstrate mastery in these areas:
1. Students will demonstrate safe lab practices;
2. Students apply knowledge of safety codes to refrigeration applications;
3. Students interpret the intentions of MA C.M.R.s for licensing purposes;
4. Students apply standards of 528 CMR 11.00. Part 6 ASME/ANSI to installation methods used on refrigeration systems;
5. Students analyze the intent of the ANSI/ASHRAE STANDARD 15 – 2004 Code;
6. Students identify refrigerant safety classifications;
7. Students identify refrigeration cycles and individual components for correct application;
8. Students apply knowledge of refrigeration mechanisms design and installation to new applications;
9. Students identify system requirements for code compliance;
10. Students compare refrigerant properties to determine proper applications;
11. Students apply knowledge of Federal EPA Regulations in order to perform refrigerant procedures legally and safely;

B. Course Academic Requirements and Teaching Approach

1. Students are expected to attend every class. Students who must miss a class are responsible for any assignments due for that class, and must contact the instructor in person or by e-mail to get the assignments due for the next class. Students may obtain assignments ahead of time for unavoidable, excusable absences. Missed exams or quizzes due to a justified absence must be made up as soon as possible, typically within the day of the student’s return to class.
2. Assigned readings and/or exercises for a class are required and must have been completed by the assigned deadline.
3. Students are expected to participate in class exercises and discussion.
4. Students are required to take all quizzes and exams and a final exam, as scheduled.
5. Students will complete all assigned lab projects by their specified deadlines. A brief extension may be granted only in case the submitted work, albeit incomplete, shows sufficient progress and promise of completion.

AA Committee 11/09/10
Teaching approach

The class will be conducted as a combination of classroom lecture, hands-on lab projects, and collaborative interactions.

Theoretical presentations will be followed by practical hands-on lab exercises, under the instructor’s supervision.

C. Required Textbooks:

The following textbooks are required:
ASHRAE Standard 15 – Safety Standard for Refrigeration Systems
American Society of Heating, Refrigeration and Air Conditioning Engineers
ISSN 1041-2336
www.ashrae.org

Commonwealth of Massachusetts
Refrigeration Regulations
522 CMR 9.00
528 CMR 10.00
528 CMR 11.00 – 13:00

D. Course Outline

Week One
Introduction to the course: syllabus,
Overview of State and Federal Safety Standards
522 CMR 9.00. Refrigeration and Air Conditioning Systems

Reading Assignments:
Class notes
522 CMR 9.00 Refrigeration and Air Conditioning Systems

Quiz

Week Two
Board of Pipefitters and Refrigeration Technicians Regulations

Reading Assignments:
Class notes
528 CMR 11.00 – 13:00

Quiz

Week’s Three, Four
Power Piping

Reading Assignments:
Class notes
528 CMR 11.00. Part 6 ASME/ANSI B3.1

Quiz
Week Five
Introduction to ANSI/ASHRAE STANDARD 15 - 2004

Reading Assignments:
Class notes
ANSI/ASHRAE STANDARD 15 - 2004
- Section One - Purpose and History
- Section Two - Scope
- Section Three - Definitions
- Section Four - Occupancy Classifications
- Section Five - Refrigerating Systems Classifications

Quiz

Week Six
Refrigerants and Safety Classifications.

Reading Assignments:
Class notes
ANSI/ASHRAE Standard 15 – 2004 (cont.)
- Section Six - Refrigerant Safety Classifications
- Section Seven – Restrictions on Refrigerant use

Quiz

Exam # 1

Week Seven
Basic Refrigeration Cycle Components

Reading Assignments:
Handouts

Quiz

Week Eight
System Design and Construction

Reading Assignments:
Class notes
ANSI/ASHRAE Standard 15 – 2004 (cont.)
Section Nine - Design and Construction of Equipment and Systems

Quiz

Week’s Nine, Ten
System Equipment and Requirements

Reading Assignments:
Class notes
ANSI/ASHRAE Standard 15 – 2004 (cont.)
- Section Ten – Operating and Testing
- Section Eleven – General Requirements
- Section Twelve – Precedence With Conflicting Requirements
- Section Thirteen – Listed Equipment
- Appendices A through F

(5)
Quiz

Week Ten
New Refrigerants

Reading Assignments:
Class notes
Class Handouts

Quiz

Week Eleven
Refrigerant Properties and Characteristics

Reading Assignments:
Class notes
Class Handouts

Quiz

Exam #2

Week Twelve
EPA CLEAN AIR ACT - SECTION 608
Implications of Section 608 to the Mass Refrigeration Code
Type One - Small Appliances

Reading Assignments:
Class notes
Class Handouts

Quiz

Week Thirteen
EPA CLEAN AIR ACT - SECTION 608
Type Two – High Pressure Appliances

Reading Assignments:
Class notes
Class Handouts

Quiz

Week Fourteen
EPA CLEAN AIR ACT - SECTION 608
Type Three – Low Pressure Appliances

Reading Assignments:
Class notes
Class Handouts

Quiz

Week Fifteen
EPA CLEAN AIR ACT - SECTION 608

Reading Assignments:

(6)
D. **Method of Evaluation**

Final grades for this course will be based on the following:

- Exam 1: 10%
- Exam 2: 10%
- Final Exam: 30%
- Fourteen Quizzes: 20% (all worth the same)
- Lab Projects: 30% (all worth the same)

**Lab Project Criteria**
- All lab projects must meet current industry standards for workmanship and safety
- All lab projects will be further judged on by specific rubrics given for each project

**Plagiarism**

- Submitted assignments are expected to be the product of the student’s individual and original effort.

*Final course grade will follow the QCC grading system*
<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>LEARNING OUTCOME</th>
<th>INSTRUCTIONAL METHODOLOGY</th>
<th>FACULTY RESOURCES</th>
<th>STUDENT RESOURCES</th>
<th>PRE ASSESSMENT</th>
<th>POST ASSESSMENT</th>
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<td>Week 1</td>
<td>Introduction to the course: syllabus, Overview of State and Federal Safety Standards 522 CMR 9.00, Refrigeration and Air Conditioning Systems</td>
<td>1. Students demonstrate safe lab practices; 2. Students apply knowledge of safety codes to refrigeration applications</td>
<td>Lecture Group work Lab work: Installation of Air Conditioning Systems to code appropriate applications</td>
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<td>Board of Pipefitters and Refrigeration Technicians Regulations</td>
<td>Students interpret the intentions of MA C.M.R.s for licensing purposes</td>
<td>Lecture Group work Lab work: Installation of Air Conditioning Systems to code appropriate applications</td>
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<td>Power Piping</td>
<td>Students apply standards of 528 CMR 11.00. Part 6 ASME/ANSI to installation methods used on refrigeration systems</td>
<td>Lecture Group work Lab work: Installation of refrigeration systems to code appropriate applications</td>
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<td>Students apply standards of 528 CMR 11.00. Part 6 ASME/ANSI to installation methods used on refrigeration systems</td>
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<td>Students analyze the intent of the ANSI/ASHRAE STANDARD 15 – 2004 Code</td>
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<td>Students identify refrigerant safety classifications</td>
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<td>Basic Refrigeration Cycle Components</td>
<td>Students identify refrigeration cycles and individual components for correct application</td>
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<td>Students identify system requirements for code compliance</td>
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<td>EPA CLEAN AIR ACT - SECTION 608 Type Two – High Pressure Appliances</td>
<td>Students apply knowledge of Federal EPA Regulations in order to perform</td>
<td>Lecture</td>
<td>Final Exam</td>
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<td>Course textbooks, Class handouts</td>
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<td>Fourteen</td>
<td>EPA CLEAN AIR ACT - SECTION 608 Type Three – Low Pressure Appliances</td>
<td>Students apply knowledge of Federal EPA Regulations in order to perform</td>
<td>Lecture</td>
<td>Final Exam</td>
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<td>refrigerant procedures legally and safely</td>
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<td>Students review Federal EPA</td>
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<th>608 Review</th>
<th>Regulations in order to perform refrigerant procedures legally and safely</th>
<th>Lab work: Performing leak detection procedures</th>
<th>Class handouts</th>
<th>EPA Exam Final Exam</th>
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</table>
1. **Course/Program Title:** HVC 105 Massachusetts Electrical Code

2. **Originator:** Robert Recko for the Business & Technology Division **Date:** 9.9.10

3. **Academic Unit Dean:** Kathy Rentsch **Date:** 9.16.10

4. **Recommendation:** HVC 105 Massachusetts Electrical Code

   **Rationale:** This course will provide the knowledge of the Massachusetts Refrigeration Code (ASHRAE 15) which is required to be applied to the installation of all refrigeration systems to ensure safety. Development of this course as part of the HVAC Certificate was approved at the May 11, 2010 Academic Affairs Committee meeting.

   This proposal was approved at the September 16, 2010 meeting of the Business & Technology Division. This proposal was approved at the September 22, 2010 meeting of Academic Affairs Staff. This proposal was considered, and subsequently withdrawn, at the October 12, 2010 meeting of the Academic Affairs Committee.

4. **Recommended:** ______________________ Not Recommended: ______________________

   Academic Affairs Staff: ______________________ Date: ______________________

   Comments:

5. **Recommended:** ______________________ Not Recommended: ______________________

   VP/Academic Affairs: ______________________ Date: ______________________

   Comments:

6. **Recommended:** ______________________ Not Recommended: ______________________

   Academic Affairs Committee: ______________________ Date: ______________________

   Comments:

7. **Approved:** ______________________ Not Approved: ______________________

   VP/Academic Affairs: ______________________ Date: ______________________

   Comments:
Quinsigamond Community College  
Request for a New Course or Course Revision  

Course Discipline **Heating, Ventilation and Air Conditioning**  
Division **Business & Technology**  

Date **9.16.10**  

Course Title **HVC 105 Massachusetts Electrical Code**  
Course Number **HVC 105**  

Lecture Hours **45**  
Credits **4**  
Clinic Hrs **0**  
Lab Hrs **45**  

Prerequisite **HVC 102; Enrollment limited to HVC majors only**  
Corequisite **none**  

Application As Elective? **none**  

Course Effective Term **Spring 2011**  
Year **Academic year 11**  

1) **Does This Course Replace Another Course?**  
   Yes ____ No X  
   Which Course? **none**  
   If Revision, Rationale For Revision Should Be Given Here:  

2) **Is Course Content Similar To Other Courses Now Offered?**  
   Yes ____ X No  
   If Yes, Attach Statement From Chairperson Of Department Offering Similar Course.  

3) **For Whom Is This Course Designed?**  
   Students in the HVAC Certificate Program  

4) **Required Course?**  
   X Yes ____ No  
   Required For HVAC Certificate Program  

5) **Expected Enrollment Per Term**  
   **20**  
   Per Year **20**  

6) **Additional Staff?**  
   X Yes ____ No  
   Number Of Additional Staff  
   Part-time coordinator/faculty  

7) **Additional Space?**  
   X Yes ____ No  
   Amount Of Additional Space  
   Off-site laboratory location to be identified  

8) **Additional Equipment?**  
   X Yes ____ No  
   Additional Cost $  

9) **Additional LRC Materials?**  
   X Yes ____ No  
   Estimated Cost $ 500.00  
   Signature: ________________________________ (Library Services Director)  

10) **Text And Related Materials**  

   The following textbooks are required.  
   
   National Electrical Code (NEC) 2008  
   National Fire Protection Association (NFPA) 70  
   ISBN: 0-87765-793-9  

11) **Attach Course Description And Outline To This Page**  

12) **CIP Code**  

   47.02
QUINSIGAMOND COMMUNITY COLLEGE

COURSE DESCRIPTION:

HVC 105 Massachusetts Electrical Code 4 credits
Wiring practices required by the Mass. Electrical Code (National Electrical Code) are detailed as they apply to the wide variety of heating, ventilation, air conditioning, and refrigeration equipment. Laboratory exercises demonstrate the application of these practices on controls, relays, timers, motors, circuit protection and electrical supplies for safety and functionality. This course includes a laboratory component.

Prerequisite: HVC 102; Enrollment limited to HVC majors only

A. Desired Student Outcomes/Instructional Objectives

Student Learning Outcomes/Competencies

Upon successful completion of this course, students are expected to demonstrate mastery in these areas:

1. Students demonstrate safe lab practices;
2. Students apply knowledge of safety practices from electrical codes to HVAC/R applications;
3. Students identify areas where electrical code requirements apply;
4. Students identify and apply approved wiring practices;
5. Students identify electrical conductors for proper application;
6. Students calculate and select conductors for a given application;
7. Students demonstrate proper and safe grounding practices;
8. Students identify terms and language used to interpret electrical code requirements;
9. Students apply knowledge of Motor Circuit Conductors used in HVAC/R systems;
10. Students define terminology applied to HVAC/R electrical equipment;
11. Students identify Motor Circuit Controls for HVAC/R systems;
12. Students define terminology applied to HVAC/R electrical equipment;
13. Students apply knowledge of HVAC/R Branch Circuit Conductors for safe and proper installations;
14. Students define terminology applied to HVAC/R Low Voltage Controls;
15. Students determine power limits for low voltage transformers and control circuits;
16. Students apply knowledge of Motor Branch Circuits to identify and select proper conductors and protection devices.

B. Course Academic Requirements and Teaching Approach

1. Students are expected to attend every class. Students who miss a class are responsible for any assignments due for that class, and must contact the instructor in person or by e-mail to get the assignments due for the next class. Students may obtain assignments ahead of time for unavoidable, excusable absences. Missed exams or quizzes due to a justified absence must be made up as soon as possible, typically within the day of the student’s return to class.
2. Assigned readings and/or exercises for a class are required and must have been completed by the assigned deadline.
3. Students are expected to participate in class exercises and discussion.
4. Students are required to take all quizzes and exams and a final exam, as scheduled.
5. Students will complete all assigned lab projects by their specified deadlines. A brief extension may be granted only in case the submitted work, albeit incomplete, shows sufficient progress and promise of completion.
Teaching approach

The class will be conducted as a combination of classroom lecture, hands-on lab projects, and collaborative interactions.

Theoretical presentations will be followed by practical hands-on lab exercises, under the instructor’s supervision.

C. Required Textbooks:

National Electrical Code (NEC) 2008  
National Fire Protection Association (NFPA) 70  
ISBN: 0-87765-793-9  

D. Course Outline

**Week One**
- Introduction to the course: syllabus,  
- Overview of State and Federal Electrical Standards  
- MA Addendum 527 CMR 12.00  
- Basic Wiring Methods

**Reading Assignments:**

- Class notes  
- NEC 2008 - 527 CMR 12.00  
- NEC 2008 – Article 90 & Article 100

**Quiz**

**Week Two**
- Requirements for Electrical Installations

**Reading Assignments:**

- Class notes  
- NEC 2008 – Article 110 & Article 200

**Quiz**

**Week Three**
- Basic Wiring Methods

**Reading Assignments:**

- Class notes  
- NEC 2008 - 527 CMR 12.00  
- NEC 2008 – Article 300.00 – 300.50 – Wiring Methods

**Quiz**

**Week Four**
- Conductors for General Wiring

**Reading Assignments:**

- Class notes
Week Five
Circuit Ampacities and Wire Sizing

Reading Assignments:
- Class notes
- NEC 2008 – Article 310.00 – 310.60

Quiz

Week Six
Grounding

Reading Assignments:
- Class notes
- NEC 2008 – Article 250.00 – 250.118

Quiz

Week Seven
Definitions of Motors and Motor Circuits

Reading Assignments:
- Class notes
- NEC 2008 – Article 430.00 – 430.18

Quiz

Week Eight
Motor Circuit Conductors

Reading Assignments:
- Class notes
- NEC 2008 – Article 430.21 – 430.29

Quiz

Exam # 1

Week Nine
Motor Branch Circuit Protection

Reading Assignments:
- Handouts
- NEC 2008 – Article 430.31 – 430.63

Quiz

Week Ten
Motor Circuit Controls

Reading Assignments:
- Class notes
- NEC 2008 – Article 430.71 – 430.126

(5)
Quiz

Week’s Eleven
Higher Voltages and Grounding

Reading Assignments:
Class notes
NEC 2008 – Article 430.221 – 430.244

Quiz

Week Twelve
Air Conditioning and Refrigeration Equipment
Definitions

Reading Assignments:
Class notes
NEC 2008 – Article 440.00 – 440.22

Quiz

Week Thirteen
HVAC/R Branch Circuit Conductors

Reading Assignments:
Class notes
NEC 2008 – Article 440.00 – 440.65

Quiz

Week Fourteen
Low Voltage Controls

Reading Assignments:
Class notes
NEC 2008 – Article 720-725

Quiz

Week Fifteen
Low Voltage Controls
Low Voltage Transformers

Reading Assignments:
Class notes
NEC 2008 – Article 720-725

Quiz

Exam #2

FINAL EXAM AS SCHEDULED!
D. **Method of Evaluation**

Final grades for this course will be based on the following:

- Exam 1: 10%
- Exam 2: 10%
- Final Exam: 30%
- Fifteen Quizzes: 20% (all worth the same)
- Lab Projects: 30% (all worth the same)

**Lab Project Criteria**
- All lab projects must meet current industry standards for workmanship and safety
- All lab projects will be further judged on by specific rubrics given for each project

**Plagiarism**
- Submitted assignments are expected to be the product of the student’s individual and original effort.

*Final course grade will follow the QCC grading system*
### Assessment Plan

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>LEARNING OUTCOME</th>
<th>INSTRUCTIONAL METHODOLOGY</th>
<th>FACULTY RESOURCES</th>
<th>STUDENT RESOURCES</th>
<th>PRE ASSESSMENT</th>
<th>POST ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction to the course: syllabus, Introduction to the course: syllabus, Overview of State and Federal Electrical Standards for HVAC/R Systems</td>
<td>1. Students demonstrate safe lab practices; 2. Students apply knowledge of safety practices from electrical codes to HVAC/R applications</td>
<td>Lecture Group work Lab work: Basic wiring connections</td>
<td>Course textbooks</td>
<td>Class Handouts</td>
<td>Class Q/A</td>
<td>Quiz Exam # 1 Final exam</td>
</tr>
<tr>
<td>Week 2</td>
<td>Requirements for Electrical Installations</td>
<td>Students identify areas where code requirements apply</td>
<td>Lecture Group work Lab work: Wire sizes (AWG)</td>
<td>Course textbooks</td>
<td>Class Handouts</td>
<td>Class Q/A</td>
<td>Quiz Exam # 1 Final exam</td>
</tr>
<tr>
<td>Week 3</td>
<td>Basic Wiring Methods</td>
<td>Students identify and apply approved wiring practices</td>
<td>Lecture Group work Lab work: Basic Circuit Rules</td>
<td>Course textbooks</td>
<td>Class handouts</td>
<td>Class Q/A</td>
<td>Quiz Exam #1 Final Exam</td>
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<tr>
<td>Week 4</td>
<td>Conductor for General Wiring</td>
<td>Students identify electrical conductors for proper application</td>
<td>Lecture Group work Lab work: Grounding Methods</td>
<td>Course textbooks</td>
<td>Class handouts</td>
<td>Class Q/A</td>
<td>Quiz Exam #1 Final Exam</td>
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<td>Week 5</td>
<td>Circuit Ampacities and Wire Sizing</td>
<td>Students calculate and select conductors for a given application</td>
<td>Lecture Group work Lab work: Condensing Units Wiring</td>
<td>Course textbooks</td>
<td>Class handouts</td>
<td>Class Q/A</td>
<td>Quiz Exam #1</td>
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<tr>
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<th>Module</th>
<th>Description</th>
<th>Lecture</th>
<th>Group work</th>
<th>Lab Work</th>
<th>Course textbooks</th>
<th>Course textbooks</th>
<th>Class Q/A</th>
<th>Quiz</th>
<th>Exam #1</th>
<th>Final Exam</th>
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<tbody>
<tr>
<td>Week Six</td>
<td>Grounding</td>
<td>Students identify proper grounding practices and applications for safe operation</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab Work: Circuit Protection</td>
<td>Course textbooks</td>
<td>Course textbooks</td>
<td>Class Q/A</td>
<td>Quiz</td>
<td>Exam #1</td>
<td>Final Exam</td>
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<tr>
<td>Week Seven</td>
<td>Definitions of Motors and Motor Circuits</td>
<td>Students identify terms and language used to interpret code requirements</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab Work: Circuit Ampacities Wire Sizing Protection Selection</td>
<td>Course textbooks</td>
<td>Course textbooks</td>
<td>Class Q/A</td>
<td>Quiz</td>
<td>Exam #1</td>
<td>Final Exam</td>
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<tr>
<td>Week Eight</td>
<td>Motor Circuit Conductors</td>
<td>Students apply knowledge of Motor Circuit Conductors used in HVAC/R systems</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab Work: Installing compressor safety controls</td>
<td>Course Textbooks</td>
<td>Course Textbooks</td>
<td>Class Q/A</td>
<td>Quiz</td>
<td>Exam #1</td>
<td>Final Exam</td>
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<td>Week Nine</td>
<td>Motor Branch Circuit Protection</td>
<td>Students apply knowledge of Motor Branch Circuits to identify and select proper conductors and protection devices</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab Work: Installing compressor safety controls</td>
<td>Course Textbooks</td>
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<td>Class Q/A</td>
<td>Quiz</td>
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<td>Final Exam</td>
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<td>Week Ten</td>
<td>Motor Circuit Controls</td>
<td>Students identify Motor Circuit Controls for HVAC/R systems</td>
<td>Lecture</td>
<td>Group work</td>
<td>Lab Work: Installing compressor safety controls</td>
<td>Course textbooks</td>
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<td>Class Q/A</td>
<td>Quiz</td>
<td>Exam #2</td>
<td>Final Exam</td>
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<td>Week</td>
<td>Higher Voltages and Grounding</td>
<td>Students demonstrate safe grounding practices</td>
<td>Lecture Group work Lab work: Wiring Air Handlers</td>
<td>Course textbooks</td>
<td>Class Q/A</td>
<td>Quiz</td>
<td>Exam #2</td>
<td>Final Exam</td>
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<td>Week Twelve</td>
<td>Air Conditioning and Refrigeration Equipment</td>
<td>Students define terminology applied to HVAC/R electrical equipment</td>
<td>Lecture Group work Lab work: Wiring Transformers</td>
<td>Course textbooks</td>
<td>Class Q/A</td>
<td>Quiz</td>
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<td>Final Exam</td>
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<td>Week Thirteen</td>
<td>HVAC/R Branch Circuit Conductors</td>
<td>Students apply knowledge of HVAC/R Branch Circuit Conductors for safe and proper installations</td>
<td>Lecture Group work Lab work: Wiring Low Voltage Controls</td>
<td>Course textbooks</td>
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<td>Week Fourteen</td>
<td>Low Voltage Controls</td>
<td>Students define terminology applied to HVAC/R Low Voltage Controls</td>
<td>Lecture Group work Lab work: Wiring Low Voltage Controls</td>
<td>Course textbooks</td>
<td>Class Q/A</td>
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<td>Week Fifteen</td>
<td>Low Voltage Controls Low Voltage Transformers</td>
<td>Students determine power limits for low voltage transformers and control circuits</td>
<td>Lecture Group work Lab work: Wiring Heat Pumps</td>
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<td>Quiz</td>
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## Heating, Ventilation and Air Conditioning - Certificate

### PROPOSED

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<thead>
<tr>
<th>Course Title</th>
<th>Course #</th>
<th>Offered</th>
<th>Plan to Take</th>
<th>Grade</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>The Certificate: Heating, Ventilation and Air Conditioning</th>
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<td>Introduction to Microcomputer Applications</td>
<td>CIS 111</td>
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<td>Basic Refrigeration Systems and Heat Theory</td>
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<td>Basic Electricity</td>
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<td>Air Conditioning Systems</td>
<td>HVC 103</td>
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<td>Mass. Refrigeration Code</td>
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<td>Mass. Electrical Code</td>
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* Recommended Elective:
PHE 103 Standard First Aid & Personal Safety. Note: If a student has already taken another college-level course, s/he may use that course to fulfill this Elective requirement.

**Admissions Requirements:**
- Three years of high school English, or completion of ENG 091 with a grade of "C" or better
- One year of high school mathematics, or placement into MAT 095 or higher on the QCC Math Assessment test

**Program Coordinator:**
TBA; inquiries may be directed to hvac@qcc.mass.edu

**Program Footnotes:**
Students enrolled in this program must register for HVC 101 and HVC 102 simultaneously in Semester 1 in order to move on to the advanced HVC courses in Semester 2.
Program of Study:

Heating, Ventilation & Air Conditioning Certificate

Current Admission Requirements as Stated in Current Catalog: Date:___________

N/A – new program

Revised Admission Requirements:

- Three years of high school English, or completion of ENG 091 with a grade of “C” or better
- One year of high school mathematics, or placement into MAT 095 or higher on the QCC Math Assessment test

Effective Date and Accompanying Conditions:

Immediately upon introduction of program in Spring 2011

Program Coordinator: ________________________________

Dean of Division: ________________________________

Vice President/Academic Affairs: ________________________________
TO: Community College Presidents  
Chief Academic Officers  
Chief Information Officers  

FROM: Gina Yarborough, Associate Counsel  

DATE: June 29, 2010  

RE: Update on the Copyright and Intellectual Property Policy and New Federal Copyright Requirements  

Over the past academic year, the General Counsel’s Office, with the assistance of the Chief Academic Officers, and their designees, prepared a Copyright and Intellectual Property Policy for adoption by the Massachusetts Community Colleges. After review and approval by the Presidents, union representatives were offered an opportunity to bargain the impact of the policy. While AFSCME representatives did not wish to bargain over the policy, they wanted to be informed if any changes were proposed after the matter was reviewed with the MCCC. Although the MCCC expressed an interest in reviewing the policy, it has been unable to commit to a meeting date. We have recently informed union representatives that the Colleges can no longer hold off implementation of this policy in light of, among other things, new copyright regulations which go into effect July 1, 2010, and which are described in more detail below. Accordingly, the Colleges may take steps to implement the Copyright and Intellectual Property Policy, including posting on the College’s website, publishing in the College’s handbooks and other written materials, and notifying all faculty, students, and staff. We will continue to update you on the status of future discussions with the union regarding this policy.

Effective July 1, new copyright regulations will apply to colleges that participate in federal student aid programs, including the Massachusetts Community Colleges. These regulations implement provisions of the Higher Education Opportunity Act of 2008 relating to copyright infringement on campus networks. Colleges are now required to provide an annual disclosure to students describing copyright law and campus policies related to violating copyright law. Colleges are also required to have a plan to “effectively combat the unauthorized distribution of copyrighted materials” by users of its network, including “the use of one or more technology-based deterrents.” Colleges must also have procedures for periodically reviewing the effectiveness of these plans. Colleges are also required to offer legal alternatives to illegal downloading or otherwise acquiring copyrighted material. An advisory from the United States Department of Education which explains these requirements in more detail and provides sample
language for use by the Colleges is attached to this memorandum and can also be found at http://ifap.ed.gov/dpcletters/GEN1008.html.

If you have any questions or we can be of assistance in the meantime, please contact us.

Cc: Kenneth A. Tashjy, General Counsel
    William Hart, Executive Director, MCCEO
DCL: GEN-10-08

Subject: Institutional requirements for combating the unauthorized distribution of copyrighted material by users of the institution's network

Summary: This letter reminds institutions that participate in the Title IV, HEA programs of the new requirements for combating the unauthorized distribution of copyrighted material by users of an institution’s network. This letter also provides a sample summary of civil and criminal penalties for copyright infringement that may be used by institutions to meet one of the requirements of the regulations.

Dear Colleague:

The Higher Education Opportunity Act of 2008 (HEOA) (Pub. L. 110-315) added provisions to the Higher Education Act of 1965, as amended, (HEA) requiring institutions to take steps to combat the unauthorized distribution of copyrighted materials through illegal downloading or peer-to-peer distribution of intellectual property. These requirements were effective upon enactment of the HEOA, August 14, 2008.1 On October 29, 2009, the Department published final regulations implementing the statutory requirements (74 FR 55902). These regulations go into effect July 1, 2010. The final regulations are available at http://www.ifap.ed.gov/fregisters/FR102909GeneralandNonLoanProgrammaticFinalRule.html.

This letter describes the requirements of the final regulations and provides a sample summary of civil and criminal penalties for copyright infringement that may be used by institutions to meet one of the requirements of those regulations.

Institutional plans

Under 34 CFR 668.14(b)(30), an institution, as a condition of participation in any Title IV, HEA program, must have developed and implemented written plans to effectively combat the unauthorized distribution of copyrighted material by users of the institution’s network without unduly interfering with the educational and research use of the network. An institution must include in its plans:

- The use of one or more technology-based deterents;
- Mechanisms for educating and informing its community about appropriate versus inappropriate use of copyrighted material, including the consumer information an institution must provide, upon request, in accordance with 34 CFR 668.43(a)(10) (described below). These mechanisms may include any additional information and approaches determined by the institution to contribute to

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1 As the Department noted in the December 2008, Dear Colleague Letter that provided a summary of the provisions of the HEOA (GEN-08-12), because passage of the HEOA required program participants to implement a large number of new provisions before receiving guidance from the Department, during subsequent reviews of compliance with the HEOA, we will take into account whether any written guidance had been provided by the Department during the period under review.

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the effectiveness of the plans, such as including pertinent information in student handbooks, honor codes, and codes of conduct in addition to e-mail and/or paper disclosures;

- Procedures for handling unauthorized distribution of copyrighted material, including disciplinary procedures; and

- Procedures for periodically reviewing the effectiveness of the plans to combat the unauthorized distribution of copyrighted materials by users of the institution’s network using relevant assessment criteria. It is left to each institution to determine relevant assessment criteria. No particular technology measures are favored or required for inclusion in an institution’s plans, and each institution retains the authority to determine what its particular plans for compliance will be, including those that prohibit content monitoring.

In recognition of the diversity among institutions and how technology is continuously evolving, it is up to an institution’s discretion to determine how many and what type of technology-based deterrents it uses as a part of its plans—although every institution must employ at least one. Technology-based deterrents include bandwidth shaping, traffic monitoring, accepting and responding to Digital Millennium Copyright Act (DMCA) notices, and commercial products designed to reduce or block illegal file sharing. An institution also has discretion to determine what relevant assessment criteria are for reviewing the effectiveness of its plans. In some cases, appropriate assessment criteria might be process-based, so long as the institution’s information system information does not contradict such a determination. Such process-based criteria might look at whether the institution is following best practices, as laid out in guidance worked out between copyright owners and institutions or as developed by similarly situated institutions that have devised effective methods to combat the unauthorized distribution of copyrighted material. In other cases, assessment criteria might be outcome-based. The criteria might look at whether there are reliable indications that a particular institution’s plans are effective in combating the unauthorized distribution of copyrighted material. Among such indications may be “before and after” comparisons of bandwidth used for peer-to-peer applications, low recidivism rates, and reductions (either in absolute or in relative numbers) in the number of legitimate electronic infringement notices received from rights holders. An institution is expected to use the assessment criteria it determines are relevant to evaluate how effective its plans are in combating the unauthorized distribution of copyrighted materials by users of the institution’s networks.

Offering of legal alternatives

34 CFR 668.14(b)(30) also requires that an institution, in consultation with the chief technology officer or other designated officer of the institution, to the extent practicable, offer legal alternatives to illegal downloading or otherwise acquiring copyrighted material, as determined by the institution. An institution must periodically review the legal alternatives for downloading or otherwise acquiring copyrighted material, and make the results of the review available to its students through a Web site or other means.

The Department anticipates that individual institutions, national associations, and commercial entities will develop and maintain up-to-date lists that may be referenced for compliance with this provision.
Consumer Information

Under 34 CFR 688.43(a)(10), an institution must include information regarding institutional policies and sanctions related to the unauthorized distribution of copyrighted material in the list of institutional information provided upon request to prospective and enrolled students. This information must:

- Explicitly inform its students that unauthorized distribution of copyrighted material, including peer-to-peer file sharing, may subject a student to civil and criminal liabilities;
- Include a summary of the penalties for violation of Federal copyright laws; and
- Describe the institution’s policies with respect to unauthorized peer-to-peer file sharing, including disciplinary actions that are taken against students who engage in illegal downloading or unauthorized distribution of copyrighted materials using the institution’s information technology system.

Under 34 CFR 688.41(c), an institution must provide to enrolled students an annual notice containing a list and brief description of the consumer information it must disclose and the procedures for obtaining this consumer information. An institution must add to this list information regarding institutional policies and sanctions related to the unauthorized distribution of copyrighted material. Consistent with current regulations (34 CFR 688.41(a)), an institution must provide this annual notice on a one-to-one basis through a direct individual notice to each enrolled student. This notice must be made through an appropriate mailing or publication, including direct mailing through the U.S. Postal Service, campus mail, or electronic mail. Posting on Internet or Intranet Web sites does not constitute notice. If the institution discloses the consumer information by posting the information on a Web site, it must include in the notice the exact electronic address at which the information is posted, and a statement that the institution will provide a paper copy of the information on request.

Although an institution is required to disclose the required information only to students, we encourage institutions to make the information available to employees and the general public if they believe it will be beneficial.

Sample summary of Federal civil and criminal penalties

The Department has worked with representatives of copyright holders and institutions to develop a sample summary of the civil and criminal penalties for violation of Federal copyright laws (34 CFR 688.43(a)(10)(ii)) that an institution may use to meet the requirement that an institution include such a summary in the information it provides upon request to prospective and enrolled students. The use of this sample summary is optional.

Summary of Civil and Criminal Penalties for Violation of Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.
Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or “statutory” damages affixed at not less than $750 and not more than $30,000 per work infringed. For “willful” infringement, a court may award up to $150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys’ fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense.

For more information, please see the Web site of the U.S. Copyright Office at www.copyright.gov, especially their FAQ’s at www.copyright.gov/help/faq.

Thank you for your continued participation in the Title IV programs. If you have any questions regarding this letter, please contact Wendy Macias by e-mail at wendy.macias@ed.gov or by phone at 202-502-7526.

Sincerely,

Daniel T. Madzelan
Delegated the Authority to Perform
the Functions and Duties of the
Assistant Secretary for
Postsecondary Education
COPYRIGHT AND INTELLECTUAL PROPERTY POLICY

PURPOSE AND SCOPE

This policy provides guidance regarding the use and creation of intellectual property at Quinsigamond Community College. While the definition of intellectual property is broad and can include works of authorship, computer software, inventions, discoveries, creations, know-how, trade secrets, technology, scientific or technological developments, and research data, regardless of whether subject to legal protection, this policy will focus on that intellectual property at the College which is most likely to be used such as copying copyrighted materials for classroom instruction or course materials, performances and displays in the classroom and distance learning environments, as well as created. This policy will address when it is necessary to obtain authorization to use intellectual property, as well as who owns the rights to intellectual property created at the College.

It is the responsibility of all faculty, staff, students and anyone using the facilities or resources of Quinsigamond Community College to read, understand and follow this policy. Any person with questions regarding the application or meaning of this policy should seek clarification from the Chief Academic Officer. Failure to observe this policy may subject individuals to disciplinary action pursuant to applicable handbooks or collective bargaining agreements, up to and including expulsion from the College or termination of employment. Further, failure to observe this policy may result in violation of civil and/or criminal laws.

DEFINITIONS

Copyright – The exclusive right of an author to reproduce and create derivative works from, distribute, perform, display, sell, lend or rent original works of authorship that are fixed in a tangible medium which are not in the Public Domain and thus, protected under United States Copyright Law Title 17 of the U.S. Code, including literary, musical and dramatic works as well as computer software teaching materials, multimedia works, proposals and research reports, books, articles, study guides, syllabi, workbooks, manuals, bibliographies, instructional packages, tests, video or audio records, films, slides, transparencies, charts, graphic materials, photographic or similar visual materials, film strips, multi-media materials, three dimensional materials, exhibits, software, and databases.

Covered Individuals – All individuals employed by the College, enrolled at the College, attending classes at the College, and/or using the facilities or resources of the College (e.g. community members) are subject to this policy.

Intellectual Property – Includes, but is not limited to, any works of authorship, computer software, invention, discovery, creation, know-how, trade secret, technology, scientific or technological development, research data, regardless of whether subject to legal protection such as copyright.
Public Domain - The status of publications, products, and processes that are not protected by copyright; for example, materials on which the copyright has expired and works created by the federal government or a state government.

Work Made for Hire – Pursuant to Section 101 of Title 17 of the U.S. Code, “(1) a work prepared by an employee within the scope of his or her employment; or (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work,\(^1\) as a compilation, as an instructional text,\(^2\) as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument that the work shall be considered a work made for hire.”

COMPLIANCE WITH COPYRIGHT AND INTELLECTUAL PROPERTY LAWS

It is the policy of Quinsigamond Community College to acknowledge and abide by all applicable intellectual property laws, including but not limited federal copyright law, Title 17 of the U.S. Code as amended at http://www.copyright.gov/title17.\(^3\) The College expects that all individuals employed at the College, enrolled at the College, and/or using the facilities or resources of the College (“Covered Individuals”) shall do the same.

In addition to issuing, and educating the College community regarding, this policy, the College will, among other things, ensure that every photocopy machine and printer and other equipment capable of creating copies on campus shall include effective signage incorporating the following text:

\(\begin{align*}
\text{Notice: The copyright law of the U.S. (Title 17 of the U.S. Code) governs the making of photocopies or other reproductions of copyrighted material. The person using this equipment is liable for any infringement.}
\end{align*}\)

\(^1\) A “supplementary work” is “a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes.”

\(^2\) An “instructional text” is a “literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities.”

\(^3\) Since its passage in 1976, the Copyright Law has been amended numerous times by, for example, the Digital Millennium Copyright Act in 1998 and the Technology, Education, and Copyright Harmonization Act (“TEACH Act”) in 2002. These amendments outline the copyright requirements for digital content and online distance education addressed in this policy. Additional information regarding these amendments can be found in the appendices to this policy.
The College has also designated an "Agent to Receive Notification of Claimed Copyright Infringement." Anyone who believes that any faculty, staff, or student of the College has infringed on their rights as a copyright owner should contact the Chief Academic Officer, as the College’s Copyright Agent, with the following information:

- Complete name, mailing address, email address, phone and fax numbers;
- Information about the copyrighted material (URL, book title, etc.);
- The URL of the College site which has the infringing material; and
- Any other information supporting the claim.

With regard to Distance Learning, the College will apply measures to protect against unauthorized access (e.g. limiting transmission to students enrolled in a particular course) and requires that only lawfully acquired copies of copyrighted works are used.

**USE OF INTELLECTUAL PROPERTY: COPYRIGHT**

Much of the existing works, information, or materials used at the College, whether written or electronic are copyright protected. Copyright protection vests automatically in original works of authorship that are fixed in a tangible medium of expression which are not in the Public Domain. Copyrighted materials can include literary, musical and dramatic works as well as computer software teaching materials, multimedia works, proposals and research reports, books, articles, study guides, syllabi, workbooks, manuals, bibliographies, instructional packages, tests, video or audio records, films, slides, transparencies, charts, graphic materials, photographic or similar visual materials, film strips, multi-media materials, three dimensional materials, exhibits, software, and databases.

Works in the Public Domain include those created by the federal or a state government and copyrighted works where the copyright has expired. Public accessibility to the works such as via the Internet does not mean that the works are in the Public Domain. To the contrary, much of the materials on the Internet are copyright protected. Since copyright laws protect many materials, and it is difficult to determine whether a work is in the Public Domain, Covered Individuals should assume that the materials they seek to use, for example, in connection with course preparation, course presentation or course materials, are copyrighted works.

Please note that if anyone who is not the copyright owner reproduces, distributes, performs, displays, and/or makes derivative works from copyrighted materials it is an infringement of the copyright owner’s rights and the person infringing may be liable for damages to the copyright owner as well as criminal penalties. Accordingly, any time a Covered Individual uses a copyrighted work, either in whole or in part, proper authorization must be obtained from the copyright owner (which can include written consent as well as the payment of a fee) unless one of the exceptions listed below applies. Additionally, Covered Individuals should clearly and prominently acknowledge the copyright owner on, or next to, the copyrighted work along with the following notice:
OBTAINING AUTHORIZATION TO USE A COPYRIGHTED WORK

Obtaining authorization from a copyright owner to use a copyrighted work is usually not difficult but in some cases, may involve payment of a fee. The Association of American Publishers suggests that the following information be sent to the copyright owner (and/or to the publisher), with a self-addressed stamped envelope, to expedite the approval process:

- Title, author and/or editor, and edition of materials to be duplicated.
- Exact material to be used, giving amount, page numbers, reels, cassettes, chapters and, if possible, a photocopy of the material.
- Number of copies to be made.
- Use to be made of duplicated materials (including time period or duration if copying on an on-going basis is desired).
- Form of distribution (classroom, newsletter, etc.).
- Whether or not the material is to be sold.
- Type of reprint (photocopy, offset, typeset, reproduced [media]).

It is advisable to allow sufficient lead time to obtain authorization prior to use. In some instances the copyright holder may assess a fee for permission, which may be passed on to students who receive copies of the copyrighted material.

Depending on the type of copyrighted material (e.g. poetry, music), permission may also be obtained (for a fee) by contacting organizations such as the Copyright Clearance Center, Films for the Humanities & Sciences, Harry Fox Agency, Motion Picture Licensing Corporation, Recording Industry Association of America, and The American Society of Composers, Authors and Publishers.

WHEN AUTHORIZATION IS NOT REQUIRED

Covered Individuals do not need to obtain prior written permission from the copyright owner to use copyrighted materials if use falls under one of the exemptions listed below. Additional guidance and resources are included in the appendices to this policy.

Fair Use Exemption

Copyright law does allow limited copying, distribution, and display of copyrighted works without the copyright owner’s permission for purposes such as criticism, comment, news reporting, teaching (including multiple uses for classroom use), scholarship and/or research under certain conditions known as “fair use.” Copyright law does not specify what qualifies as of “fair use” but rather provides four interrelated factors which must be
considered every time a Covered Individual seeks to use copyrighted material to evaluate whether the use (e.g. copying, distribution) falls within the limited exemption of fair use. The four factors that must be considered on a case-by-case basis are as follows:

- The purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes.

  Nonprofit educational uses are more likely to be considered fair while commercial uses will likely be an infringement. Duplicating and distributing small portions of copyrighted materials for specific nonprofit educational purposes has been considered to be fair use.

- The nature of the copyrighted work.

  For example, use of published non-fiction (e.g. encyclopedias) is more likely to be considered fair while use of unpublished fiction will likely be an infringement. Commercial audiovisual works and consumable workbook materials are less likely to be considered fair than use of many printed materials.

- The amount and importance of the portion of the copyrighted work used.

  Use of extracts which are small relative to the whole work and which do not capture the “essence” of the work are more likely to be considered fair.

- The economic effect of the use on the copyright owner

  If copying or distributing the work does not reduce sales of the work then the use is more likely to be considered fair.

Please note that not all educational uses will qualify as “fair use” and that the concept of “fair use” provides limited exemption and does not allow for the wholesale copying and distribution of copyrighted work for educational or any other purpose without permission. Moreover, when in doubt if use qualifies as “fair use,” permission from the copyright holder should be obtained.

Special Library Exemption

Copyright laws allow libraries to exercise special rights in addition to “fair use” such as archiving lost, stolen, damaged or deteriorating works, making copies for library patrons, and, in some cases, making copies for other libraries’ patrons (inter-library loan).

Special Classroom Exemption
Copyright laws allow faculty and instructors to use copyrighted materials in the classroom, including distance learning environments, without obtaining permission, for example, in performances of non-dramatic literary and musical works or displays of print materials over the internet as part of a class session in a distance learning course. This special classroom exemption only applies if:

- The display or performance is done by, at the direction of, or under the actual supervision of an instructor, as an integral part of a class session, an integral part of a class session as part of systematic mediated instructional activities and is directly related and of material assistance to the teaching content.
- Transmission is made solely for and reception limited to (as technologically feasible) students enrolled in the course, and technological measures are in place to limit access to enrolled students and reasonably prevent download and further distribution of materials.
- There is no interference with copyright holder's technological measures that prevent such retention and dissemination.

The special classroom exemptions do not cover:

- Digital educational works - works produced or marketed primarily for performance/display as part of mediated instructional activities transmitted via digital networks.
- Unlawful copies - copies which are known (or reasonably should have been known) to be unlawfully made or acquired.

Please note that copyright law allows the conversion of print or analog material into digital formats if no digital version is available or an available digital version is protected by technological measures.

**GUIDELINES FOR USE OF COPYRIGHTED WORKS AT THE COLLEGE**

Below are some illustrations of typical educational uses of copyrighted works at the College which are unlikely to require the copyright owner’s permission if this policy and these guidelines are followed as use will likely fall into one of the exemptions listed above. Even if a determination is made that an exception applies and permission of the copyright owner is not required for use of copyrighted material, Covered Individuals still have limitations on use as outlined in this Policy and below. Additionally, Covered Individuals should clearly and prominently acknowledge the copyright owner on, or next to, the copyrighted work along with the following notice: “This material is protected by Title 17 of the U.S. Code and thus, copying of the material is prohibited by federal copyright law.” Please also refer to the appendices of this policy for additional guidance and copyright resources, including, but not limited to other examples where educational uses may be permissible without permission from the copyright owner. These resources may be particularly helpful where Covered Users seek to use copyrighted works in newer forms of technology (e.g. podcasting, PowerPoint). Please note however that this policy...
and federal copyright law applies to all uses of copyrighted materials, irrespective of technology. Non-digital content that is protected by copyright is also protected in digital form. Additional guidance and resources are included in the appendices to this policy such as “Questions & Answers on Copyright For the Campus Community” at http://publishers.org/main/Copyright/attachments/PC-029-08-06-CopyrightQA_v3.pdf

**Single Copy for Classroom Use**

A single copy may be made by, or for, a faculty member or instructor, for his or her scholarly research or use in teaching or preparation to teach a class, of all or part of the following: a chapter from a book, an article from a periodical or newspaper; a short story, short essay or short poem, whether or not from a collective work or a chart, graph, diagram, drawing, cartoon, picture from a book, periodical, or newspaper.

**Multiple Copies for Classroom Use, including Course Packets**

Multiple copies (not to exceed in any event more than one copy per student per course) may be made by, or for, the faculty member or instructor giving the course for classroom use or discussion, provided that the copying meets the tests of brevity and spontaneity and cumulative effect and each copy includes a notice of copyright. Students may not be charged except to recover copying costs.

Works which meet the brevity test are as follows:

- Poetry – a complete poem (or an excerpt from a poem) if less than 250 words and if printed on not more than two pages.
- Prose – a complete article, story or essay of less than 2500 words or an excerpt from any prose work of not more than 1,000 words or 10% of the work whichever is less but a minimum of 500 words.
- Illustration: one chart, graph, diagram, drawing, cartoon or picture per book or per periodical issue.

A work passes the spontaneity test if the copying is at the instance and inspiration of the individual instructor, and the inspiration and decision to use the work and the moment of its use for maximum teaching effectiveness are so close in time that it would be unreasonable to expect a timely reply to a request for permission to copy.

To meet the cumulative effect test, the copying of the material must be for only one course: and not more than one short poem, article, story, essay or two excerpts may be copied from the same author, nor more than three from the same collective work or periodical volume during one class term. Cumulative effect prohibits more than nine instances of such multiple copying for one course during a class term.
Notwithstanding the above, the following copying is prohibited without authorization from the copyright owner:

- Copying for the purpose of creating, replacing, or substituting for anthologies, compilations or collective works.
- Copying of works intended to be “consumable” in the course of study or teaching, such as workbooks, exercises, standardized tests and test booklets and answer sheets.
- Copying as a substitute for the purchase or books, publishers’ reprints or periodicals.
- Repeated copying of the same item by the same teacher from term to term.

Faculty and staff should follow the guidelines above for copying course packets or research materials. Please note that permission of the copyright owner must be obtained for materials that will be used in more than one semester by the same professor for the same class. Copyright notices should include appropriate citations and attributions to the source.

Library Course Reserves

A faculty or staff member may want to have materials on reserve at the library as part of the course materials, including classroom assignments. Library course reserves, whether physical or electronic, are intended to provide supplemental material to courses of instruction at the College. As such, materials placed on reserve (for example disks, audio-visual materials, journal articles and/or photocopies, electronic resources, and non-book items) are not intended to comprise the core of a course’s instructional material, but rather to augment it. The library will conduct a fair use analysis described in this policy and limit reserves to lawfully acquired copies of single articles or chapter, or other small portions of a work or originals of an entire work. Copies must include the notices and acknowledgements listed above and access will be limited to students enrolled in the class and will terminate at the end of the class. When the material requested for reserve exceeds what might be permitted under fair use, permission from the copyright holder must be obtained. Please note that placing a lawfully obtained textbook on reserve is permissible.

Network access, including World Wide Web access, to the College-created digitized study collections that include copyrighted material, is restricted to the College’s campus network and those authorized to use the network. Such digitized collections are accessible temporarily and for instructional purposes only by the students and faculty for whom the material is intended. These collections should be removed at the end of the academic term in which they were being used. Prominent notice must be given that such study materials may not be downloaded, retained, printed, shared, or modified, except as needed temporarily for specific academic assignments.
The use of a course management system (i.e. BlackBoard, Moodle, Angel) offers the capability to provide controlled access to electronic forms of class material. The College’s libraries provide access to a number of databases by subscription agreement with vendors. In many cases the license agreements with the vendors or publishers of these materials specifically address whether or not content may be downloaded and reposted to an electronic reserves system. Since the answer to this question is uneven and there are many licenses to consider, the College’s libraries will link to any database or eJournal content, rather than downloading the document and uploading it for online access (i.e. BlackBoard, Moodle, Angel).

Digitizing and Using Copyrighted Works in Multimedia Materials for Educational Purposes

Covered Individuals may seek to incorporate copyrighted works into multimedia materials and display and perform a multimedia work in connection with, or the creation of, class assignments, curriculum materials, remote instruction, examinations, student portfolios, or professional symposia. Covered Individuals may incorporate copyrighted works into a multimedia work if the amount of material from the copyrighted work is a very small amount, if copies of the multimedia work are limited to those required to achieve the educational purpose, and if the multimedia work is used for the purpose for no longer than two years (in which case permission from the copyright owner is required). The copyright notices and acknowledgements listed above must also be included.

Digitizing and Using Images for Educational Purposes

Covered Individuals may seek to use images during their class, for example art images for an art history class. Images should only be used with permission from the owner of the copyright in the image. Many images are readily available online or for sale or license at a fair price. If the image is not readily available online or for sale or license at a fair price, Covered Individuals should limit access to all digitized images (except small low resolution “thumbnails”) to students enrolled in the class and administrative staff as needed and should terminate access to the images at the end of the class term. Periodically review digital availability. If a previously unavailable image becomes available online or for sale or license at a fair price, it should be acquired before using again.
Distance Learning

A faculty or staff member may display and perform copyrighted works in live interactive distance learning classes, course management systems or in delayed transmission of faculty instruction as follows: the faculty or staff member or the College must own a legal copy of the source (e.g. book purchased in bookstore). Before purchasing materials for Distance Learning Courses, determine whether the applicable licenses provide authority for use of display and performance of the materials without restrictions. If so, a small portion of the Copyrighted materials may be used for a limited time, and with limited access along with the notices and acknowledgements listed above.

Music

A faculty or staff member may copy music for academic purposes, other than performances, limited as follows: 1) excerpts of sheet music, such as performable units (movements, sections, arias) may be copied only if out of print; 2) student performances may be recorded only for teacher or institutional evaluation or student’s portfolio, and 3) sound records may be copied once for classroom or reserve room use. Please note that sheet music may be copied in its entirety only for an emergency when purchased copies are not available for an imminent performance provided that purchased replacement copies are substituted in due course. Additionally, the copyright notices and acknowledgements outlined above must be included. There are also sources of free music such as the Choral Public Domain Library. http://www.cpdl.org/wiki/index.php/Main_Page.

Public Performance

Copyright law governs how copyrighted materials used for a public performance, such as movies, may be used. Neither the rental nor the purchase of a video carries with it the right to show the video outside the home. In some instances no license is required to view a video, such as inside the home by family or social acquaintances and in certain narrowly defined face-to-face teaching activities. Taverns, restaurants, private clubs, prisons, lodges, factories, summer camps, public libraries, day-care facilities, parks and recreation departments, churches and non classroom use at schools and universities are all examples of situations where a public performance license must be obtained. This legal requirement applies regardless of whether an admission fee is charged, whether the institution or organization is commercial or non-profit, or whether a federal or state agency is involved.

Copyright law allows faculty members and instructors to share audio-visual work (e.g. video, VHS tape, laserdisc, DVD movie, 35 mm slide, filmstrip, or 16 mm movie), works with students in face-to-face teaching situations only. Even programs purchased or rented with the caveat "home use only," may be used in face-to-face teaching activities. Such programs may not be used outside of the classroom, for example viewing at a student club meeting, without licensing. Audio-visual works may not be transmitted to other colleges or locations without permission of the copyright holder. Accordingly, unless
permission is received, distance education is an unlikely venue for the performance of audio-visual works.

Transmission of an audio-visual work may be permissible over closed circuit television to classrooms located within the same building. Besides use in classrooms, students, faculty or staff at workstations or in small group rooms such as those available in the library may view audio-visual works that are owned by the College. In similar situations, the performance of non-dramatic literary or musical works is permitted, if the performance or display is a regular part of systematic instructional activities, if it is directly related to teaching content of transmission, if the setting is normally devoted to instructional activities, or if it is sited to accommodate persons with disabilities.

Assuming the purpose is curricular and the setting is face-to-face, two additional criteria apply: (1) the performance of the audiovisual work must meet the instructional objective; and (2) the audio-visual work must be a "lawfully made" copy. Any other type of performance or display of an audio-visual work is potentially a copyright infringement.

**Recording College Events**

Permission to record presentations by registered students, faculty, and staff is assumed if the recording is to be used for archival or classroom use only. Written permission of the presenter or sponsor is required for presentations made by any other individual or group regardless of the recording's purpose. One archival copy of non-classroom events using copyrighted materials may be produced if the presenter has obtained clearance from the copyright holder. Non-archival copies of presentations may only be produced if written permission allowing the duplication of the material has been obtained in advance from all the copyright holders.

**Off-Air Recording of Broadcast Programming for Educational Purposes**

A broadcast program (including cable program) may be recorded off-air and retained for 45 calendar days after date of recording. Off-air recordings may be used once by individual faculty member or instructors in the course of relevant teaching activities and repeated once only when instructional reinforcement is necessary in classrooms and similar places devoted to instruction during the first 10 school days in the 45-day retention period. Off-air recordings may be made only at the request of and use by individual faculty and instructors and may not be regularly recorded in anticipation of requests. No broadcast program may be recorded off-air more than once at the request of the same teacher, regardless of the number of times the program may be broadcast. A limited number of copies may be reproduced from each off-air recording to meet the legitimate needs of faculty and instructors under this policy. Each additional copy shall be subject to all provisions governing the original recording.

After the first ten consecutive school days, off-air recordings may be used up to the end of the 45-day retention period only for teacher evaluation purposes (i.e. to determine whether to including the broadcast program in the teaching curriculum and may not be used in the recording institution for student exhibition or any other non-evaluation
purpose without authorization. After 45 days, a license for retention must be obtained or the recording must be erased or destroyed. Recordings need not be used in their entirety but may not be altered from their original content or physically or electronically combined or merged to constitute teaching anthologies or compilations. Recordings must contain the copyright notice on the broadcast program as recorded.
OWNERSHIP OF INTELLECTUAL PROPERTY

The author or creator of intellectual property is usually the owner of that intellectual property unless the intellectual property is a “work made for hire.” Copyright law (Section 101 of Title 17 of the U.S. Code) defines a “work made for hire” as:

(1) a work prepared by an employee within the scope of his or her employment; or
(2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work,\(^4\) as a compilation, as an instructional text,\(^5\) as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument that the work shall be considered a work made for hire.

If the work does not fit the legal definition of “work made for hire” the employer may still own the intellectual property if it is created pursuant to a contract, collective bargaining agreement, or assignment of copyright.

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\(^4\) A “supplementary work” is “a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes.”

\(^5\) An “instructional text” is a “literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities.”