

College of
Applied Science



Academic Calendar* (Tentative)

*These dates are subject to change pending approval of the Board of Trustees.

Consult the *OneStop* Web site for the registration time period for each quarter.

Note: Saturday and Sunday examination dates are used for courses which meet on Saturday and Sunday.

2007-08

Fall Quarter 2007

Classes begin	Wednesday, September 19
Holiday, Veteran's Day	Monday, November 12
Thanksgiving Holiday	Thursday-Sunday, November 22-25
Classes end	Sunday, December 2
Examinations	Monday-Sunday, December 3-9
Fall Quarter ends	Sunday, December 9

Winter Quarter 2008

Classes begin	Monday, January 7
Holiday, Dr. Martin L. King's Birthday	Monday, January 21
Classes end	Sunday, March 16
Examinations	Monday-Sunday, March 17-23
Winter Quarter ends	Sunday, March 23

2008-09

Fall Quarter 2008

Classes begin	Wednesday, September 24
Holiday, Veterans Day	Tuesday, November 11
Holiday, Thanksgiving	Thursday - Sunday, November 27 - 30
Classes end	Sunday, December 7
Examinations	December 8 - 13
Commencement	Saturday, December 13
Autumn Quarter ends	Saturday, December 13

Winter Quarter 2009

Classes begin	Monday, January 5
Holiday, Dr. M.L. King's Birthday	Monday, January 19
Classes end	Sunday, March 15
Examinations	Monday - Saturday, March 16 - 21
Winter Quarter ends	Saturday, March 21

Spring Quarter 2008

Classes begin	Monday, March 31
Holiday, Memorial Day	Monday, May 26
Classes end	Friday, June 6
Examinations	Saturday-Thursday, June 7-12
Spring Quarter Ends	Friday, June 13
Commencement	Friday, June 13

Summer Quarter 2008

Classes begin	Monday, June 23
Holiday, Independence Day	Friday, July 4
Classes end	Tuesday, August 26
Examinations	Wednesday-Saturday, August 27-30
Summer Quarter ends	Saturday, August 30

Spring Quarter 2009

Classes begin	Monday, March 30
Holiday, Memorial Day	Monday, May 25
Classes end	Friday, June 5
Examinations	Saturday - Thursday, June 6 - 11
Spring Quarter ends	Saturday, June 13
Commencement	Saturday, June 13

Summer Quarter 2009

Classes begin	Monday, June 22
Holiday, Independence Day	Friday, July 3
Classes end	Friday, August 28
Examinations	Saturday - Thursday, August 29 - September 3
Summer Quarter ends	Thursday, September 3

Note: Examinations for traditional Summer Quarter classes are scheduled for Saturday to Thursday, August 29 to September 3. Saturday classes will have examinations on Saturday, August 29.

Design and Production: Creative Services, University Relations

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COLLEGE OF APPLIED SCIENCE

ABOUT THE COLLEGE

The College of Applied Science (formerly the Ohio Mechanics Institute — our founding name — and the Ohio College of Applied Science) offers programs in the engineering technologies and related areas with the aim of preparing individuals for careers as engineering technologists, engineering technicians, managers, service industry technologists and technicians.

The college was founded in 1828 as a private educational institution and operated exclusively as an evening college until 1901 when day courses on a pre-college level were added. In 1919 the day courses were revised to collegiate programs. In 1934 a cooperative education plan was initiated in which students could spend time working in industry, and this program continues today. The college merged with the University of Cincinnati in 1969 and has since been offering bachelor of science degrees.

In June, 1989, the College of Applied Science moved to Victory Parkway overlooking the Ohio River just two miles from the University of Cincinnati Uptown campus. The site is next door to Cincinnati's Eden Park, which houses the Cincinnati Art Museum, Playhouse in the Park, and Krohn Conservatory.

The campus provides excellent laboratory spaces for the application of theory through hands-on laboratory instruction that is a hallmark of the college's programs. These laboratories include significantly expanded chemical engineering and instrumental analysis labs in chemical technology, specially designed high-bay labs for construction science and mechanical engineering technology, a central computing lab, information technology and telecommunications lab, multi-media lab, a writing and technical communications laboratory, and several senior design/project labs.

The purpose of the college is to provide education in the engineering and service industry technologies. This is accom-

plished through programs of study ranging from formal, four- or five-year bachelor of science degrees and two-year associate degrees to professional certificates, workshops, and seminars. Programs are offered during the day and the evening, for full- and part-time students, both on and off campus. Special, customized education and training are offered to business and industry employees in keeping with the college's tradition of close working relationships and partnerships with industry.

Formal degree programs prepare engineering technologists and technicians.

Engineering Technologists are graduates of four- or five-year technical programs and hold bachelor of science degrees. The technology program includes courses in applied mathematics (through differential and integral calculus), applied sciences, and technical courses that emphasize application of technical knowledge and methods to current industrial problems. The engineering technologist's education is theoretically based but emphasizes the "hands on" aspects of the technology. Graduates are known as designers, field engineers, and production managers.

Engineering Technicians are graduates of two-year technical colleges and hold associate degrees. Their academic program includes mathematics (through the elements of calculus), applied science, and applied technical courses in a specific engineering area with emphasis on technical support. Technicians are problem-solvers whose interests are directed more toward the practical applications of engineering. The technician can be found in the research laboratory, on a construction job site, or working as a supervisor on a production line.

The College of Applied Science has much to offer students interested in both intellectual and personal development. The job placement rate and starting salaries for the college's associate and baccalaureate graduates are among the highest in the university.

We invite you to take a few moments to read through this *Bulletin* to learn more about your future at the University of Cincinnati's College of Applied Science or visit our Web site at www.uc.edu/cas.

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Linda Ginter-Brown, PhD, *Interim Head, Humanities, Media and Cultural Studies*
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Joseph Harrell, *Adjunct Assistant Professor*
Jason Krueel, *Adjunct Assistant Professor*
Ralph Linne, *Adjunct Assistant Professor*
Marjorie Perry, *Adjunct Assistant Professor*
Herman G. Pfaltzgraff, MBA, *Associate Professor Emeritus*
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Mark Costello, MArch, *Adjunct Assistant Professor*
Jason E. Fogt, BS, *Adjunct Assistant Professor*
Harold Glorius, BS, *Adjunct Assistant Professor*
Eric Kohls, BS, *Adjunct Assistant Professor*
Robert May, *Adjunct Instructor*
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Richard Pohana, MS, *Adjunct Assistant Professor*
Viorica Popescu, MArch, *Adjunct Assistant Professor*
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Paul Shirley, BS, *Adjunct Assistant Professor*
Gregory L. Sizemore, JD, *Adjunct Assistant Professor*
Steven Swisher, BS, *Adjunct Assistant Professor*
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 Xuefu Zhou, PhD, *Assistant Professor*

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 Roy E. Ford, BS, *Adjunct Instructor*
 Mike Hess, BS, *Adjunct Instructor*
 Gerald Kasselmann, MS, *Assistant Professor Emeritus*
 Robert Montjoy, BS, *Adjunct Instructor*
 Leonard Perry, BS, *Adjunct Instructor*
 Ronald Singleton, BS, *Adjunct Instructor*
 Scott Van de Griff, BS, *Adjunct Instructor*

Horticulture

Julie W. Beale, MS, *Adjunct Instructor*
 Jose Castrejon, BS, *Adjunct Instructor*
 Stephen Foltz, BS, *Adjunct Instructor*
 Thomas Fryman, MLA, *Adjunct Assistant Professor*
 David N. Gamstetter, BA, *Adjunct Instructor*
 Richard H. Glaser, BS, *Adjunct Instructor*
 James R. Hansel, MS, *Adjunct Instructor*
Holly Hawkins, BLS, *Adjunct Instructor*
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 Susan E. Trusty, MS, *Adjunct Instructor*

George C. Webb, MS, *Adjunct Instructor*
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 Victoria Appatova, PhD, *Field Service Assistant Professor*
 Laura B. Bauer, MA, *Field Service Instructor*
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 Rebecca S. Borah, PhD, *Associate Professor*
 Marilyn Bossmann, MEd, *Field Service Instructor*
 Linda Ginter Brown, PhD, *Professor*
 Philip T. Clayton, PhD, *Assistant Professor*
 Teresa Cook, MA, *Field Service Instructor*
 Georgia M. Court, MAJ, *Field Service Instructor*
 Muriel Cunningham, MEd, *Field Service Assistant Professor*
 Allen Davidoff, MA, *Associate Professor*
 Frank A. Davis, PhD, *Associate Professor*
 Lawrence E. Elliott, MA, *Associate Professor*
 Amy Sue England, PhD, *Assistant Professor*
 Grace A. Epstein, PhD, *Assistant Professor*
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 Mary Valerie Gerstle, PhD, *Field Service Instructor*
 Dianna Greivenkamp, MA, *Field Service Instructor*
 Ruth Y. Gross, MA, *Field Service Instructor*
 Marla I. Hall, PhD, *Associate Professor*
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 Patricia Houston, MA, *Field Service Instructor*
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 Heather Johnston, MA, *Field Service Instructor*
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 Gail Kiley, MEd, *Field Service Instructor*
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 Michaeline E. Laine, EdD, *Associate Professor*
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 Maurice Peck, MA, *Field Service Instructor*
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 Charles H. Seibert, PhD, *Professor*
 David Shepherd, PhD, *Field Service Assistant Professor*
 Carolyn J. Stoll, MA, *Field Service Assistant Professor*
 Laverne Summerlin, MEd, *Professor*
 JoAnn Thompson, EdD, *Field Service Assistant Professor*
 Linda M. Thompson, MEd, *Professor*
 Gary L. Vaughn, MA, *Associate Professor*
 Laura Wilson, MA, *Field Service Instructor*
 Susan T. Winters, MA, *Assistant Professor*

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 Jennifer Howe, MA, *Adjunct Instructor*
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 Ana Madani, MA, *Adjunct Instructor*
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 Annu B. Prabhakar, MS, *Associate Professor*
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 Brian M. Dietrick, BS, *Adjunct Instructor*
 David Doster, BS, *Adjunct Instructor*
 Terry Eshom, MS, *Adjunct Instructor*
 Matt Fenwick, *Adjunct Instructor*
 W. David Freeze, BS, *Adjunct Instructor*
 Virginia A. Fritz, BSA, *Adjunct Instructor*
 Brandon Jones, BS, *Adjunct Assistant Professor*
 Joseph G. Kasak, MS, *Adjunct Assistant Professor*
 Craig Letavec, MS, *Adjunct Instructor*
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 Kevin McLaughlin, MS, *Adjunct Instructor*
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 Susan Kennedy, MS, *Field Service Instructor*
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James F. Sullivan, MS, *Professor*
 Claudia J. Taylor, MA, *Associate Professor*
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 Gowribalan Vamadeva, MS, *Assistant Professor*
 Daniel Vance, MS, *Assistant Professor*
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 Mark Wasserman, MA, JD, *Adjunct Instructor*

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Denis Hoggia, MBA, *Adjunct Instructor*
 Thomas Huston, *Adjunct Associate Professor*
 Kenneth J. Lenhart, *Adjunct Instructor*
 Raymond A. Miller, BS, *Adjunct Assistant Professor*
 Joseph Nurre, PhD, *Adjunct Instructor*
 Daryl Peacock, *Adjunct Instructor*
 Michael J. Posey, EdD, *Adjunct Assistant Professor*
 R. Doug Rife, ASMET, *Adjunct Instructor*
 Eduardo Rosa, *Adjunct Instructor*
 Ronald Singleton, *Adjunct Instructor*
 David M. Snively, BS, *Adjunct Instructor*
 John L. Ucker, MBA, *Adjunct Instructor*

Open Learning Fire Service

Full-time faculty

Lawrence Bennett, JD, Esq, *Assistant Professor*
William Kramer, PhD, *Associate Professor*

Part-time faculty

Stephen Ashbrock, BA, *Adjunct Instructor*
 Bernard Becker, MBA, *Adjunct Instructor*
 Armando S. Bevelacqua, BS, *Adjunct Instructor*
 James W. Dwertman, MPA, *Adjunct Instructor*
 Richard T. Farr, BS, *Adjunct Instructor*
 John W. Glass, MS, *Adjunct Instructor*
 Michael S. Gabennesch, BS, *Adjunct Instructor*
 Randal Hanifen, MS, *Adjunct Instructor*
 Thomas C. Lakamp, BS, *Adjunct Instructor*

Professional Practice

Kertil Cedercruetz, PhD, *Director*
 Terrance BeCraft, MS, *Assistant Director*
 Zach Osborne, MEd, *Adjunct Assistant Professor*
 Kathleen Ruppert, *Adjunct Assistant Professor*
 William Walters, *Adjunct Assistant Professor*

Wood Technology

Part-time faculty

John F. Albachten, *Adjunct Instructor*
 Richard A. Belcher, *Adjunct Instructor*
 Dana S. Ellefson, *Adjunct Instructor*
 Jeffrey Hildebrand, *Adjunct Instructor*
Robert L. Hutzler, *Adjunct Instructor*
 David A. Schweizer, *Adjunct Instructor*
 Robert L. Seipelt, BS, *Adjunct Instructor*
 Dennis Tenhundfeld, *Adjunct Instructor*

Emeriti

Richard J. Abel, MEd, *Field Service Professor Emeritus of Professional Practice*
 Forest D. Atkins, MCP, *Associate Professor Emeritus of Construction Science*
 Franchot L. Ballinger, MA, *Associate Professor Emeritus of Language Arts*
 Thomas G. Boronkay, PhD, *Professor Emeritus of Mechanical Engineering Technology*
 Marion A. Brown, PhD, *Professor Emerita of English*
 Terry L. Bullock, EdD, *Professor Emeritus of Reading and Critical Thinking*
 Ronald N. Ciminero, MS, *Associate Professor Emeritus of Electrical Engineering Technology*
 Robert W. Dorsey, MCP, RArch, *Professor Emeritus of Construction Science*
 Cheryl A. Dunn, EdD, *Field Service Associate Professor Emerita of Chemical Technology*
 Marvin P. Garrett, MA, *Professor Emeritus of English*
 George W. Hopkins III, MA, *Associate Professor Emeritus of Mathematics*
 Harriett Hogan, MEd, *Associate Professor Emerita of English*
 Daniel Hostetler, *Associate Professor Emeritus of Mathematics*
 Gerald L. Kasselmann, *Assistant Professor Emeritus of Electrical Engineering Technology*
 Maria Curro Kreppel, PhD, *Professor Emerita of English and Communication*
 Soleda T. Leung, MS, *Associate Professor Emerita of Information Technology*
 James F. Marquardt, MS, *Associate Professor Emeritus of Math/Physics*
 James Maratta, *Assistant Professor Emeritus of Mathematics*
 Theodore H. Meyer, Jr., MS, PE, *Professor Emeritus of Electrical Engineering Technology*
 Norman H. Murdoch, PhD, *Professor Emeritus of History*
 Dorothy Napoli, *Professor Emerita*
 Jon A. Nicodemus, *Associate Professor Emeritus of English*
 Joanne K. Rains, EdM, *Associate Professor Emerita of Psychology*
 Victoria Pundsack Reynolds, MA, *Assistant Professor Emerita of English*
 Solveiga Rush, MA, *Professor Emerita of Art History*
 Freddie Maye Sandipher, PhD, *Assistant Professor Emerita of Language Arts*
 Pauline Smolin, *Associate Professor Emeritus of English*
 John C. Spille, EdM, *Professor Emeritus of Chemical Technology*
 Edward E. Turner, MEd, *Assistant Professor Emeritus of Mathematics*

OBJECTIVES

The College of Applied Science aims to carry out the primary objectives of the university within the limits of its program offerings. Specifically, it proposes to educate students in such a manner that the collegiate experience will provide a foundation for the development of professional competence and future advancement in the student's chosen field.

SPECIALIZED ACCREDITATION

The following engineering technology degree programs at the College of Applied Science are accredited by the TAC Accreditation Commission of the ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, 410-374-7700.

Architectural Engineering Technology (bd)
 Architectural Technology (ad)
 Civil and Construction Engineering Technology (ad)
 Computer Engineering Technology (bd)
 Electrical Engineering Technology (ade)
 Electrical Engineering Technology (bde)
 Manufacturing Engineering Technology (ade)
 Mechanical Engineering Technology (ade)
 Mechanical Engineering Technology (bde)

(a) associate (b) bachelor (d) day (e) evening

The chemical technology program is approved by the American Chemical Society's Chemical Technology Program Approval Service (CTPAS). The baccalaureate program in construction management is accredited by the American Council for Construction Education (ACCE). Professional practice is accredited by the Accreditation Council for Cooperative Education (ACCE). In addition, the college is accredited as a part of the University of Cincinnati by the North Central Association of Colleges and Schools.

ADMISSION TO THE COLLEGE

General information and admission requirements for all the undergraduate divisions of the university are published in the university's viewbook. Prospective students should write or call the Office of Admissions, University of Cincinnati, PO Box 210091, Cincinnati, Ohio 45221-0091, 513-556-1100, for application materials and admissions counseling. On-campus conferences usually are not required but often prove helpful to the prospective student.

Applications should be filed as early in the year as possible. Suggested filing dates are:

Autumn quarter: Previous October–June 1. (Some programs may close by December 15 for the following autumn.)

Winter quarter: October 1–November 15
 Spring quarter: October 1–February 1
 Summer quarter: October 1–May 1

Autumn quarter applicants who desire residence hall space or who are planning to apply for financial aid should file their applications by January 1 for assured consideration.

Students must have completed either the ACT or SAT entrance exam prior to admission to the college.

ADMISSION REQUIREMENTS

Baccalaureate Programs (Bachelor of Science)

Students wishing to enter the College of Applied Science may apply directly into the baccalaureate program if they meet all college and university entrance criteria. They must be graduates of an accredited high school or preparatory school and have the following units:

English	4 units
College preparatory mathematics	3 units
Physics	1 unit
Chemistry	1 unit
Social science	2 units
Foreign language	2 units
Fine arts	1 unit
Additional course from one of the above	2 units

A transfer student may apply for admission into a baccalaureate program after successfully completing an associate degree in engineering technology or an equivalent program of education with a minimum of a 2.50 quality point average. Early application is encouraged.

Associate Degree Programs (Associate of Applied Science)

An applicant for admission into an associate degree program must be a graduate of an accredited high school or preparatory school and have the following units:

English	4 units
College preparatory mathematics	3 units
Additional college preparatory mathematics, physics, or chemistry	1 unit

Transfer students must have a 2.0 quality point average.

Students interested in applying for admission to an associate degree program but lacking proper high school preparation may be admitted to the technology access program at the discretion of the college. In such cases, students are usually advised to enroll in the pre-college level courses to satisfy the entrance requirements.

TRANSFER STUDENTS

Students wishing to transfer to the College of Applied Science from another regionally accredited college or university should be guided by the following statement of policy:

1. A student must be in good standing according to the standards of this college and of the college from which the student intends to transfer. Preference will be given to students with a 2.50 or better cumulative quality point average.
2. Only courses with a grade of "C" or better are transferable. However, the age of the credits may affect their transferability.
3. As of autumn 2005, all transfer course work with a letter grade of "D-" or higher from an Ohio public institution of higher education will be transferred. However, the applicability of those courses toward degree requirements will be determined by the college.
4. Only courses from regionally accredited institutions (i.e., North Central Association) are transferable.
5. Applicable credit will be given only for those courses for which there is a comparable equivalent in the program which the student proposes to enter; students *may be required to demonstrate proficiency in certain areas*.
6. *Transfer credits will be granted to matriculated students only.*

Advanced standing credit in English may be given to those students who score above the 80th percentile in verbal ability on the SAT or ACT examinations. Those qualified should contact the Humanities Department head.

College credit may be granted for successful completion of CLEP examinations. Contact the appropriate departmental representative for approval.

Admission Procedure

Prospective students should complete an admission application form available online at www.admissions.uc.edu/online.asp. Students seeking admission in the autumn quarter are urged to apply as soon as possible in their senior year in high school. It is the obligation of the applicant to supply all data necessary for admission (application form, nonrefundable application fee, transcript(s) from high school or college, and medical report).

Matriculation Fee

A student who is admitted to a degree program full time is assessed a \$50 matriculation fee. A student who is admitted to a degree program part time is not assessed the matriculation fee.

For information on student financial aid, scholarships, loans, etc., see the General University Information section.

ACADEMIC POLICIES

Registration

For general information on registration, see the General Information section of this *Bulletin*.

Students who are working or who have family responsibilities may wish to take fewer credits than the normal requirement and to extend their college work beyond the normal time period.

Requirements for Graduation

To qualify for a degree, students must fulfill the requirements of their chosen programs and obtain a minimum of a 2.00 college and university cumulative quality-point average as calculated by the university registrar's office. It is each student's responsibility to take the courses necessary to graduate. Students wishing to take course work from other colleges while still enrolled at CAS must have prior written approval from the appropriate department head. A transfer student must fulfill a minimum of 45 quarter credit hours of departmentally approved course work at the College of Applied Science to be eligible for a degree from the college.

For a student whose enrollment is continuous, graduation requirements are those published for the year the student was admitted. When enrollment is not continuous (not enrolled for three quarters or more), requirements are those published at the time of the latest admission.

Additional Requirements

All students who intend to earn a bachelor's degree from the College of Applied Science are required to complete the university general education requirements. Students should work closely with their academic adviser in scheduling their courses. Careful planning will ensure that the general education requirements do not necessitate additional credit hours over and above those required by their program. (See the General University Information section of this *Bulletin*.) Additional information on general education requirements is posted on the Web at www.uc.edu/gened.

Requirements for Good Standing

It is to the advantage of every student to remain in good academic standing at all times. To remain in good academic standing, a student must earn at least a 2.00 quality point average for each quarter of academic work.

A student not in good academic standing at the end of any quarter, or who has not met the appropriate criteria for satisfactory progress listed below, is subject to whatever action the college deems appropriate (probation, continued on probation, advised to withdraw, suspension, dismissal).

ACADEMIC PROBATION AND SUSPENSION POLICY

PROBATION

Full-Time Students other than Freshmen

At the end of each quarter, any student who has not earned a 2.0 or higher current quarter quality point average as recorded on the official grade report will be placed on automatic academic probation and will be notified by a letter from the dean's office. A list of names of all students placed on academic probation will be sent to the university registrar, the appropriate department heads, and the CAS Student Services Office.

A student who fails to earn a 2.0 or higher quarter quality point average in the next academic quarter will be placed on continued probation and will be notified by a letter from the dean's office. A list of names of all students placed on academic probation will be sent to the university registrar, the appropriate department head, and the CAS Student Services Office.

Freshmen (Full Time)

Fall and/or winter quarter, any freshman who has not earned a 2.0 or above current quarter quality point average as recorded on the official grade report will receive a letter of academic warning from the dean's office.

Spring quarter, any freshman who has a quarterly quality point average below 2.0 and a college quality point average below 2.0 will be placed on automatic academic probation and will be notified by a letter from the dean's office. A list of names of all students placed on academic probation will be sent to the university registrar, the appropriate department heads, and the CAS Student Services Office.

Part-Time Students

In general, the criteria for probation are the same as those for full-time students. The exception is that credits completed, instead of quarters completed, determine eligibility for probation.

A student will be placed on automatic probation if the quality point average for any consecutive 15 credit hours is below 2.0. A student who fails to achieve a 2.0 or higher quarter quality point average for the next 15 credit hours will be placed on continued probation.

All Students

A student may also be placed on probation for not meeting the college criteria for satisfactory progress as outlined below.

A student on probation is not in "good academic standing" and is ineligible to serve as an officer or representative of any student organization or activity of the university.

A student placed on probation may appeal academic probation in writing to the associate dean's office.

SUSPENSION

Full-Time Students other than Freshmen

Any student who fails to earn a 2.0 current quarter quality point average as recorded on the official grade report following two consecutive academic quarters on probation and has a college GPA below 2.0 may be suspended.

Freshmen (Full Time)

Any student who has been placed on probation (following 1–2 quarters of academic warning) in the spring, fails to earn a 2.0 current quarter quality point average as recorded on the official grade report in the next academic quarter, and has a college GPA below 2.0 may be suspended.

Part-Time Students

Any student, who has been placed on continued probation, fails to earn a 2.0 or higher quarter quality point average for the next 15 consecutive credit hours, and has a college GPA below 2.0 may be suspended.

All Students

A student may also be placed on suspension for not meeting the college criteria for satisfactory progress as outlined below.

A student who has been suspended from CAS for academic reasons may not be readmitted to the college until two quarters have elapsed from the date of suspension, and only then after approval by the head of the department in which the student wishes to be admitted.

A student who fails to earn a 2.0 current quarter quality point average in the first quarter following readmission may be suspended again.

A student may appeal suspension in writing to the associate dean's office.

Satisfactory Progress Policy

A student fails to make adequate progress toward a degree when:

- The student does not maintain a 2.00 cumulative grade point average in departmental courses.*
- The student withdraws from or receives incomplete grades in course work so that fewer than 75 percent of the credit hours for which she/he was registered are earned in any two consecutive academic quarters.
- The student fails to complete course work and co-op as listed in the program schedule or as determined by his/her academic adviser.

A student may appeal the academic action in writing to the college. Copies of the official "Probation, Suspension, and Dismissal Policy" and departmental standards are available upon request.

A student on probation may not hold office in any student organization at the college or represent the college or university in any official capacity.

Grade Changes and Grade Point Averages

The grade of incomplete ("I") should be removed as soon as possible. The official transcript carries the "I" with no quality points for one quarter and is not calculated in the student's cumulative average. For the following quarters, the grade of "I" carries zero quality points and is calculated in the student's cumulative average. To remove the "I" grade, the student should consult the instructor about the work to be completed.

A student may repeat a course to improve his grade point average. A required course in which an "F" is received should be repeated as soon as possible. Please refer to the "Course Retake Policy" in the General University Information section.

Honors

University Honors

Latin honors for graduates will be awarded on the basis of all University of Cincinnati academic work. The student's university cumulative quality point average, as determined by the official transcript, is the sole basis for determining eligibility for these awards.

The awards and required averages may be found in the General University Information section, "Graduation with Honors."

College Honors

Students who are candidates for a degree and have met the college's residency requirement may be recognized by award of the following college honors based on their college grade point average (GPA) as determined by the university registrar.

College Honors	3.4000–3.6999
High College Honors	3.7000–4.0000

Attendance

Regular attendance and class involvement constitute two of the most significant factors which promote success in college work. Students should attend every session of each course for which they are registered. If absent, students shall be held accountable for the work missed.

The responsibility for determining and administering attendance requirements for each course rests with the individual faculty member consistent with the official college registration and add/drop procedure. In each case it is the responsibility of the individual faculty member to inform the students of attendance requirements.

OTHER PROGRAMS

Certificate Programs

The college offers several programs leading to a certificate of completion. Some of these programs are entry level requiring no specific admission requirements, while others are intended for engineering technology and science practitioners interested in upgrading their knowledge. Applicants are encouraged to contact the Student Services Office for more specific information.

Craftsmanship Programs

The college offers several craftsmanship level programs leading to a certificate of completion. There are no specific admission requirements and applicants are encouraged to contact the department office for further information.

Students interested in pursuing certificate/craftsmanship programs should complete an "Application for Certificate Program" available at the college.

Special Programs

Special programs of instruction for groups or for industry may be arranged by contacting the college office. These programs may consist of a single course or complete programs and may last from a few weeks to several years.

University Honors Scholars Program

The University Honors Scholars Program (UHSP) at College of Applied Science is one of the most active programs within the university. College of Applied Science students enrolled in the UHSP have opportunities to earn special scholarships, attend quarterly lunches with the faculty and participate in a special global exchange with European universities for students in engineering and technologies.

Additional information on the University Honors Scholars Program can be found on page 44.

INTERNATIONAL STUDENTS

International students must complete a formal application as well as the four-page "University Data Sheet" and return these to the International Student Services Office with the required application fee.

Official transcripts of all secondary school, college, and university studies should accompany the application for admission.

It is essential that the prospective student be proficient in the English language for a successful academic career. Applicants whose native language is not English are required to pass the TOEFL (Test of English as a Foreign Language) examination and the (TSE) Oral Proficiency Test before they can be accepted for admission. Information can be obtained by writing directly to TOEFL, Educational Testing Service, Box 899, Princeton, New Jersey 08540, USA.

More information about the University of Cincinnati's international student admission requirements can be found online at www.admissions.uc.edu/international.asp.

International students may also request information by writing to:

Office of International Liaison
International Student and Scholar Services
University of Cincinnati
PO Box 210627
Cincinnati, Ohio 45221-0627
U.S.A.

SCHOLARSHIPS

In addition to the university scholarships for which students at the College of Applied Science are eligible, there are some scholarships which are available only to students at the college. Students can obtain more information from the College Web site at www.uc.edu/cas.

OFFICE OF CAREER PLACEMENT

Office of Career Placement provides career exploration and opportunities for students and alumni of the College of Applied Science. Through this office, students upload resumes, access jobs, and request that their resumes be sent to employers. Students and alumni also benefit from the following services and resources:

Career Development Activities

Office of Career Placement sponsors Career Fairs at the College of Applied Science. These events welcome local and national companies that are seeking soon-to-be graduates, alumni, and co-op students. The office also coordinates and presents special interest offerings for career involvement. These can include workshops on self assessment, tools of the job search and interviewing techniques and employer panels.

Career Counseling

Career Counseling provides professional guidance for students and alumni in the career development process. In addition, the office offers career planning literature and company information.

Research

The annual Graduate Report is developed and provided to students, prospective students, faculty, administration, and the employing community about after graduation career paths and salary ranges. The Graduate Report and other reports are available online and in print.

Placement

On-campus interviews for associate and bachelor degree candidates, ongoing job development and posting of full-time and part-time opportunities for students and alumni, as well as computer access to national organizations with available positions is available to all students. Over the past three years, 96 percent of those graduates seeking full-time employment have been successful within the first few weeks following graduation.

DIVISION OF PROFESSIONAL PRACTICE

Most often called cooperative education, professional practice is a learning experience which enables students to integrate classroom learning with on-the-job experience. Career interests and abilities can be tested in actual working situations, often with college alumni. The program is designed to provide valuable work experience that adds to professional value upon graduation. While salaries are not the main factor in choosing the suitability of a working assignment, most students find that they can contribute substantially to their education through the cooperative education program. Some curriculum-relevant work experience in the form of cooperative education is mandatory for all full-time, day degree programs except fire science.

How the Program Functions

Students will begin working after meeting the academic eligibility requirements established by their program. For most students, this will occur either during the Summer or Autumn following their first year or the Winter or Spring of their second.

All programs at the College of Applied Science, with the exception of Fire Science and Technology Access programs, require some cooperative education experience, though the structure and quantity differ by program.

Once beginning the cooperative education program, students will be on co-op work assignment or in full time classes until graduation. Students on co-op assignment will not have a break before returning to school, but will have the typical vacation established by the University of Cincinnati calendar following the terms during which they attend classes. As the first term of co-op varies greatly by program and individual student situations, it is strongly recommended that students secure funding for at least five terms of school before their first co-op assignment.

Cooperative education work positions are developed by the Division of Professional Practice. Students must consult with their Professional Practice Faculty Adviser if they have a position they would like to be considered as a potential addition to the program.

Students must be available to work in either Section I (working Summer and Winter terms) or Section II (working Spring and Autumn terms). The method for assignment to Section I or II varies by program, but will occur with sufficient time for students to effectively plan academically and otherwise. Students must also be available to work in any geographic location. Choice of location is dependent on job availability. Specific locations, either in the greater Cincinnati area or otherwise, cannot be guaranteed.

Complete regulations for the Cooperative Education Program can be found in the "Undergraduate Student Handbook". This information is discussed fully during the Co-op for CAS course, and is always available online at <http://www.uc.edu/propractice>.

Cooperative education is a key component and degree requirement of each curriculum, with both academic and professional development components. As such, students are required to complete a series of planning, critical thinking and reflective exercises associated with each co-op work assignment. All assignments are delivered and completed in the online Professional Assessment and Learning (PAL) System. After returning to school following a work term, students are also required to meet with their Professional Practice Faculty Adviser to discuss their experience. Satisfactory job performance (as evaluated by the co-op employer), satisfactory completion of the required assignments in the PAL system, as well as attendance of the meeting with their Professional Practice Faculty Adviser are all required in order for a student to earn a passing grade for each co-op experience. A student must earn the minimum number of passing co-op grades required by their degree program in order to graduate.

CO-OP FOR CAS

Co-op for CAS (36PD132) is a prerequisite for participation in the Professional Practice program, and must be completed at least full term before a student intends to begin their initial co-op work assignment. Material covered in the course includes an orientation to the Professional Practice Program, career planning, resume building, interviewing technique, and other relevant topics areas. Students in architectural engineering technology and construction management are scheduled to enroll in this course during the autumn quarter of the freshman year. Chemical technology, computer engineering technology, electrical engineering technology, manufacturing engineering technology and mechanical engineering technology students are scheduled to complete Co-op for CAS during the winter quarter of the freshman year. Information technology students are scheduled to complete Co-op for CAS during the spring quarter of the freshman year.

Student Eligibility

To be eligible to participate in the College of Applied Science cooperative education program students must:

1. Have completed the equivalent of the freshman year of course work in the major.
2. Maintain at least a 2.0 grade point average and be a student in "good academic standing" while seeking employment.
3. Satisfactorily complete the Co-op for CAS course.
4. Be a registered, full-time, matriculated day student in the College of Applied Science and Degree Program in the quarter prior to the work experience.

5. Be willing to accept assignment to either of the two sections available. Note: Students are not permitted to choose sections and are advised to have their education funded through autumn of the sophomore year.
6. Be willing to accept assignment in any geographic location.
7. Follow all of the policies and procedures outlined in the "Undergraduate Student Handbook."

Program Requirements for Certification

Associate Degrees

Achievement Certificate Awarded Only

- Two quarters of co-op are required.
- A passing grade ("P") received on both work quarters.
- Receive a passing grade in Co-op for CAS.

Bachelor Degrees

Achievement Certificate

- The maximum number of cooperative education quarters permitted within the degree-granting department's curriculum must be completed.
- A passing grade ("P") received on all work quarters.
- Receive a passing grade in Co-op for CAS.

Performance Certificate

- All available work quarters from time of enrollment to the senior year are required. (Advanced transfers may, in no case, complete fewer than four work quarters even if education must be extended.)
- A passing grade ("P") received on all work quarters.
- Receive a passing grade in Co-op for CAS.

Registration

In order to be officially considered a full-time student and to receive proper credit for a co-op quarter, registration is required. Students must register their work term online in the PAL system. *When students double-section (work two consecutive quarters) on a co-op assignment, they must register for each co-op quarter.* Any late registration may result in the assessment of a late fee.

Military Training/Obligations

The Division of Professional Practice will work with students involved in the military to determine the best possible scenario for all parties in cases of required military training, deployments, exercises, etc. Students with military obligations should notify their Professional Practice Faculty Adviser as soon as possible upon entering the College of Applied Science so work toward the optimal scenario can begin immediately.

Transfer Students

Students will be considered transfers if they have course work counted for credit toward a degree from the College of Applied Science that was completed outside the college. Course work completed in the college while a registered student of another college will not be considered "transferred credit" for cooperative education purposes.

Transferring students, other than those in fire science programs, should, in the first quarter in the college, register for the course Co-op for CAS. The course is a mandatory prerequisite for cooperative education participation. The most immediate route to graduation includes the completion of cooperative education requirements prior to the senior year. For transferring students, this often means that a work quarter could begin the second quarter of enrollment in the college. Actual schedules should be developed with an academic adviser utilizing a degree plan which is required in Co-op for CAS. The number of transfer credits often determines the extent of cooperative education participation necessary.

Advanced Standing

Consideration of the granting of Advanced Standing for cooperative education requirements is possible for students who come to the College of Applied Science with significant amounts of academic and/or professional experience. Students wishing to have past experience considered for Advanced Standing should complete a Student Petition, available in the Professional Practice Office, and submit the completed petition to their Professional Practice Faculty Adviser. All petitions for Advanced Standing will be reviewed and acted upon by the Professional Standards Review Committee.

International Student co-op

Participation in the Professional Practice Program is required of all College Applied Science programs (excepted those previously named) for both domestic and international students. International students should visit International Student Services as soon as possible after enrollment in their degree program to determine what steps need to be taken for work assignments to be legally completed as required. Students are responsible for understanding and fulfilling of all requirements to obtain authorization to legally work in the United States. Students should also be aware of the effects of work during the co-op program on their eligibility to work in the United States following their graduation.

Health Insurance

As students working on co-op work assignments are considered full-time students, they are eligible for health insurance under the UC Student Health Insurance Plan. This full time designation also means they are subject to automatic enrollment in the plan unless the waiver procedure established by the University

is successfully fulfilled. For more information on Student Health Insurance and the waiver process, please consult the OneStop website (www.uc.edu/onestop).

Employer Participation

Employers find the co-op program beneficial to efficient operation because:

1. They are given the opportunity to select and test attitudes and abilities of technical personnel in advance of a permanent commitment.
2. They are offered a supply of reserve qualified, short-term, technical help.
3. Program regulations require students to work at least two quarters with the same employer guaranteeing a greater level of productivity. Most students are retained for more than the minimum.
4. Academic monitoring of students, along with direct employer supervision enhances performance.
5. The expense of recruiting qualified technical personnel can be reduced both in the search and retention phases.
6. Employers have an opportunity to influence the supply and education of an experienced workforce.

PROGRAMS OF STUDY

Day Programs

Bachelor Degree Programs	Major Codes
Architectural Engineering Technology (Cooperative Curriculum)	32AET
Chemical Technology (Cooperative Curriculum)	32CTN
Computer Engineering Technology (Cooperative Curriculum)	32CET
Construction Management (Cooperative Curriculum)	32CM
Culinary Arts and Science (Cooperative Curriculum)	32CAS
Electrical Engineering Technology (Cooperative Curriculum)	32EET
Facilities and Hospitality Management (Cooperative Curriculum)	32FHM
Information Technology (Cooperative Curriculum)	32IT
Mechanical Engineering Technology (Cooperative Curriculum)	32MET
Sport Administration	32SA
Associate Degree Programs	Major Codes
Architectural Technology (Cooperative Curriculum)	32ARTN
Business Management Technology	32BMTN

Chemical Technology (Cooperative Curriculum)	32CHTN
Civil and Construction Engineering Technology (Cooperative Curriculum)	32CVTN
Electrical Engineering Technology (Cooperative Curriculum)	32EETN
Information Technology (Cooperative Curriculum)	32IT
Manufacturing Engineering Technology (Cooperative Curriculum)	32MFTN
Mechanical Engineering Technology (Cooperative Curriculum)	32METN
Pre-Business Administration	32PBA

Evening Programs

Bachelor Degree Programs	Major Codes
Electrical Engineering Technology	32EET
Fire and Safety Engineering Technology (Open Learning)	32FST
Horticulture	32HORT
Information Technology	32IT
Mechanical Engineering Technology	32MET
Associate Degree Programs	
Electrical Engineering Technology	32EETN
Fire Science Technology	32FSTN
Information Technology	32IT
Manufacturing Engineering Technology	32MFTN
Mechanical Engineering Technology	32METN

Special Programs

Technology Access Program
Pre-Engineering Program

Certificate Programs

Bookkeeping – Accountancy Technical Certificate
Business Management Professional
Database Management
Free Enterprise and Entrepreneurship
High Pressure Boiler's License
Horticulture
Journeyman Electrician Competency Program
Manufacturing Processes
Master Electrician Competency Program
Networking
Open Learning Fire Service
Power Systems Technology
Software Development
Technical and Professional Communication
Webmaster

Craftsmanship Programs

Craftsmanship programs, leading to a certificate of completion, have been designed for those students wishing to learn new skills or develop their present skill to a higher degree of proficiency.

- Industrial Heating, Ventilating and Air Conditioning
- Machine Tool Operations (Conventional & CNC)
- Plant Maintenance (also Advanced Plant Maintenance)
- Stationary Engineer's License
- Welding
- Wood Technology

Special and Technical Service Programs

Special programs exist in several forms. They can be a prescribed sequence of courses mutually agreed upon by the college and an employer for company employees or trainees. They may be specialized courses designed for an interested group of individuals who would like specific training or an extension of present courses, but are not interested in a standard two- or four-year program.

BUSINESS AND COMMERCE

The business and commerce department offers three degrees: an associate degree in business management, a baccalaureate degree in facilities and hospitality management and a baccalaureate degree in sport administration.

The business management program is a career-oriented associate degree program designed to prepare students for supervisory and administrative positions at the entry and mid-management levels in various areas of business and industry. The program offers preparation for initial positions in accounting, financial services and marketing with an emphasis on written and interpersonal communication skills necessary for advancement. Courses offered in the business management degree program transition into either of the two baccalaureate programs in facilities and hospitality management and sport administration.

The facilities and hospitality management degree program includes a multi-disciplinary curriculum that emphasizes business, managerial, and technical skills and prepares students for leadership positions in the field. Included in the core requirements are four quarters of cooperative education and a two-quarter senior capstone project. Graduates can find professional employment in the hospitality and facilities management industry.

The sport administration degree emphasizes the business side of the sport industry and was developed to meet the standards of the "Sport Management Program Review Council." This program features a concentration of sport specific courses, a

solid business foundation and two quarters of on-the-job field experience. The Sport Administration program provides graduates with a strong technical foundation and the business skills necessary to successfully enter the field of sport management.

The department also offers certificate programs in bookkeeping & accountancy, business management, and free enterprise & entrepreneurship. See pages *?*-?? of this Bulletin.

Business Management Technology

Associate of Applied Business

(Day only)

First Year	Aut	Win	Spr
English Composition I, II (32ENGL101, 102)	3	3	
Intermediate Composition (32ENGL289)			3
Introduction to Business (32BA171)	3		
Principles of Economics (32ECON141, 142)		3	3
Introduction to Management (32MGMT261)			3
Marketing (32MKTG275)			3
Principles of Psychology (32PSYC141)	3		
Introduction to Sociology (32SOC121)		3	
Fundamentals of Speech Communications (32COMM172)			3
College Algebra I, II (32MATH173, 174)	3	3	
Business Computer Applications (32IT141)	3		
Business Information Systems (32IT142)		3	
Co-op for CAS (36PD132)*		1	
	15	16	15

* Optional two quarters of co-op

Second Year	Aut	Win	Spr
Technical and Professional Writing (32ENGL341)			3
Accounting Concepts I,II (32ACCT245, 246)	3	3	
Accounting for Decision Making (32ACCT271)			3
Business Law I,II (32BLAW271, 272)	3		3
Applied Statistics in Business I, II (32STAT231, 232)	4	4	
Human Resource Management & Supervision (32MGMT385)		3	
Management Theory (32MGMT371)		3	
Personal Selling (32MKTG373)		3	
Advertising (32MKTG)	3		
Business Finance (32FIN371)	3		
Survey of Investments (32FIN372)			3
Ethics and Social Issues in the Workplace (32PHIL371)			3
	16	16	15

Certificates in accounting, business and free enterprise are available. See details on page 37 and 38.

Facilities and Hospitality Management Bachelor of Science

(Day only)

The Facilities and Hospitality Management (FHM) degree has a multi-disciplinary curriculum which prepares graduates for leadership positions in hospitality and facilities management. The FHM program emphasizes business, managerial, and technical skills. Students take 119 credit hours of core courses and 52 credit hours of hospitality management courses. An additional 12 credit hours of technical electives are required from hospitality, casino or facilities management course offerings. Included in the core requirements are four quarters of cooperative education and a two-quarter senior capstone project.

Required Core Courses (119 credit hours)

General Education Core (45 cr. hrs.)

	Cr. Hrs.
English Composition I, II (32ENGL101, 102)	6
Intermediate Composition (32ENGL289)	3
Principles of Psychology (32PSYC141)	3
Principles of Economics I and II (32ECON141, 142)	6
Fundamentals of Speech (32COMM172)	3
History Elective (300 level or higher)	3
Humanities or Social Science Elective (300 level or higher)	3
Ethics and Social Issues in the Workplace (32PHIL371)	3
Fine Arts or Literature Elective (300 level or higher)	3
Technical and Professional Writing (32ENGL341)	3
Foreign Language I, II, and III	9

Science, IT and Math (23 cr. hrs.)

Fundamentals of Chemistry (32CHEM174)	4
Fundamentals of Food Chemistry (32CHEM331)	4
Food and Safety Preservation (32CHEM340)	3
Business Computer Application (32IT141)	3
Business Information System (32IT142)	3
College Algebra I and II (32MATH173, 174)	6

Business Core (51 cr. hrs.)

Introduction to Business (32BA171)	3
Introduction to Management (32MGMT261)	3
Accounting Concepts I, II (32ACCT245, 246)	6
Accounting for Decision Making (32ACCT271)	3
Business Law I, II (32BLAW271, 272)	6
Marketing (32MKTG275)	3
Applied Statistics for Business I, II (32STAT231, 232)	8
Personal Selling (32MKTG373)	3
Business Finance (32FIN371)	3
Human Resource Management and Supervision (32MGMT385)	3
Risk Management and Insurance (32FHM489)	3
Project Management (32FHM586)	3
Leadership Development (32FHM571)	4

Hospitality Management courses (52 credit hours)

Facilities Management I (32FHM141)	3
Hospitality Management II (32FHM152)	3
Customer Service (32FHM175)	3
Special Event Planning and Management (32FHM274)	3
Co-op for CAS (36PD132)	1
Hospitality Law (32FHM377)	3
Hospitality Information System (32FHM378)	3
Hospitality Facility Management and Design (32FHM280)	3
Hospitality Management Accounting (32FHM381)	3
Rooms Division Management (32FHM482)	3
Hospitality Marketing (32FHM486)	3
Hotel & Restaurant Purchasing & Cost Control (32FHM471)	3
Restaurant & Bar Management (32FHM472)	3
Human Resources in the Hospitality Industry (32FHM487)	3
Ethics in Hospitality and Tourism (32FHM483)	3
Advance Hospitality Management (32FHM575)	3
Senior Project I and II (32FHM541, 542)	6
Four Quarters of Co-op	

Technical Electives (12 credit hours)

Students must choose four courses from one of the areas below:

Hospitality Management

International Hospitality Management (32FHM484)	3
Spa and Resort Management (32FHM383)	3
Meeting Management (32FHM384)	3
Travel and Tourism Management (32FHM385)	3
Special Issues Seminar in Resort & Spa Management (32FHM576)	3
Landscape Design I (32HORT175)	3

Casino Management

Casino Management (32FHM162)	3
Casino Law (32FHM375)	3
Gaming Techniques and Operations (32FHM475)	3
Casino Information Systems (32FHM376)	3
Casino Security and Surveillance (32FHM476)	3
Advance Casino Management (32FHM577)	3
Special Issues in Casino Management (32FHM578)	3

Facilities Management

Construction Drawing I (32ARTN121)	3
Building and Grounds (32FHM271)	3
Energy Management (32FHM481)	3
Fire Prevention Organization and Mgmt (32FST382)	5
Construction Safety Management (32CM276)	3
Terrorism Awareness & Planning (32FST321)	5

Total Credit Hours

183

Sport Administration

Bachelor of Science

The Sport Administration (SA) curriculum focuses on the business side of the sport industry and was developed to meet the standards of the "Sport Management Program Review Council." The program will provide graduates with a strong technical foundation and the business skills to successfully enter the field of sport management.

The SA program includes 42 credit hours of sport specific courses from the College of Applied Science and two quarters of on-the-job field experience.

Graduates in Sport Administration are prepared for a variety of administrative positions in professional sports, college and high school athletics, and sports associations. Career opportunities for Sport Administration graduates exist in the management of sport venues and events, the management of health, fitness and recreation facilities as well as positions with sporting goods firms.

	Cr. Per Qtr.		
	Aut	Win	Spr
First Year			
English Composition I, II (32ENGL101, 102)	3	3	
Foreign Language Elective (32FIN171)			3
College Algebra (32MATH173, 174)	3	3	
Principles of Economics I, II (32ECON141, 142)		3	3
Business Computer Applications (32IT141)	3		
Business Information Systems (32IT142)		3	
Introduction to Sociology (32SOC121)		3	
General Psychology (32PSYC171)	3		
Fundamentals of Speech Communication (32COMM172)			3
Introduction to Business (32BA171)	3		
Introduction to Management (32MGMT261)			3
Introduction to Sport Administration (32SMGT171)			3
Personal Finance			3
	15	15	18
Second Year			
Foreign Language Elective	3	3	
Natural Science		4	4
Accounting Concepts I, II (32ACCT245, 246)	3	3	
Accounting for Decision Making (32ACCT271)			3
Applied Business Statistics I, II (32STAT231, 232)	4	4	

Intermediate Composition			3
Business Law I, II (32BLAW271, 272)	3		3
Marketing (32MKTG275)	3		
Management Theory (32MGMT371)		3	
Philosophy of Sports (18HFL284)			3
	16	17	16

	Cr. Per Qtr.		
	Aut	Win	Spr
Third Year			
Business Finance (32FIN371)	3		
Advertising (32MKTG371)	3		
Human Resource Mgmt & Supervision (32MGMT385)		3	
Personal Selling (32MKTG373)		3	
Technical & Professional Writing I (32ENGL341)	3		
Managerial Communication (32COMM341)		3	
Ethics & Social Issues in Workplace (32PHIL371)			3
History elective (300 level or above)			3
Fine Arts or Literature elective (300 level or above)			3
Sociology of Sports (32SOC3xx)	3		
Psychology of Sport (32PSYC3xx)		3	
Economics of Sport (32ECON3xx)			3
Sport Management (32SMGT387)	3		
Sport Marketing (32SMGT374)		3	
Drugs and Behavior (18ADDC211)	3		
Sport Finance (32SMGT373)			3
Professional Development (32PD132)			1
	18	15	16

	Sum/Aut	Win/Spr
Fourth Year		
Risk Management & Insurance (32FHM489)	3	
Project Management (32FHM571)	3	
Sport & Entertainment Law (32SMGT489)	3	
Sport Facility & Event Management (32SMGT471)	3	
Sport and the Media (32SMGT475)	3	
Athletic Fundraising (32SMGT473)	3	
Sport Governance (32SMGT483)		3
Ethical Issues in Sport (32SMGT487)		3
Sport Public Relations (32SMGT485)		3
Current Topics in Sport (32SMGT441, 442, 489)		3
Senior Project I, II (32SMGT441, 442)	3	3
Professional Practice (A)	0	0
	18	18

Total program hours 182

(A) Two quarters of on-the-job learning experience are required.

CONSTRUCTION SCIENCE

The department of construction science offers four academic programs, in two parallel academic tracks, emphasizing design and construction of built facilities. As a result, academic programs are built around the design-construct-maintain continuum.

Students commence with 2½ year associate degree programs followed by a 2½ year upper division curriculum in each track (including professional practice employment).

Students interested in the construction of buildings and civil engineering projects will proceed through a 2½ year program in civil and construction engineering technology followed by 2½ years in construction management. (Note: Students may apply directly to the BSCM program.)

All students participate in professional practice (cooperative education) which allows six months of paid employment en route to an associate degree and 21 months of employment during the full five-year curriculum.

Potential employers are engineering firms, contractors, manufacturers, building owners, suppliers, governmental agencies, educational and health institutions.

Admission Requirements. Freshmen are eligible for the department of construction science upon meeting the minimum criteria for admission to the college as well as being in the upper half of their respective high school graduation classes. Applicants must have achieved a minimum mathematics score of 550 or 24 respectively on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). Transfer students should meet these admission criteria as well as have achieved a 2.50 cumulative grade point average for all previous college work.

Graduation Requirements. Certification for graduation occurs only when a student has earned a 2.00 cumulative average in departmental courses required for the degree *and* has met all of the college and university requirements for graduation.

NOTE: While some of the following construction science programs offer course work in the evening, these classes typically are for matriculated students only. Further, no evening degrees are offered.

Architectural Engineering Technology Bachelor of Science

(Day)

Architectural Technology

Associate of Applied Science

(Day, selected courses offered in the evening¹)

The objective of the architectural curriculum is to prepare well-grounded technical people for architectural engineering design offices, construction companies and related employment.

After successfully completing 2½ years with emphasis on basic technical skills, students receive associate degrees of applied science and may work as architectural technicians in drafting, surveying, building inspection, and estimating. Most students go on to complete bachelor's degrees.

Upon successful completion of the full curriculum, students receive bachelor of science degrees in architectural engineering technology. The upper 2½ years emphasize architectural and engineering design and management. These graduates become architectural engineering technologists, usually on project teams, and frequently achieve leadership of those teams.

Students completing the AT associate degree may transfer into the construction management baccalaureate program as well as the BSAET program.

	Cr. Per Qtr.		
	Aut	Win	Spr
First Year			
Construction Materials (32BLTN107)	3		
Construction Seminar I,II (32CM101,2)	1	1	
Fund. of Speech Communication (32COMM172)	3		
English Composition I,II (32ENGL101,2)	3	3	
General Psychology (32PSYC171)			3
Microcomputer Applications II (32IET321)		3	
College Algebra & Trig (32MATH180)	5		
Co-op for CAS (36PD132)	1		
Construction Drawing I, II (32ARTN121,2)		3	3
Calculus I, II (32MATH244,5)		4	4
Physics for Tech I, II (32PHYS181,2)		3	3
Physics for Tech Lab I, II (32PHYS186,7)		1	1
Fundamentals of Chemistry (32CHEM174)			4
	16	18	18
Second Year			
Cons Documents & Quality Control (32CM272)		3	
Mechanics of Rigid Bodies (32CVTN213)		3	
Applied Structural Mechanics (32CVTN223)		1	
Surveying (32CVTN242)		4	
Physics for Tech III (32PHYS183)		3	
Physics for Tech III Lab (32PHYS188)		1	
Architectural Design I (32ARTN241)			3
Construction Estimating (32ARTN289)			3

Structures II (32CVTN212)	3	
Structures II Lab (32CVTN222)	1	
Fluid Mechanics (32CVTN251)	3	
Fluid Mechanics Lab (32CVTN261)	1	
Humanities/Social Science Elective (200 level)	3	
Intermediate Composition (32ENGL289)	3	
	18	17

Third Year	Sum/Aut†	Win/Spr†
Architectural History (32ARTN183)	3	
Architecture Design II (32ARTN242)	3	
Water Supply & Waste Disp. (32ARTN373)	4	
Structures III,IV (32CVTN313,14)	3	3
Structures III,IV Lab (32CVTN323,4)	1	1
Soil Mechanics (32CVTN378)	3	
Soil Mechanics Lab (32CVTN388)	1	
Problems in Architecture I (32ARTN318)		3
Adv. Technical Calculus (32MATH381)		4
Construction Management I (32CM301)		3
General Education Elective		3
	18	17

* NOTE: Students completing associate degrees in architectural technology will need to complete Mechanical Systems (32ARTN573) for graduation.

Fourth Year	Sum/Aut†	Win/Spr†
Electrical Systems (32ARTN372)	3	
Construction Management II (32CM402)	3	
Problems in Architecture II, III (32ARTN319, 420)	3	3
Probability and Statistics (32MATH371)	4	
Technical Writing I (32ENGL341)		3
Mechanical Systems (32ARTN573)		4
Structural Systems I (32CVTN401)		3
Structural Systems Lab I (32CVTN411)		1
Managerial Psychology (32PSYC373) or Psychology of Work Teams (32PSYC371)		3
Humanities/Social Science Elective	3	
	16	17

Fifth Year	Aut	Win	Spr
Scheduling (32CM511)	3		
Structural Systems II (32CVTN571)	3		
Leadership/Decision Making (32CM505)		3	
Photographics (32ARTN561)		3	
Senior Arch. Project I,II,III (32ARTN522,3,4)	4	5	5
Free Elective			3
Technical Elective*	3	3	3
Humanities/Social Science Elective (300-400 level)	3	3	
General Education Electives			6
	16	17	17

† Students take either the curriculum shown or participate in the professional practice (co-op) assignment (32COOP032).

Architectural History and General Psychology may be taken either autumn or winter quarters.

* Technical Electives:

- Courses from the construction management program
- Courses in engineering, engineering technology or architectural program
- Other courses with permission of department head

All technical and free electives must have prior approval of the department head.

Construction Management Bachelor of Science

(Day)

Civil and Construction Engineering Technology

Associate of Applied Science

(Day, with selected courses offered in the evening*)

The objective of the civil and construction engineering technology curriculum is to prepare technicians for employment in civil engineering design offices, construction companies and related positions.

After successfully completing 2½ years with emphasis on the technical skills of civil engineering and construction, students will receive an associate of applied science degree and may work as civil/construction technicians in drafting, materials testing, surveying, and estimating. Most students go on to complete bachelor's degrees.

Upon successful completion of the full curriculum, students receive bachelor of science degrees in construction management. The upper 2½ years emphasize construction operations, management, scheduling, contracts, law, equipment, and quality control. Graduates typically become assistant project managers or superintendents for construction companies, and then climb the leadership ladder.

Students completing the associate degree may transfer into the architectural engineering technology baccalaureate program, as well as the BSCM program.

* Civil and construction engineering technology evening classes are typically offered only for matriculated students. No evening degrees are offered.

	Cr. Per Qtr.		
	Aut	Win	Spr
First Year			
Construction Materials (32BLTN107)	3		
Construction Seminar I, II (32CM101,2)	1	1	
Fund. of Speech Communication (32COMM172)	3		
English Composition I,II (32ENGL101,2)	3	3	
Microcomputer Applications II (32IET,321)		3	
Humanities/Social Science Elective (32ENGL289)			3
College Algebra & Trig (32MATH180)	5		
Co-op for CAS (36PD132)	1		
Construction Drawing I,II (32ARTN121,2)		3	3
Calculus I,II (32MATH244,5)		4	4
Physics for Tech I,II (32PHYS181,2)		3	3
Physics for Tech Lab I,II (32PHYS 186,7)		1	1
General Psychology (32PSYC171)			3
	16	18	17

	Sum/Aut†	Win/Spr†
Second Year		
Construction Safety Mgmt (32CM 276)	3	
Cons Documents & Quality Control (32CM272)	3	
Mechanics of Rigid Bodies (32CVTN213)	3	
Applied Structural Mechanics (32CVTN223)	1	
Surveying (32CVTN242)	4	
Physics for Tech III (32PHYS183)	3	
Physics for Tech III Lab (32PHYS188)	1	
Accounting Concepts I (32ACCT245)		3
Construction Estimating (32ARTN289)		3
Structures II (32CVTN212)		3
Structures II Lab (32CVTN222)		1
Fluid Mechanics (32CVTN251)		3
Fluid Mechanics Lab (32CVTN261)		1
Intermediate Composition (32ENGL289)		3
	18	17

* **NOTE:** Students completing only the associate degree (without proceeding to the bachelor's) should substitute Mechanical Systems (32ARTN573) for Accounting Concepts I to meet accreditation requirements.

	Sum/Aut†	Win/Spr†
Third Year		
Water Supply & Waste Disp. (32ARTN373)	4	
Electrical Systems (32ARTN372)	3	
Construction Equipment (32BLTN310)	3	
Structures III,IV (32CVTN313, 4)	3	3
Structures III,IV Lab (32CVTN323,4)	1	1
Soil Mechanics (32CVTN378)	3	
Soil Mechanics Lab (32CVTN388)	1	
Accounting Concepts II (32ACCT246)		3

Mechanical Systems (32ARTN573)		4
Construction Management I (32CM401)		3
Survey Economics (32ECON286)		3
	18	17
Fourth Year	Sum/Aut†	Win/Spr†
Accounting for Decision Making (32ACCT271)	3	
Construction Management II,III (32CM402, 503)	3	3
Scheduling (32CM511)	3	
Economic Analysis (32ECON386)	3	
Probability and Statistics (32MATH371)	4	
Construction Methods (32BLTN318)		3
Project Costing (32CM582)		3
Structural Systems I (32CVTN401)		3
Structural Systems Lab I (32CVTN411)		1
Managerial Psychology (32PSYC373) or Psychology of Work Teams (32PSYC371)		3
	16	16

	Aut	Win	Spr
Fifth Year			
Construction Fin & Strategy Plan (32CM581)	3		
Structural Systems II (32CVTN571)	3		
Leadership/Decision Making (32CM505)		3	
Senior Special Project I, II (32CM575,6)		5	5
Construction Law (32CM571)			3
Free Elective	3		
Technical Elective	3	3	3
Humanities/Social Science Elective (300–400 level)	3	3	3
Business Law (32BLAW272)		3	
Intro to Management (32MGMT261)			3
	15	17	17

† Students take either the curriculum shown or participate in the professional practice (co-op) assignment (32COOP032).

Approved areas are as follows: Business Law (BLAW), Finance (FIN), Management (MGMT), Marketing (MKTG), Real Estate (RE).

All other courses taken as business electives must have prior approval of the department head.

Free electives must have prior approval of adviser or department head.

Chemical Technology

Associate of Applied Science

(Day)

Bachelor of Science

(Day)

Chemical technology is a field that applies principles of science, technology and mathematics to produce new products for everyday living and solutions affecting society and the environment. It is concerned with the nature of the material world, its interactions and changes, and how those interactions and changes can be used to our advantage.

The chemical industry investigates new materials for possible applications, characteristics, and reactions leading to new products and processes such as antibiotics, plastics, synthetic fibers, food and beverage processing and petroleum products.

To prepare students for careers in the chemical industry, the chemical technology department offers two degree programs — the associate degree in chemical technology and the bachelor's degree in chemical technology.

These programs rest on two themes:

1. They are *laboratory-driven* since chemistry is a laboratory science. The programs emphasize chemical technology through laboratory skill development supported by science which has been the mission of the College of Applied Science for many decades.
2. A second theme throughout these programs is chemical analysis. The heart of chemistry-based technology rests on accurate laboratory analysis, collection and presentation of data, and effective communication of results. Analytical laboratory skill development is a central focus.

The bachelor's degree program also features a senior project allowing students to use their skills and competencies in the solution of a real problem. Given the open elective opportunities within the curriculum, it is possible for students to develop an emphasis in **forensic, environmental science or biotechnology/life sciences**.

A degree in chemical technology can lead to an exciting and interesting career in many areas. Graduates assist in research, development, quality control, production, sales, marketing, and technical writing. They are employed in laboratories serving industry, local and federal governments, agriculture, medicine, and the energy industries. Chemical technology graduates are hired by organizations such as Procter & Gamble, Sun Chemicals, AK Steel, the Emery Group of Henkel, Eastman Kodak, DuPont, the Environmental Protection Agency, Dow Chemical, and medical research centers.

Classes in the chemical technology program are small, averaging 20–24, enabling students to receive individual attention. Both programs include the cooperative education experience. Students in the associate degree program will have two cooperative work periods; students in the bachelor's degree program will have an additional four cooperative work periods for a total of six. During these cooperative work periods, students polish newly acquired skills, develop new competencies, get a feeling for on-the-job responsibilities, and frequently can earn enough to pay their educational expenses. Cooperative employers have included the Emery Group of Henkel, Dow Chemical, Procter & Gamble, Formica, DeGussa, Cincinnati Waterworks, Sun Chemical and Shepherd Color.

Humanities/Social Science/Communication Courses

All associate degree students are required to complete three humanities/social science/communication courses in addition to Freshman English I, II, Intermediate Composition and Fundamentals of Speech Communications, as specified in the curriculum. Bachelor's degree students are required to complete five humanities/social science/communication courses, as specified in the curriculum.

Curriculum

The combined associate and bachelor's degree programs are displayed below in the five-year cooperative education format. Students who wish to complete only the associate degree will be awarded the diploma after completing the first six academic quarters and two quarters of cooperative work experience. Students enrolled in the bachelor degree program must complete all academic quarters and six quarters of cooperative work.

Students entering the program in even-numbered years will co-op in the summer quarter of their freshman year. Students entering in odd-numbered years will attend classes the summer after their freshman year and will co-op in the autumn quarter of their sophomore year.

First Year	Cr. Hrs.
Chemical Technology I,II,III (32CHEM131,2,3)	15
Chemical Tech Orientation (32CHEM171)	2
Preparation & Analysis of Organic Compounds I, II (32CHEM231,2)	10
Fundamentals of Speech Communications (32COMM172)	3
Life Science I, II (32CHEM161,2)	4
Chemical Technology Seminar I (32CHEM172)	1
English Composition I,II (32ENGL101,2)	6
General Psychology (32PSYC171)	3
Algebra & Trigonometry I,II (32MATH178,9)	8
Calculus I,II (32MATH244,245)	8
Co-op for CAS (36PD132)	1
	<hr/> 61

Second Year	Cr. Hrs.
Environmental Chemistry (32CHEM271)	4
Preparation & Analysis of Organic Compounds III (32CHEM233)	5
Chemical Technology IV (32CHEM241)	4
Survey of Economics (32ECON286)	3
Technical & Professional Writing I (32ENGL341)	3
Probability & Statistics (32MATH371)	4
Intermediate Composition (32ENGL289)	3
Chemical Technology Seminar II *	1
	<hr/> 27

Note: After successful completion of the prior required courses, or their equivalents, the student may apply for the associate degree.

Third Year	Cr. Hrs.
Biochemistry I (32CHEM411)	5
Chemical Instrumentation I,II (32CHEM321,2)	10
Methods of Sample Preparation (32CHEM373)	5
Technical Elective	6
Psychology of Work Teams (32PSYC371)	3
	<hr/> 29

Fourth Year	Cr. Hrs.
Biochemistry II,III (32CHEM412,3)	10
Chemical Instrumentation III (32CHEM323)	5
Demonstration of Comprehensive Laboratory Proficiency (32CHEM372)	1
Instrumental Analysis (32CHEM430)	5
Technical & Professional Writing II (32COMM342)	3
Technical Elective	3
General Education Elective	3
	<hr/> 30

Fifth Year	Cr. Hrs.
Senior Project I,II,III (32CHEM401,2,3)	9
Senior Project Communications I, III (32ENGL460,2)	6
General Education Electives	9
Technical Electives	12
	<hr/> 36

* Course titles, credits, and descriptions are subject to approval by the UC/CAS Curriculum Committee; they may change.

Culinary Arts and Science Bachelor of Applied Science

A dual admission program between Cincinnati State's Midwest Culinary Institute and the UC College of Applied Science

The objective of the bachelor of applied science degree in culinary arts and science is to prepare individuals to make significant contributions in the food industry across a broad range of disciplines, from the culinary skills of a chef to the application of scientific knowledge in the design and production of food products. Thus the curriculum is a blend of culinary arts and food science with opportunities for the development of analytical skills, as well as innovative thinking.

Courses stress hands-on applications. The curriculum includes a significant cooperative education component and a senior project capstone experience. Upon successful completion of the curriculum, career opportunities include employment in food research, product development, the food service industry, management and sales.

Admission Requirements

Students seeking admission to the bachelor's degree program in culinary arts and science must have earned an associate degree in culinary arts from a regionally accredited institution with a minimum grade point average of 2.5.

Students may enter the bachelor's degree program in two ways:

1. Apply through Cincinnati State Technical & Community College (CSTCC) as a dually enrolled student in the joint CSTCC/UC baccalaureate program.
2. Students who have earned an associate degree in culinary arts from another regionally accredited institution and earned a minimum of a 2.5 GPA should apply through CSTCC. Admission will be contingent upon review by CSTCC/UC and successful demonstration of culinary arts proficiencies.

Degree requirements include an associate degree in culinary arts and successful completion of the following upper-division curriculum.

Pre-Junior	Aut	Win	Spr
Advanced Asian Cookery (32CUL330)	3		
Chemistry for Food Science (32CHEM330)	4		
Humanities/Social Science Elective	3		3
Elective/Foreign Language	3		
Co-op for CAS (36PD132)	1		
Biochemistry for Food Science (32CHEM335)		4	
Fundamentals of Food Chemistry I, II (32CHEM331, 332)		4	4
Statistics for Culinary Science (32STAT181)		4	
Computer Use in Food Management (32CUL333)			3

Food Microbiology (32CHEM345)	4
Advanced Cake, Pastry and Bakeshop (32CUL337)	3
	14 15 14

Junior Year	Aut/Win	Spr/Sum
Fundamentals of Food Chemistry III (32CHEM333)	4	
Marketing and Merchandising Food and Food Products (32CUL338)	3	
Humanities/Social Science Elective Creating Foods (32CUL404)	3	3
Chemistry & Technology of Flavors (32CHEM350)	3	
Methods of Analysis of Food Components (32CHEM355)		4
Nutritional Biochemistry (32CHEM424)		3
Sensory Evaluation & Testing (32CHEM361)		3
Managerial Communication (32COMM341)		3
	16	16

Senior Year	Aut	Win
Food Formulation & Ingredient Functionality (32CHEM421)	3	
Discovering Wine* (32CUL406)	3	
Food Processing Technologies (32CHEM420)	4	
Senior Project I, II (32CHEM422, 423)	3	3
Open Elective	3	3
Food Safety and Preservation (32CHEM340)		4
Culinary Presentation (32CUL420)		3
	16	13

Total Credit Hours **104**

† Students take either the curriculum or participate in the professional practice (co-op) program.

* Course titles, credits, and descriptions are subject to approval by the UC/CAS Curriculum Committee; they may change.

ELECTRICAL AND COMPUTER ENGINEERING TECHNOLOGY

Computer Engineering Technology Bachelor of Science

(Day)

Career opportunities in computer engineering technology exist in all employment areas which involve computers, networking and computer-based instrumentation. Computer-related fields are projected to have huge job growth in the future. The CET curriculum has much in common with the EET curriculum and students in both programs may take the same technical electives if they meet the prerequisites for each one.

Six cooperative education work periods are required for this degree program, since most employers seek individuals with relevant work experience along with classroom training. All students are required to register for Co-op for CAS during the winter quarter of the freshman year. At the discretion of the department, students with relevant work experience may waive some of their co-op requirements.

Degree requirements are 189 credit hours. The core computer engineering technology courses are supplemented by course work in communications, humanities, social sciences, mathematics, science and business. Course descriptions and additional program information can be found on the department Web site at www.uc.edu/cas/ecet.

First Year	Cr. Per Qtr.		
	Aut	Win	Spr
Algebra & Trig. I, II (32MATH178, 179)	4	4	
Elements of EET (32ELTN102)	3		
Elements of CET (32CET102)	3		
Elements of ECET Lab (32ELTN112)	1		
English Composition I, II (32ENGL101, 102)	3	3	
Circuit Analysis I II (32ELTN142, 143)		3	3
Circuit Analysis I, II Lab (32ELTN152, 153)		1	1
Computer Eng. Tech. I, II (32CET131, 132)		3	3
Co-op for CAS (36PD132)		1	
Calculus I (32MATH244)			4
Digital Systems I (32ELTN141)			3
Digital Systems I Lab (32ELTN151)			1
	14	15	15

Second Year	Sum/Aut+	Win/Spr+
Calculus II (32MATH245)	4	
Digital Systems II (32ELTN242)	3	
Digital Systems II Lab (32ELTN252)	1	

Electronics (32ELTN101)	3	
Electronics Lab (32ELTN111)	1	
Fund. of Speech Comm. (32COMM172)	3	
Humanities/Social Science Elective	3	
Assembly Lang. and Micro. (32ELTN243)		3
Assembly Lang. and Micro. Lab (32ELTN253)		1
Linear Electronics (32ELTN203)		3
Linear Electronics Lab (32ELTN213)		1
Computer Eng. Tech III (32CET133)		3
Physics for Technology I (32PHYS181)		3
Physics for Technology I Lab. (32PHYS186)		1
Technical & Professional Writing I (32ENGL341)		3
	18	18

Third Year	Sum/Aut ⁺	Win/Spr ⁺
Computer Architecture (32ELTN483)	3	
Computer Architecture Lab (32ELTN493)	1	
Topics of Appl. Design (32ELTN256)	3	
Topics of Appl. Design Lab (32ELTN266)	1	
Physics for Technology II (32PHYS182)	3	
Physics for Tech. II Lab (32PHYS187)	1	
Discrete Math I, II (32MATH271, 272)	4	4
Computer Interfacing (32CET204)		3
Computer Interfacing Lab (32CET214)		1
Topics of Operating Systems (32ELTN422)		3
Topics of Oper. Sys. Lab (32ELTN432)		1
Probability & Statistics (32MATH371)		4
	16	16

Fourth Year	Sum/Aut ⁺	Win/Spr ⁺
Embedded Systems (32ELTN342)	3	
Embedded Systems Lab (32ELTN352)	1	
Topics of Flex. Automation (32ELTN415)	3	
Topics of Flex. Auto. Lab (32ELTN425)	1	
Survey of Economics (32ECON286)	3	
Technical & Professional Writing II (32ENGL342)		3
Intro. to Thermosciences (32MET210)	4	
Economic Analysis (32ECON386)		3
Technical Elective ¹		3
Technical Elective Lab ¹		1
Data Communications (32ELTN401)		3
Data Communications Lab (32ELTN402)		1
Humanities/Social Science Elective*		3
	15	17

Fifth Year	Aut	Win	Spr
Intro. to Computer Netwks. (32ELTN456)	3		
Intro. to Comp. Netwks. Lab (32ELTN466)	1		
Graphical Network Prog. (32ELTN486)	3		
Graphical Network Prog. Lab (32ELTN496)	1		
Technical Elective ¹	3		
Technical Elective Lab ¹	1		
Senior Design I, II, III (32ELTN411, 412, 413)	2	3	3

Applied Mechanics I, II (32MET346, 347)	3	3
Humanities/Social Science Elective*	3	3
Wireless Comm. & Networks (32ELTN457)	3	
Wireless Comm. & Netwks. Lab (32ELTN467)		1
Senior Design Communication (32ENGL493)		3
Business Elective ²		3
	14	13 15

Electrical Engineering Technology

Bachelor of Science

(Day and Evening)

Associate of Applied Science

(Day and Evening)

The electrical and computer engineering technology (ECET) department offers two degree programs, the associate of applied science and the bachelor of science. Both degrees may be earned in either day or evening programs. Both day and evening programs are ABET accredited.

The bachelor of science curriculum supports the advanced technical educational needs of national and regional industries. This upper division program is structured to develop expertise in the following discipline areas: computers, controls, and communications. The baccalaureate program requires the completion of a senior design project.

Most employers of our graduates seek individuals with relevant employment along with required classroom work. For that reason, six cooperative education work periods are required for the bachelor's degree program. Satisfactory completion of two quarters of cooperative work experience is mandatory for only the associate degree. All day ECET students desiring a cooperative work experience are required to register for Co-op for CAS (36PD132) during the winter quarter of the freshman year. At the discretion of the department, students with relevant work experience may waive some of their co-op requirements.

Degree requirements are 93 credit hours for the associate degree with an additional 96 credit hours required to complete the bachelor's degree (189 total credit hours). The core electrical engineering technology courses are supplemented by course work in communication arts, humanities, social sciences, mathematics, science, and business. Course work in day and evening classes is identical. Evening students consult the ECET evening coordinator for academic advising and/or scheduling classes. Course descriptions and additional program information can be found on the departmental Web site: www.uc.edu/cas/ecet.

Power Systems Technology Option to the AASEET Degree

Electric power makes our quality of life possible and underpins our industrialization. No sector of the economy is more vital to our nation, the economy or ourselves. This degree option provides a solid understanding of electrical equipment, power generation, and distribution that spans the entire process from generation through distribution to our homes. The curriculum is designed to meet current and projected industry needs. Associate degree graduates may seek immediate industrial employment or continue in pursuit of the bachelor's degree. A degree plan for pursuing the power systems technology option to the AASEET degree is on the departmental Web site: www.uc.edu/cas/ecet.

Telecommunications Option to the AASEET Degree

Telecommunications has become an important part of our everyday lives as well as vital part of the world's economy. There is an ever increasing need for persons who have technical knowledge in this area. The courses offered as part of the telecommunications option provide this knowledge along with hands-on experience in such areas as the phone system, digital data communications, cable modems, satellite communications, and wireless communications networks.

A degree plan for pursuing the telecommunications option to the AASEET degree is on the departmental Web site: www.uc.edu/cas/ecet.

	Cr. Per Qtr.		
	Aut	Win	Spr
First Year			
Algebra & Trig. I, II (32MATH178, 179)	4	4	
Elements of EET (32ELTN102)	3		
Elements of CET (32CET102)	3		
Elements of ECET Lab (32ELTN112)	1		
English Composition I, II (32ENGL101, 102)	3	3	
Humanities/Social Science Elective			3
Circuit Analysis I, II (32ELTN142, 143)		3	3
Circuit Analysis I, II Labs (32ELTN152, 153)		1	1
Computer Eng. Tech I, II (32CET131, 132)		3	3
Co-op for CAS (36PD132)		1	
Calculus I (32MATH244)			4
Digital Systems I (32ELTN141)			3
Digital Systems I Lab (32ELTN151)			1
	14	15	18

	Sum/Aut+	Win/Spr+
Second Year		
Calculus II (32MATH245)	4	
Electronics (32ELTN101)	3	
Electronics Lab (32ELTN111)	1	
Digital Systems II (32ELTN242)	3	
Digital Systems II Lab (32ELTN252)	1	
Fund. of Speech Comm. (32COMM172)	3	
Technical & Professional Writing I (32ENGL341)	3	
Assembly Lang. and Micro. (32ELTN243)		3
Assembly Lang. and Micro. Lab (32ELTN253)		1

Linear Electronics (32ELTN203)	3
Linear Electronics Lab (32ELTN213)	1
Circuit Analysis III (32ELTN144)	3
Circuit Analysis III Lab (32ELTN154)	1
Physics for Technology I (32PHYS181)	3
Physics for Tech. I Lab (32PHYS186)	1
	<hr/>
	18 16

	Sum/Aut+	Win/Spr+
Third Year		
Survey of Economics (32ECON286) ³	3	
Computer Architecture (32ELTN483)	3	
Computer Architecture Lab (32ELTN493)	1	
Topics of Appl. Design (32ELTN256)	3	
Topics of Appl. Design Lab (32ELTN266)	1	
Physics for Technology II (32PHYS182)	3	
Physics for Technology II Lab (32PHYS187)	1	
	<hr/>	
	15	

After successful completion of the prior required courses, or their equivalents, the student may apply for the associate degree.

Rotating Electrical Machines (32ELTN416)	3
Rotating Electrical Machines Lab (32ELTN426)	1
Computer Interfacing (32CET204)	3
Computer Interfacing Lab (32CET214)	1
Electronic Communication (32ELTN247)	3
Electronic Communication Lab (32ELTN257)	1
Adv. Technical Calculus (32MATH381)	4
	<hr/>
	16

	Sum/Aut+	Win/Spr+
Fourth Year		
Embedded Systems (32ELTN342)	3	
Embedded Systems Lab (32ELTN352)	1	
Topics of Flexible Automation I, II (32ELTN415, 419)	3	3
Topics of Flexible Automation I, II Lab (32ELTN425, 429)	1	1
Humanities/Social Science Elective ⁴	3	
Technical & Professional Writing II (32ENGL342)		3
Intro. to Thermosciences (32MET210)	4	
Economic Analysis (32ECON386)		3
Probability & Statistics (32MATH371)		4
Business Elective ²		3
	<hr/>	
	15	17

	Aut	Win	Spr
Fifth Year			
Technical Elective ¹	3	3	
Technical Elective Lab ¹	1	1	
Digital Signal Processing (32ELTN485)	3		
Digital Signal Processing Lab (32ELTN495)	1		

Feedback Control I (32ELTN372)	3		
Feedback Control I Lab (32ELTN382)	1		
Senior Design I, II, III (32ELTN411, 412, 413)	2	3	3
Applied Mechanics I, II (32MET346, 347)		3	3
Humanities/Social Science Elective*		3	3
Senior Design Communication (32ENGL493)			3
Business Elective ²			3
	14	13	15

* Must be upper level (300–400) course

+ Students either take the curriculum shown or participate in the professional practice (co-op) assignment.

¹Technical Electives

Technical electives include courses in A.I. Expert Systems, Computer Security, Feedback Control II, Digital Signal Processing II, Electronic Instrumentation, RF Communications, Virtual Instrumentation, Database Management, and Microcomputer Interfacing. Electives vary from year to year depending on instructor/resource availability. Technical elective offerings are posted on the department Web site (www.uc.edu/cas/ecet) and updated each year.

²Business Electives

Business electives include topics in management, marketing, accounting, and finance. A list of accepted business electives is posted on the department Web site (www.uc.edu/cas/ecet). Students interested in taking courses that are not on the list may do so with the permission of the department head.

³Survey of Economics (32ECON286)

Students who are pursuing the associate degree only do not need to take this course. ECON286 is a requirement for the bachelor degree.

⁴Students terminating with the associate degree should select one course from each of the following general education breadth of knowledge (BoK) areas: SE (Social & Ethical Issues) and DC (Diversity & Culture).

FIRE AND SAFETY ENGINEERING TECHNOLOGY

Fire and Safety Engineering Technology Bachelor of Science

(Open Learning)

Applicants wishing to pursue the bachelor of science degree in fire and safety engineering technology through the open learning fire service program must have successfully completed an associate degree or the equivalent (preferably in fire science or a related field), and agree to make up any associate level deficiencies, as well as have met all admission requirements as described in this *Bulletin*.

The purpose of the program is to provide fire service personnel an opportunity to earn credit toward a baccalaureate degree while upgrading professional skills via the open learning method. Fire service courses are taken by correspondence. Written assignments and projects provide a continuous indication of progress and the basis for an ongoing relationship between professor and student. Telephone consultations and personal visits are often used to supplement the learning process. It is the desire of the college to be as flexible as possible in allowing the student to fulfill the curriculum requirements in either a combined open learning and traditional manner, or totally by open learning. The requirements listed below have been divided into general categories. Credits for fulfillment of these categories, with the exception of the fire service courses, may be earned either at a local accredited institution or by the open learning method from an accredited institution offering appropriate courses. These credits will then be transferred and applied toward the degree requirements providing the grade earned is a "C" or higher.

Students must ensure that non-fire related courses taken at other universities are equivalent to those required in the campus-based associate of applied science program at CAS. A catalog of course descriptions for all courses taken at another college or university must be sent for prior approval.

Credit requirements are as follows:

	Cr. Hrs.
Fire Service Core Courses	40
Advanced Fire Administration (32FST380)	5
Fire Prevention Organization and Management (32FST382)	5

Fire Protection Structure and Systems Design (32FST383)	5
The Community and the Fire Threat (32FST384)	5
Political and Legal Foundations of Fire Protection (32FST385)	5
Fire Dynamics (32FST387)	5
Building Construction (32FST319)	5

Fire Service Elective **10**

Any **two** of the following fire service courses are required. Choose from:

Terrorism Awareness (32FST321)	5
Fire Scene Reconstruction (32FST388)	5
Disaster and Fire Defense Planning (32FST480)	5
Personnel Management for the Fire Service (32FST481)	5
Applications of Fire Research (32FST482)	5
Fire Related Human Behavior (32FST483)	5
Incendiary Fire Analysis and Investigation (32FST484)	5
Managerial Issues of Hazardous Materials (32FST486)	5

Mathematics and Computer Science **12**

Students must take: higher-level mathematics beyond algebra and trigonometry or courses in microcomputer applications, management information systems, database management, physics, etc. and at least one course in statistics.

Humanities/Social Science Electives **15**

Junior and senior (300–400) level.

Technical Electives **22**

These electives must be courses in natural science, fire science, data processing, business administration, engineering (or related fire and/or emergency medical training programs) which complement the fire service curriculum. Open learning fire service elective courses not being used to satisfy the fire science elective requirement may be used. Fire Science Portfolio (32FST488) and Independent Research (32FST499) may also be used as technical electives. Life experience credit earned through the portfolio process may be substituted for equivalent fire-related courses or used as technical elective credit.

Total **94**

NOTE: Students who have used any of the bachelor of science open learning courses (300 and 400 series) to fulfill associate degree requirements may not retake or reapply them at the baccalaureate level. They must substitute 32FST499, Independent Research.

Fire Science Technology

Associate of Applied Science

(Open Learning)

Students who do not have ready access to a campus-based or community college associate degree program in fire science may pursue the associate of applied science degree in fire science using the open learning format.

Credit requirements are as follows:

Fire Service Core Courses	Cr. Hrs.
Fire Tactics (32FST209)	5
Hazardous Materials (32FST249)	5
Fire Determination Strategies (32FST269)	5
Firefighter Safety and Risk Management (32FST279)	5
Building Construction for FS (32FST319)	5
Advanced Fire Administration* (32FST380)	5
Fire Prevention Organization and Management* (32FST382)	5
Fire Protection Structure and Systems Design* (32FST383)	5
The Community and the Fire Threat* (32FST384)	5
Political and Legal Foundations of Fire Protection* (32FST385)	5
	<hr/> 50
Technical Electives	6
Approved areas of study are: physics, engineering, natural science, fire science, data processing, business administration or related fire and/or emergency medical training programs.	
English, Humanities, and Social Science	
English Composition I,II (32ENGL101,2)	6
Intermediate Composition (32ENGL289)	3
General Psychology (32PSYC171)	3
Fundamentals of Speech Communications (32FST172)	3
Humanities/Social Science Electives	9
	<hr/> 24
Mathematics/Science	
Algebra/Trigonometry for OLFS (32FST178,9)	8
Fundamentals of Chemistry (32CHEM174)	4
	<hr/> 12
Total Credits	92

Fire Science Internship. An internship program is available. This internship program will be a joint offering by the university and a local fire department. Candidates for internships will be selected based on scholarship (at least 15 credit hours of English or mathematics with a grade point average of 3.5). They must also meet the criteria established by the host fire department.

* Students who pursue **both** the open learning **associate and bachelor's degrees** must complete all 17 five-credit open learning courses (85 credit hours) in addition to 10 credit hours of independent research in fire service to satisfy the fire science component of the degree.

Certificate. Non-degree seeking students may pursue a certificate program. A certificate of completion, co-signed by the National Fire Academy and the University of Cincinnati, is awarded for successful completion of six (6) courses. These courses may be applied later toward a degree.

Horticulture

Bachelor of Science, Horticulture

The bachelor of science degree in horticulture has been designed with the nontraditional student in mind. A scientific track is available for students interested in a more classical horticultural education. A business track is available for students interested in a more commercial approach to horticulture. Classes are held evenings and weekends on the College of Applied Science campus as well as the main campus of the university and regional campus locations. Requirements for both tracks are listed below.

Horticulture – Science Track

Concentration: Horticulture (Courses italicized are electives.)

Horticulture Science (24 credit hours)	Cr. Hrs.
Horticulture Science I (32HORT187)	3
Horticulture Science II (32HORT188)	3
Horticulture Science III (32HORT189)	3
Soil Science (32HORT286)	3
Plant Propagation (32HORT310)	3
Plant Nutrition (32HORT364)	3
Plant Morphology (32HORT472)	3
Horticultural Crop Physiology (32HORT478)	3

Plant Health (18 credit hours)	Cr. Hrs.
Plant Pathology (32HORT276)	3
Entomology (32HORT285)	3
Horticultural Microbiology (32HORT312)	3
<i>Advanced Entomology (32HORT317)</i>	3
<i>Plant Problem Diagnostics (32HORT416)</i>	3
<i>Integrated Landscape Management (32HORT434)</i>	3
<i>Economic Plant Pathology and Disease Management (32HORT480)</i>	3
<i>Economic Entomology and Pest Management (32HORT490)</i>	3

Plant Materials and Management (27 credit hours)	Cr. Hrs.
Turf grass Management (32HORT277)	3
Herbaceous Ornamental Plants I (32HORT278)	3
Woody Ornamental Plants I (32HORT281)	3
Woody Ornamental Plants II (32HORT282)	3
Herbaceous Ornamental Plants II (32HORT379)	3

<i>Plant Communities of Southwest Ohio (32HORT184)</i>	3
<i>Interior Plantscape (32HORT235)</i>	3
<i>Tri-State Native Plants (32HORT284)</i>	3
<i>Tree Fruits and Small Fruits (32HORT320)</i>	3
Vegetable Production (32HORT325)	3
Woody Ornamental Plants III (32HORT331)	3
Wildlife in Home Landscapes (32HORT340)	3
Advanced Turf grass Management (32HORT378)	3
Urban Forestry (32HORT385)	3
Edible Landscaping (32HORT410)	3

Landscape Design and

Construction (15 credit hours)

Cr. Hrs.

Landscape Design I (32HORT195)	3
Landscape Design II (32HORT275)	3
Landscape Construction I (32HORT279)	3
<i>Landscape Construction II (32HORT338)</i>	3
<i>Theme Landscape Design (32HORT420)</i>	3
<i>Landscape Design III (32HORT441)</i>	3

Horticulture Electives (9 credit hours from any of the four clusters)

or

Special Research Topics in

Horticulture (3 – 9 credit hours) (32HORT498)

This qualifies as the Capstone Experience

Core Curriculum

English (12 credit hours)

English Composition I (32ENGL101)	3
English Composition II (32ENGL102)	3
Intermediate Composition (32ENGL289)	3
Technical Writing I (32ENGL341)	3

Quantitative Reasoning (8 credit hours)

Algebra & Trigonometry I (32MATH178)	4
Algebra & Trigonometry II (32MATH179)	4

Diversity & Culture (3 credit hours)

3

Social & Ethical Issues (9 credit hours)

Ethics in America (32PHIL371) or equivalent	3
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Fine Arts or Literature (6 credit hours)

6

Historical Perspectives (12 credit hours)

12

Humanities (6 credit hours)

Fundamentals of Speech (32COMM172)	3
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Natural Sciences (10 credit hours)

Computer Applications (32IT141)	3
Fundamentals of Chemistry (32CHEM174)	3

Social Sciences (12 credit hours)

12

Electives (9 credit hours)

9

Horticulture for Non-majors as a Natural Science**Elective**

Plant Communities of Southwest Ohio (32HORT184)	3 credits
Horticulture Science I (32HORT187)	3 credits

****Horticulture Science Concepts NS —****Option for non-majors**

Cincinnati Summer Horticulture (32HORT185)	3
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****Horticulture Plant Materials and****Management NS — Option for non-majors**

Flowers, Vegetables and Lawns (32HORT283)	3
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Horticulture – Business Track

Concentration: Horticulture (Courses italicized are electives.)

Horticulture Science (24 credit hours) Cr. Hrs.

Horticulture Science I (32HORT187)	3
Horticulture Science II (32HORT188)	3
Horticulture Science III (32HORT189)	3
Soil Science (32HORT286)	3
Plant Propagation (32HORT310)	3
Plant Nutrition (32HORT364)	3
Plant Morphology (32HORT472)	3
Horticultural Crop Physiology (32HORT478)	3

Plant Health (12 credit hours) Cr. Hrs.

Plant Pathology (32HORT276)	3
Entomology (32HORT285)	3
Horticultural Microbiology (32HORT312)	3
<i>Advanced Entomology (32HORT317)</i>	3
<i>Plant Problem Diagnostics (32HORT416)</i>	3
<i>Integrated Landscape Management (32HORT434)</i>	3
<i>Economic Plant Pathology and Diseases (32HORT480)</i>	3
<i>Economic Entomology and Pest Management (32HORT490)</i>	3

Plant Materials and Management (15 credit hours) Cr. Hrs.

Turf grass Management (32HORT277)	3
Herbaceous Ornamental Plants I (32HORT278)	3
<i>Woody Ornamental Plants I (32HORT281)</i>	3
<i>Woody Ornamental Plants II (32HORT282)</i>	3
<i>Herbaceous Ornamental Plants II (32HORT379)</i>	3

Landscape Design and Construction (12 credit hours) Cr. Hrs.

Landscape Design I (32HORT195)	3
Landscape Design II (32HORT275)	3
Landscape Construction I (32HORT279)	3
Landscape Construction II (32HORT338)	3
Theme Landscape Design (32HORT420)	3
Landscape Design III (32HORT441)	3

General Business (30 credit hours)*

*Business Management Professional Certificate
or

*Free Enterprise and Entrepreneurship Professional Certificate

Core Curriculum**English (12 credit hours)**

English Composition I (32ENGL101)	3
English Composition II (32ENGL102)	3
Intermediate Composition (32ENGL289)	3
Technical Writing (32ENGL341)	3

Quantitative Reasoning (8 credit hours)

Algebra & Trigonometry I (32MATH178)	4
Algebra & Trigonometry II (32MATH179)	4

Diversity & Culture (3 credit hours) 3**Social & Ethical Issues (9 credit hours)**

Ethics in America (32PHIL371) or equivalent	3
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Fine Arts or Literature (6 credit hours) 6**Historical Perspectives (12 credit hours) 12****Humanities (6 credit hours)**

Fundamentals of Speech (32COMM172)	3
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Natural Sciences (10 credit hours)

Computer Applications (32IT141)	3
Fundamentals of Chemistry (32CHEM174)	3

Social Sciences (12 credit hours) 12**Electives (9 credit hours) 9****Information Technology****Bachelor of Science**

(Day and Evening)

Associate of Science

(Day and Evening)

Information technology (IT) focuses on meeting the needs of users within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies. IT encompasses software engineering and development, computer networking, Web technologies, computer security, database management, and digital media technologies. The IT professional is hired by organizations of all sizes in all industries. Students will receive a broad education across the IT spectrum as well as technical specialization in the areas of their choice.

The IT degree at the College of Applied Science offers a bachelor and associate degree option in both the day and evening schedules. Co-op experience is a vital part of the IT curriculum; all students will work as a student professional in alternating quarters starting in their second year of study. BS students will co-op five quarters and AS students two quarters. Students will choose a primary track specialization within IT (software development, networking, or Web technologies) and BS students will also choose a secondary track specialization (software development, networking, Web technologies, database or digital media).

Visit <http://it.cas.uc.edu> for the latest curriculum or other information about the IT program at the University of Cincinnati.

First Year	Aut	Win	Spr
Fundamentals of Speech (32COMM172)	3		
Introduction to Information Technology (32IT170)	3		
Computer Programming I,II,III (32IT205,206,207)	3	3	3
Programming Logic & Methods (32IT171)	3		
English Composition I,II (32ENGL101,102)	3	3	
Algebra & Trigonometry I,II (32MATH178,179)		4	4
Fundamentals of Web Development (32IT220)		3	
Computer Hardware (32IT274)		3	
Introduction to Networking (32IT275)			3
Co-op for CAS (36PD132)			1
Free Elective			3
	15	16	14

Second Year	Aut	Win/Spr
System Administration (32IT315)	3	
Introduction to Database (32IT209)	3	
Computational Concepts (32IT200)	3	
Implications of Information Technology (32IT299)	3	
Fundamentals of Digital Media (32IT230)		3
Information Security and Privacy (32IT313)		3
Technical and Professional Writing I (32ENGL341)		3
Primary Track Electives	3	3
Humanities/Social Science Elective		3
	15	15

Third Year	Sum/Aut	Win/Spr
Database Management (32IT309)	3	
Discrete Math I,II (32MATH271,272)*	4	4*
Primary Track Electives	3	3
Humanities/Social Science Elective	3	3
System Analysis and Design I (32IT301)		3
Science Electives	4	4
	17	17

AS students graduate after autumn quarter of the third year
*BS students only

Fourth Year	Sum/Aut	Win/Spr
Human Computer Interaction (32IT430)	3	
Technical and Professional Writing II (32ENGL342)		3
Probability and Statistics (32MATH371)		4
Primary Track Electives	3	3
Science Elective	4	
Secondary Track Electives	3	3
Electives	3	3
	16	16

Fifth Year	Aut	Win	Spr
Senior Design (32IT490)	3		
Management in Information Technology (32IT455)	3		
Senior Design Project Management I,II (32IT496, 497)		3	3
Senior Design Tech Practicum I, II (32IT493, 494)		3	3
Secondary Track Elective	3		
Advisor Approved IT Electives	3	3	
Primary Track Electives	3		3
Humanities/Social Science Electives		3	3
Electives			3
	15	12	15

Networking Track Electives

(all must be taken by those whose primary track is Networking)

Network Infrastructure Development (32IT317)
System Administration II (32IT316)
Network Security (32IT319)
Routing & Switching (32IT488)
Computer Forensics (32IT361)
Systems Integration (32IT415)
Enterprise Network Administration (32IT411)
Special Topics in Networking (32IT461)

Software Development Track Electives

(all must be taken by those whose primary track is Software Development)

Applied Data Structures & Algorithms (32IT371)
Contemporary Programming I (32IT345)
Contemporary Programming II (32IT346)
Contemporary Programming III (32IT347)
Systems Analysis & Design II (32IT302)
Software Engineering (32IT403)
Programming for Mobile Devices (32IT475)
Special Topics in Software Development (32IT463)

Web Technologies Track Electives

(all must be taken by those whose primary track is Web Technologies)

Client-Side Web Development (32IT321)
 Data Representation Technology (32IT322)
 Web Server Application Development (32IT420)
 Enterprise Web Development (32IT421)
 Digital Media in Web Development (32IT432)
 Web Administration (32IT354)
 E-Commerce (32IT324)
 Special Topics in Web Technologies (32IT462)

Database Track Electives

(all must be taken by those whose secondary track is Database)

Business Intelligence (32IT311)
 Database Design (32IT477)
 Database Administration (32IT480)

Digital Media Track Electives

(all must be taken by those whose secondary track is Digital Media)

Digital Image Development (32IT330)
 Digital Audio Development (32IT332)
 Digital Video Development (32IT333)

Minor in Information Technology

Undergraduate students in other majors can now obtain a minor in information technology. A minor in IT requires 30 credit hours of IT related courses. To apply for a minor, contact the IT department 513-556-5084 or casitdep@uc.edu.

Manufacturing Engineering Technology Associate of Applied Science

(Day and Evening)

The manufacturing engineering technology (MfgET) program is comprised of the processing, automation and quality aspects of manufacturing. The program furnishes the fundamental theoretical foundation with emphasis on manufacturing processes and their applications.

Student Status

Students are eligible for admission to the AAS manufacturing engineering technology degree program upon meeting the minimum criteria of the college as well as being in the upper 65 percent of their respective high school graduation classes. Applicants must have achieved a minimum mathematics score of 500 or 20 respectively on the Scholastic Aptitude Test (SAT) or the American College Test (ACT).

Full-time Students (Day)

Manufacturing engineering technology is a two-year program earning an associate degree. Two quarters of cooperative professional practice ("co-op") are mandatory for all full-time students graduating with an associate degree.

Part-time Students (usually Evening)

Part-time students are not required to co-op or to take the Co-op for CAS course. Otherwise, the course work in the day and evening classes is identical. Most students taking degrees through part-time study will attend class three or four nights a week for four or five years to attain the associate degree. An approved schedule is available in the mechanical engineering technology (MET) department.

Transfer and Returning Students

An articulation agreement exists for Cincinnati State students. Returning UC students who have worked in related industries may qualify for Academic Credit for Life Experience (ACLE). Both transfer and returning students are encouraged to contact the department head to go over transcripts or processes for ACLE.

PROGRAM INFORMATION**General Studies Core**

Students will complete a general studies core program of at least 58 credits in communication arts, humanities, social sciences, global studies, mathematics, physical sciences and computer languages. All general education courses are considered to extend and enhance the student's technical competence.

Humanities/Social Science Courses (H/SS)

All associate degree students are required to complete three (3) credits in humanities or social science electives. The courses may be selected from the offerings in a wide variety of departments to fulfill individual interests.

Capstone Project

Manufacturing Systems Design (32MFTN216) is the capstone course that enables students to use the skills and knowledge acquired in previous manufacturing courses to solve real-world situations. Students will be assigned projects from local industries. The projects will enhance students' creative thinking and problem solving skills. This one-quarter capstone course also provides an opportunity for students to demonstrate competencies and management skills.

Curriculum

The associate of applied science degree requires 101 quarter credit hours. Specific degree requirements follow.

Employment

Employment opportunities for associate degree graduates in manufacturing engineering technology are available in a wide range of industrial fields. Typical jobs include: manufacturing methods analyst, quality technician, and management trainee. Students who maintain satisfactory progress and successfully complete the associate degree in MfgET may go on to the baccalaureate program in mechanical engineering technology (MET). Should they do so, they will need to make up four courses from the associate degree curriculum of the MET program.

First Year	Cr. Per Qtr.		
	Aut	Win	Spr
Co-op for CAS (36PD132)		1	
English Composition I,II (32ENGL101, 2)	3	3	
Fundamentals of Speech Communication (32COMM172)			3
Algebra and Trigonometry II (32MATH179)	4		
Calculus I (32MATH244)			4
Technical Problem Solving w/MATLAB/EXCEL (32MET160)		3	
Physics for Technology I,II (32PHYS181, 2)		3	3
Physics for Technology I,II Laboratory (32PHYS186, 7)		1	1
Statics (32MET140)			4
Engineering Design Graph I,II (32MET171, 2)	3	4	
Principles of Joining, Machining, Casting & Forming (32MFTN131, 2, 3)	2	2	2
Principles of Joining, Machining, CAM Applications Laboratory (32MFTN141, 2, 3)	1	1	1
Humanities/Social Science Elective	3		
	16	18	18
	Sum/ Aut†	Win/ Spr†	Sum
Second Year			
Calculus II (32MATH245)	4		
Probability and Statistics (32MATH371)			4
Fundamentals of Chemistry (32CHEM174)	4		
Survey of Economics (32ECON286)			3
Basic Electric Circuits (32ELTN278)		2	
Basic Electric Circuits Laboratory (32ELTN288)		1	
Mechanics of Materials I (32MET241)	4		
Mechanisms (32MET260)		4	
CNC Technology (32MFTN210)	3		
Sequencing & Fixturing (32MFTN214)		3	
Manufacturing Systems Design (32MFTN216)		3	

Statistical Quality Control (32MFTN235) or Six Sigma (32MFTN335)		3	
Material Science (32MFTN250)		4	
Logic Control (32MFTN260)			4
Technical and Professional Writing I (32ENGL341)		3	
		18	17 14

† Students will be on cooperative professional practice assignment either summer/winter or autumn/spring quarters and will take the classes shown in the alternate schedule.

After successful completion of the required course work listed above, or equivalents accepted by the MET department, the student may apply for the associate of applied science degree. And, if desired, students may continue on to the bachelor's in mechanical engineering technology program with only minor deficiencies.

Mechanical Engineering Technology Bachelor of Science

Associate of Applied Science

(Day and Evening)

Mechanical engineering technology (MET) is comprised of the hardware- and computer-oriented aspects of mechanical design, manufacturing and energy systems. The program furnishes the fundamental theoretical foundation with emphasis on realistic technical problem solving and projects. Students who maintain satisfactory progress and successfully complete the associate degree in MET may go on to the baccalaureate program.

Student Status

Admission Requirements, AAS Degree

Students are eligible for admission to the mechanical engineering technology AAS degree program upon meeting the minimum criteria of the college as well as being in the upper 65 percent of their respective high school graduation classes. Applicants must have achieved a minimum mathematics score of 500 or 20 respectively on the Scholastic Aptitude Test (SAT) or the American College Test (ACT).

Admission Requirements, BS Degree

Students are eligible for admission to the mechanical engineering technology BS degree program upon meeting the minimum criteria of the college as well as being in the upper half of their respective high school graduation class with a 2.5 or better GPA. Applicants must have achieved a minimum mathematics score of 560 or 24 respectively on the Scholastic Aptitude Test (SAT) or the American College Test (ACT) and 510/21 verbal.

Full-time Students (Day)

Mechanical Engineering Technology is a two-plus-two program, wherein the associate's degree may be earned in two years, and the bachelor's degree in two additional years.

Cooperative Education

Two quarters of cooperative professional practice (co-op) are mandatory for all full-time mechanical engineering technology students graduating with either an associate or a bachelor's degree. Most students will complete these two quarters during the associate degree program, but transfer students may need to fulfill this requirement later in the curriculum. Flexible scheduling allows the student to elect to continue co-op throughout the bachelor's program with six alternating quarters. The optional bachelor's level co-op presents students with lighter academic loads and requires five years to complete. It also assumes local co-op employment since some of the courses are taken during the evenings of co-op quarters. Students wishing to follow this plan should consult their academic adviser or the MET department for details. Commitment to either the two- or six-quarter option is required during the first quarter of attendance in the program.

Part-time Students (usually Evening)

Part-time students are not required to co-op or take the Co-op for CAS course. Otherwise, the course work in day and evening classes is identical. Most students taking degrees through part-time study will attend class three or four nights a week for four or five years to attain the associate degree and another four or five years for the baccalaureate. An approved schedule is available in the mechanical engineering technology department.

Transfer and Returning Students

An articulation agreement exists for Cincinnati State students. Returning UC students who have worked in related industries may qualify for Academic Credit for Life Experience (ACLE). Both transfer and returning students are encouraged to contact the department head to go over transcripts or processes for ACLE.

Program Information

Technical Electives (all BS degree students)

All candidates for the bachelor of science degree in MET are required to complete a technical specialty option.

Mechanical Design, Manufacturing, Energy Systems

Options: At least three of the four required technical elective courses must be in one selected field; the fourth technical elective may be selected from any course on the approved list. Students should select their option when registering for their first technical elective course. No Academic Credit for Life Experience will be granted for technical elective courses.

The following departmental technical electives will satisfy the above technical specialty option requirements for the BS degree. Most MET technical electives are offered in winter or

spring quarters only, and many of the approved electives are offered on an alternating year schedule. Students are advised to consult with their academic adviser about technical elective selection.

(D=Mechanical Design; E=Energy Systems; M=Manufacturing)

Environmental Law and Regulation (32CHEM470)	D	E	M
Solar Heating and Cooling (32MET325)		E	
Geometric Dimension and Tolerancing (32MET372)	D		M
Integrated CAD/CAM (32MET375)	D		M
Fundamentals of Packaging Technology (32MET380)	D	E	M
Fundamentals of Intellectual Properties (32MET392)	D	E	M
Advanced Topics by International Visitor (32MET395)	D	E	M
Power Plant Technology (32MET420)		E	
Energy Systems (32MET421)		E	
Combustion Engines (32MET425)		E	
Fundamentals of Nuclear Energy (32MET426)		E	
Turbomachinery (32MET435)	D	E	
Mechanical Vibrations (32MET440)	D		
Experimental Stress Analysis (32MET444)	D		
Applied Finite Elements (32MET472)	D		
Advanced Mechanical Design Technology (32MET475)	D		
Fundamentals of Nanotechnology (32MET365)	D	E	M
Packaging Machinery (32MET480)	D	E	M
Statistical Quality Control (32MFTN235)	D	E	M
Six Sigma (32MFTN335)	D	E	M
Engineering Plastics (32MFTN345)	D	E	M
Plastics Processing (32MFTN347)			M
Product and Production Planning (32MFTN430)	D		M
Materials Handling (32MFTN483)			M
International Manufacturing Studies Series (32MFTN497)	D	E	M
Advanced Manufacturing Systems (32MFTN580)			M
Problems in Manufacturing Management (32MFTN596)			M
Joining Theory and Practice (32WLTN430)			M

Technical Communications Options: The option in technical communications will be jointly recognized by the mechanical engineering technology and the humanities departments. Students completing all requirements for the certificate in technical and professional communications may apply the course work as their technical specialty option for the BS in MET. Seven courses (three additional) are required for this option and certificate.

The required courses are:

- Technical and Professional Writing I,II (32ENGL341, 2)
- Technical and Professional Presentations (32COMM371)
- Psychology of Work Teams (32PSYC371)
- Energy Systems (32MET421)
- Engineering Plastics (32MFTN345) and
- One other Technical Elective from 32MET or 32MFTN

Course descriptions for these approved technical electives may be found in the university's *Course Descriptions* online publication.

General Studies Core

Students will complete a general studies core program of at least 90 credits in communication arts, humanities, social sciences, global studies, mathematics, physical sciences, computer languages and professional ethics. All general education courses (and global studies in particular) are considered to extend and enhance the student's technical competence.

Humanities/Social Science Electives

All associate degree students are required to complete a three (3) credit humanities/social science elective. All BSMET degree students are required to complete an additional six (6) credit hours of upper division (3xx-4xx level) humanities/social science electives. These courses may be selected from a wide variety of areas to fulfill individual interests. *Students should be mindful of the university's general education breadth of knowledge (BoK) requirements when selecting courses to fulfill their humanities/social science electives.*

Global Studies

Six credits are required in global studies electives. These courses must be selected from a list of those recommended (see your adviser). The nature of the course is to enhance understanding of cultural differences and increase opportunities for the student in companies with global operations.

Curriculum

The associate of applied science degree requires 102 quarter credit hours; the bachelor of science degree requires an additional 95 quarter credit hours. Specific degree requirements follow. The undergraduate curriculum includes a general education program that encourages students to explore beyond their chosen major or discipline. Please see page 48 for additional details.

Projects

Projects are a major part of the MET curriculum. For the associate degree, the project is Design of Machine Elements (32MET270), in which students are assigned a problem in synthesis of mechanical design elements of moderate complexity. For the bachelor's degree, the sequence of Senior Seminar, Senior Design Project I,II and Senior Design Communications (32MET491, 492, 493 and 32ENGL493) constitute a capstone experience in which students propose, design, build and test

projects of substantial technological significance. The corequisite English course (32ENGL493) is considered an integral portion of the MET senior capstone experience. Students must demonstrate the achievement of senior standing in MET in order to be eligible to undertake the project sequence.

Employment

Employment opportunities for both associate and baccalaureate graduates are available in a wide range of industrial fields. Typical jobs for graduates with an associate degree include: designer/drafter, test technician, quality inspector, engineering aide, and manufacturing management trainee. Baccalaureate graduates are prepared to accept positions requiring a greater measure of technical expertise and responsibility. Typically, such employment would include responsible positions in engineering disciplines of design, testing, field installation, and first line manufacturing management in virtually every industry. Students are asked to consult with their adviser for the five-year co-op option.

First Year	Cr. Per Qtr.		
	Aut	Win	Spr
Co-op for CAS (36PD132)		1	
English Composition I,II (32ENGL101, 2)	3	3	
Fundamentals of Speech Communication (32COMM172)			3
Algebra and Trigonometry II (32MATH179)	4		
Calculus I (32MATH244)			4
Physics for Technology I,II (32PHYS181, 2)		3	3
Physics for Technology I,II Laboratory (32PHYS186, 7)		1	1
Statics (32MET140)			4
Technical Problem Solving w/MATLAB/EXCEL (32MET160)		3	
Engineering Design Graph I,II (32MET171, 172)	3	4	
Principles of Joining, Machining, Casting & Forming (32MFTN131, 2, 3)	2	2	2
Principles of Joining, Machining, CAM Applications Laboratory (32MFTN141, 2, 3)	1	1	1
Humanities/Social Science Elective (200 level)	3		
	16	18	18
	Sum/ Aut†	Win/ Spr†	Sum
Second Year			
Calculus II (32MATH245) BOK-QR	4		
Fundamentals of Chemistry (32CHEM174)	4		
Survey of Economics BOK-SS (32ECON286)			3
Basic Electrical Circuits (32ELTN278)		2	
Basic Electrical Circuits Laboratory (32ELTN288)		1	

Introduction to Thermosciences (32MET210)	4		
Thermodynamics (32MET215)		4	
Mechanics of Materials I,II (32MET241, 242)	4	4	
Mechanisms (32MET260)		4	
Design of Machine Elements (32MET270)			5
Materials Science I (32MFTN250)		4	
Logic Control (32MFTN260)			4
Technical and Professional Writing I (32ENGL341)			3
	16	18	16

† Students will be on cooperative professional practice assignment either summer/winter or autumn/spring quarters and will take the classes shown in the alternate schedule.

After successful completion of the required course work listed above, or equivalents accepted by the MET department, the student may apply for the associate of applied science degree. Students who maintained satisfactory progress may go on to the baccalaureate program.

	Cr. Per Qtr.		
	Aut	Win	Spr
Third Year			
Probability and Statistics (32MATH371)		4	
Advanced Technical Calculus (32MATH381)	4		
Electronic Fundamentals (32ELTN381)	3		
Electronic Fundamentals Laboratory (32ELTN391)	1		
Numerical Analysis (32MET302)			4
Heat Transfer (32MET315)			4
Fluid Mechanics (32MET330)		4	
Dynamics (32MET340)	5		
Motion Control (32MET350)			4
Mechanical Design (32MET370)		4	
Ethics in Applied Science (32PHIL325)			3
Global Studies Elective	3		
Technical Elective		3	3
	16	15	18

	Cr. Per Qtr.		
	Aut	Win	Spr
Fourth Year			
Senior Design Communications (32ENGL493)			3
Economic Analysis (32ECON386)	3		
Thermal Environmental Systems (32MET415)	4		
Product Development (32MET470)	4		
Senior Seminar (32MET491)	3		
Senior Design Project I,II (32MET492, 493)		4	3
Manufacturing Automation (32MFTN460)	4		
Global Studies Elective			3

Humanities/Social Science Elective (300–400 level)		3	
Gen. Education Elective		3	3
Technical Electives		3	3
	18	16	12

NON-DEGREE PROGRAMS

Students interested in pursuing certificate or craftsmanship programs should complete an "Application for Certificate Program" available in the college. Students wishing to earn a certificate from the college must take 50 percent of the required course work offered by the College of Applied Science.

SPECIAL PROGRAMS

Technology Access Program

One-Year Curriculum

This one-year program is designed to provide for the needs of high school graduates who wish to obtain the proper preparation to qualify for admission to an associate or baccalaureate degree program. It is also a valuable program for those who graduated from high school several years ago and now wish to continue their education. Successful completion of this three-quarter program with faculty recommendation will guarantee admission into an engineering technology program. The admission requirement for this preparatory program is high school graduation or its equivalent.

Autumn Quarter	Cr. Hrs.
First Year Experience Seminar (32INTR001)	1
Preparatory Composition (32ENGL099)	3
Introduction to Technical Math I (32MATH021)	4
Math Success Seminar (32READ086)	3
Creative Problem Solving (32MATH031)	3
	14

Winter Quarter	Cr. Hrs.
English Composition I (32ENGL101)	3
Introduction to Technical Math II (32MATH022)	4
Preparatory Physics I (32PHYS020)	3
Introduction to Computers (32IET010)	4
	14

Spring Quarter	Cr. Hrs.
English Composition II (32ENGL102)	3
Introduction to Technical Math III (32MATH023)	4
Preparatory Physics II (32PHYS021)	3
Introduction to Chemistry I (32CHEM021)	4
	14

Optional Courses/Electives

Fundamentals of Speech Communications (32COMM172)	3
General Psychology (32PSYC171)	3
PC Maintenance (32IT060)	3
Set Up Your Home Network (32IT070)	3
Create Your Web Page (32IT080)	3
Basic Keyboarding (32IT090)	3
Study Skills & Problem Solving (32ENGL071)	variable

Note: All students will be assigned a schedule of classes based on test results, prerequisites, and their desired program degree objective. All student schedules require departmental approval.

Pre-Engineering Transfer Program One-Year Curriculum

The College of Applied Science (CAS) and the College of Engineering (CoE) offer a joint program designed to facilitate entrance into bachelor of science programs in both colleges. This program is designed to ensure that students have the background and the support needed to succeed in the engineering/technology disciplines. Each student will develop a career plan and will work closely with an adviser to ensure that adequate progress will be made at the end of each quarter. Adjustments and changes will be made to student schedules to facilitate progress and to ensure the success of each student.

Students who successfully complete this one-year program with a 2.75 GPA or higher will be granted acceptance into their selected degree program — in either college. There is a maximum of two years allowed to complete the courses listed in the program in order to be guaranteed admission to the CoE.

Each college will review students who have not maintained a 2.75 GPA for possible admission into degree programs.

Autumn Quarter	Cr. Hrs.
Algebra and Trigonometry (32MATH178)	4
Chemistry (32CHEM131)	5
English Composition I (32ENGL101)	3
Introduction Engineering/Tech. (32ENFD101)	2

Winter Quarter	Cr. Hrs.
Algebra & Trigonometry II (32MATH179)	4
English Composition II (32ENGL102)	3
Physics for Tech. I (32PHYS181) lec. & (32PHYS186) lab	4
Micro Comp. I (32IET121)	3

Spring Quarter	Cr. Hrs.
Calculus and Analytic Geometry I (32MATH251)	5
Physics for Tech. II (32PHYS182) lec & (32PHYS187) lab	4
General Psychology (32PSYC171)	3
Technology Elective	3-4

BUSINESS AND COMMERCE CERTIFICATES

Bookkeeping–Accountancy Technical Certificate

This online certificate is oriented toward non-matriculated candidates who want or need a working knowledge of accounting procedures and to those who want to obtain entry-level certification for employment or other purposes.

Required Courses	Cr. Hrs.
Fundamentals of Bookkeeping-Accountancy I (32ACCT091)	3
Fundamentals of Bookkeeping-Accountancy II (32ACCT092)	3
Fundamentals of Bookkeeping-Accountancy III (32ACCT093)	3
Approved Elective*	3
	<hr/> 12

Approved Electives*

Fundamentals of Managerial Accounting (32ACCT094)
Fundamentals of Financial Statement Analysis (32ACCT095)
Fundamentals of Desktop Computer Accounting (32ACCT096)

Business Management Professional Certificate

This one-year certificate option is designed for those students who:

1. Possess a bachelor's degree, or
2. Are matriculated in a bachelor's degree program.

Required courses:	Cr. Hrs.
Introduction to Business (32BA171)	3
Accounting concepts I (32ACCT246)	3
Accounting for Decision Making (32ACCT271)	3
Business Law II (32BLAW272)	3
Marketing (32MKTG275)	3
Business Finance (32FIN371)	3
Introduction to Management (32MGMT261)	3
Approved Business Elective*	3 (4)
	<hr/> 24(25)

* Approved Business Elective

Accounting Concepts II (32ACCT246)
Business Law I (32BLAW271)
Survey of Investments (32FIN372)
Human Resource Management & Supervision (32MGMT385)
Labor Relations & Collective Bargaining (32MGMT383)
Management Theory (32MGMT371)
Small Business Management (32MGMT375)
Advertising (32MKTG371)
Personal Selling (32MKTG373)
Applied Business Statistics (32STAT231) - 4 cr. hrs.
Business Computer Applications (32IT141)

* Course must be approved by academic advisor.

Free Enterprise and Entrepreneurship Technical Certificate

The Free Enterprise and Entrepreneurship technical certificate is designed for persons with an interest in an experiential introduction to contemporary issues in entrepreneurship and free enterprise studies. Participants may qualify for SIFE (Students in Free Enterprise) certification through their participation on a SIFE project team.

Required Courses	Cr. Hrs.
Accounting Concepts II (32ACCT246)	3
Business Law II (32BLAW272)	3
Basic Entrepreneurship (32MGMT274)	3
Introduction to Management (32MGMT261)	3
Marketing (32MKTG275)	3
Small Business Management (32MGMT375)	3
Directed Studies in Free Enterprise (32MGMT290, 291)	6
Approved Business Electives*	6
	30

* Approved Business Electives

Accounting I (32ACCT245)	
Business Law (32BLAW271)	
Survey of Investments (32FIN372)	
Human Resource Management & Supervision (32MGMT385)	
Labor Relations & Collective Bargaining (32MGMT383)	
Management Theory (32MGMT 371)	
Advertising (32MKTG371)	
Personal Selling (32MKTG373)	
Applied Business Statistics (32STAT231)	
Business Computer Applications (32IT141)	
Introduction to the New Business Venture (32MGMT272)	
Creating a Business Plan (32MGMT273)	

ECET CERTIFICATES

Journeyman Electrician Competency Program Certificate

Curriculum	Cr. Hrs.
Fundamentals of Electricity (32EETN060)	3
Electric Motors and their Maintenance (32EETN070)	3
Electric Wiring and Instrumentation (32EETN080)	3
Programmable Logic Controllers (32EETN090)	3
Setting up a Home Network (32IT070)	3
	15

Master Electrician Competency Program Certificate

Students must complete the journeyman electrician competency program certificate prior to pursuing this certificate.

Curriculum	Cr. Hrs.
Electric Power Distribution (32EETN065)	3
Electric Motor and Generator Operations (32EETN075)	3

Commerical Building Wiring (32EETN085)	3
National Electric Codes NEC (32EETN095)	3
	15

Power Systems Technology Certificate

Curriculum	Cr. Hrs.
Fundamentals of Electricity (32EETN060)	3
Electric Motors and their Maintenance (32EETN070)	3
Electric Wiring and Instrumentation (32EETN080)	3
Programmable Logic Controllers (32EETN090)	3
Stationary Engineering I (32HVAC011)	3
Stationary Engineering II (32HVAC012)	3
Stationary Engineering III (32HVAC013)	3
Stationary Engineering IV (32HVAC014)	3
	24

HORTICULTURE CERTIFICATES

The horticulture program offers three certificates available to individuals who desire to upgrade skills, enhance the marketability of a current degree, or to prepare for a career change but do not need the bachelor's degree. A certificate is awarded for successful completion of ten courses in the desired certificate area. Courses completed in the certificates also apply toward the bachelor's degree.

Horticulture Certificate

Required Courses:	Cr. Hrs.
Horticulture Science I (32HORT187)	3
Horticulture Science II (32HORT188)	3
Horticulture Science III (32HORT189)	3
Herbaceous Ornamental Plants I (32HORT278)	3
Woody Ornamental Plants I (32HORT281)	3

Any combination of horticulture courses from any of the four areas of horticulture science, plant health, plant materials and management and landscape design and construction.

15
30

Landscape Design Certificate

Required Courses:	Cr. Hrs.
Horticulture Science I (32HORT187)	3
Horticulture Science II (32HORT188)	3
Horticulture Science III (32HORT189)	3
Landscape Design I (32HORT195)	3
Landscape Design II (32HORT275)	3
Landscape Design III (32HORT441)	3
Herbaceous Ornamental Plants I (32HORT278)	3
Woody Ornamental Plants I (32HORT281)	3

plus any two of the following courses:

Interior Plantscape (32HORT235)	3
Woody Ornamental Plants II (32HORT282)	3

Woody Ornamental Plants III (32HORT331)	3
Herbaceous Ornamental Plants II (32HORT379)	3
	30

Turf grass and Grounds Management Certificate

Required Courses:	Cr. Hrs.
Horticulture Science I (32HORT187)	3
Horticulture Science II (32HORT188)	3
Horticulture Science III (32HORT189)	3
Turf grass Management (32HORT277)	3
Woody Ornamental Plants I (32HORT281)	3
Soil Science (32HORT286)	3
Advanced Turf grass Management (32HORT378)	3

plus any three of the following courses:

Landscape Design I (32HORT195)	3
Plant Pathology (32HORT276)	3
Entomology (32HORT285)	3
Horticultural Microbiology (32HORT312)	3
Integrated Landscape Management (32HORT434)	3
	30

INDUSTRIAL HVAC

Craftsmanship Program

Curriculum	Cr. Hrs.
Trade Math I (32MATH033) <i>or</i>	
Intro to Tech Math I (32MATH021)	4
Fundamentals of Electricity (32EETN016, 017, 018)	9
Industrial Control Circuits (32EETN025, 026, 027)	9
Refrigeration I,II (32HVAC031, 032)	6
HVAC Equipment I,II (32HVAC041, 042)	6
Stationary Engineering I,II (32HVAC011, 012)	6
Industrial Blueprint Reading (32MET070)	3
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INFORMATION TECHNOLOGY CERTIFICATES

The College of Applied Science is offering certificate programs in information technology. The purpose of these certificates is to provide the new skills required in today's rapidly changing and increasingly competitive business environment. Rapid changes in information technology have resulted in an increased demand for new sources of up-to-date knowledge. These new certificates are targeted at increasing the overall information technology effectiveness within a business organization.

The information technology certificate programs are designed to provide a comprehensive set of skills for employees in their present positions or in preparation for new assignments and roles.

Certificate Requirements

Admission to the College of Applied Science information technology certificate programs is by application and permission of the director of the program.

For more information or to apply for a certificate, contact the IT department 513-556-5084 or casitdep@uc.edu.

IT Course Registration

You can register for courses online, by mail or fax.

For current information on these certificate programs and links to online university course registration and payment procedures, please visit the CAS Web site: www.uc.edu/cas

To receive a printed information technology certificate (suitable for framing), a written request must be submitted to the academic director within one year of program completion, accompanied by a transcript or grade reports confirming successful completion of the required courses. All required courses must be completed within a two-year period from date of acceptance into the program.

Database Certificate

This certificate is intended to provide an in-depth understanding of database technologies. It is ideal for new or existing database administrators. This certificate covers the full spectrum of database topics in order to prepare students and practitioners to be knowledgeable in database concepts, terminology, design methods and techniques. The following courses are being suggested as a template. Students can design their own learning path with the agreement of the department.

- 32IT205 Computer Programming I
- 32IT206 Computer Programming II
- 32IT209 Introduction to Database
- 32IT275 Introduction to Networking
- 32IT301 Systems Analysis and Design I
- 32IT309 Database Management
- 32IT313 Information Security and Privacy
- 32IT311 Business Intelligence
- 32IT477 Database Design
- 32IT480 Database Administration

Networking Certificate

This certificate has been specifically designed to provide the participants with a practical understanding of networking. It is intended for network administrators and covers the practical day-to-day issues necessary to allow effective operation and management of networks. The participants will learn the components of a network, how the components of a network should be designed, selected and implemented as well as how information is moved throughout a network. The following courses are being suggested as a template. Students can design their own learning path with the agreement of the department.

- 32IT205 Computer Programming I
- 32IT209 Introduction to Database
- 32IT274 Computer Hardware
- 32IT275 Introduction to Networking
- 32IT313 Information Security and Privacy
- 32IT315 System Administration I
- 32IT316 System Administration II
- 32IT317 Network Infrastructure Development
- 32IT319 Network Security
- 32IT488 Routing and Switching

Software Development Certificate

This certificate is designed to provide extensive experience in all aspects of software development. It is intended for programmers, analysts, systems analysts and software engineers at all levels to accelerate their skills development. This certificate provides a strong foundation in software development with an emphasis on systems analysis and design, coding, testing and project management. The following courses are being suggested as a template. Students can design their own learning path with the agreement of the department.

- 32IT205 Computer Programming I
- 32IT206 Computer Programming II
- 32IT207 Computer Programming III
- 32IT209 Introduction to Database
- 32IT220 Fundamentals of Web Development
- 32IT275 Introduction to Networking
- 32IT301 Systems Analysis and Design I
- 32IT313 Information Security and Privacy
- 32IT345 Contemporary Programming I
- 32IT346 Contemporary Programming II

Webmaster Certificate

This certificate provides the core skills to become a proficient webmaster. The certificate program includes a survey of intranet/Internet Web software, development concepts, languages and tools for effective implementations. Participants will learn Web site development, multimedia concepts, Web server administration, configuration, maintenance, database administration and information policy concepts including security and intellectual property. This is a vendor neutral certification program. The following courses are being suggested as a template. Students can design their own learning path with the agreement of the department.

- 32IT205 Computer Programming I
- 32IT206 Computer Programming II
- 32IT207 Computer Programming III
- 32IT209 Introduction to Database
- 32IT220 Fundamentals of Web Development
- 32IT275 Introduction to Networking
- 32IT313 Information Security and Privacy
- 32IT315 System Administration I
- 32IT321 Client-Side Web Development
- 32IT322 Data Representation Technology

Machine Tool Operations Craftsmanship Program

	Cr. Hrs.
Trade Math I,II (32MATH033, 034)	8
Industrial Blueprint Reading (32MET070)	3
Inspection (32MFTN050)	3
Lathe and Drill Fundamentals (32MFTN055)	3
Lathe and Drill Operations (32MFTN056)	3
Mill and Grind Fundamentals (32MFTN057)	3
Mill and Grind Operations (32MFTN058)	3
Departmental Certificate	26

CNC Machining

CNC lathe Programming (32MFTN065)	3
CNC Mill Programming (32MFTN066)	3
Departmental Certificate	32

Computer Aided Design Drafting

Basic CAD/2D (32MET061)	3
Advanced CAD/3D 932MET062)	3
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Optional Computer Aided Manufacturing group can replace the Computer Aided Design Drafting group to complete the machine tool operations certificate.

CAM Profile (32MFTN067)	3
CAM Surface (32MFTN068)	3
	6

Manufacturing Processes

Technology Certificate Program

The professional certificate in manufacturing processes is an evening program designed for the individual who has a bachelor of science, or equivalent, in mechanical, materials, industrial, electrical, aeronautical/aerospace, or civil engineering technology or engineering. This program is designed to provide manufacturing decision-makers and other industrial/manufacturing professionals with a rigorous formal education in manufacturing processes. Individuals currently working in this area can use the certificate program to upgrade their skills in modern manufacturing technology.

Individuals seeking this certificate should be current in mathematics (trigonometry, algebra, statistics) and computer programming (at least one of the following: BASIC, FORTRAN, Pascal, C). Review courses in algebra, trigonometry, and programming are available for students who wish to brush-up before entering the program.

Students should work with a faculty adviser to plan a course schedule best suited to their needs and experience.

This certificate can be achieved in six (6) quarters on a part-time basis.

Credits earned in this program are also applicable to the associate degree program in manufacturing engineering technology.

Manufacturing Processes

Professional Certificate Program

Required Courses	Cr. Hrs.
Machining Processes (32MFTN009)	2
Casting and Forming Processes (32MFTN012)	2
Joining Processes & Eng. Materials (32MFTN013)	2
Machining Laboratory (32MFTN021)	3
CNC Laboratory (32MFTN022)	3
Welding Laboratory (32MFTN023)	3
Manufacturing Processes Tech. I (32MFTN014)	3
Manufacturing Processes Tech. II (32MFTN015)	3
Statistical Quality Control (32 MFTN079)	3
CNC Systems (32WLTN023)	3
	27

Open Learning Fire Service

Non-degree seeking students may pursue a certificate program. A certificate of completion, co-signed by the National Fire Academy and the University of Cincinnati, is awarded for successful completion of six (6) National Fire Academy distance learning courses. These courses may be applied later toward a degree.

Plant Maintenance

Craftsmanship Program

Curriculum	Cr. Hrs.
Trade Math I (32MATH033) <i>or</i> Tech Math I (32MATH021)	4
Fundamentals of Electricity (32EETN016, 017, 018)	9
Electrical Wiring (32EETN019, 020, 021)	9
Stationary Engineering I,II (32HVAC011, 012)	6
Refrigeration I (32HVAC031)	3
Instrumentation I (32HVAC051)	3
Plumbing Systems (32HVAC060)	3
Industrial Blueprint Reading (32MET070)	3
College Certificate	40

Stationary Steam Engineer's License

In concurrence with Ohio House Bill 428, permission to take an examination for stationary steam engineer's license requires:

- A. 1000 hours practical experience as a steam engineer, oiler, boiler operator, boiler operator's helper, or boiler repair person experienced with duties that pertain to the operation of steam reciprocating engine, turbine, or boiler.
- B. Successful completion of the following courses:

Stationary Engineering I (32HVAC011)	3
Stationary Engineering II (32HVAC012)	3
Stationary Engineering III (32HVAC013)	3
Stationary Engineering IV (32HVAC014)	3

In concurrence with Ohio House Bill 428, permission to take an examination for high pressure boiler's license requires:

- A. 1,000 hours practical experience as a steam engineer, oiler, boiler operator, boiler operator's helper, or boiler repair person experienced with duties that pertain to steam boiler operation.
- B. Successful completion of the following courses:

Stationary Engineering I (32HVAC011)	3
Stationary Engineering II (32HVAC012)	3
Stationary Engineering III (32HVAC013)	3

Technical and Professional Communication Certificate

The certificate in technical and professional communication focuses on the development of written, graphic, digital and interpersonal communication skills. The interdisciplinary program is geared toward technologists as well as writers and managers who need to understand and apply new technology.

Required Courses	Cr. Hrs.
Technical and Professional Writing I,II (32ENGL341, 2)	6
Technical and Professional Presentations (32COMM371) <i>or</i> Technical Publications (32ENGL370)	3
Managerial Psychology (32PSYC373) <i>or</i> Psychology of Work Teams (32PSYC371)	3
Managerial Communication (32COMM341)	3
Graphics I,II (32COMM382, 384)	6
Approved electives	9
	30

Welding

Craftsmanship Program

Curriculum	Cr. Hrs.
Trade Math I (32MATH033) <i>or</i> Intro to Tech Math I (32MATH021)	4
Welding (32WLTN02*, 03*, 04*, 05*)†	27
Industrial Blueprint Reading (32MET070)	3
College Certificate	34

* Alternate offering of course

† **NOTE:** Courses listed as "Welding" should include a mix of SMAW (32WLTN03*), Oxy-Fuel (32WLTN04*), and GTAW/

GMAW (32WLTN02*/32WLTN05*) as appropriate to the students' skill level and career objectives.

Wood Technology

Craftsmanship Program

This program is for serious woodworkers, young or old, novice or experienced, who want to develop their skills and wood-working knowledge.

Curriculum

Basic	Cr. Hrs.
Cabinet/Furniture Construction I-A,B,C (32CBMK001, 002, 003)	6
Cabinet/Furniture Construction II-A,B,C (32CBMK004, 005, 006)	6
Cabinet/Furniture Construction III-A,B,C (32CBMK007, 008, 009)	6
Wood Turning I,II,III (32CBMK073, 074, 078)	6
	<hr/> 24
Advanced	
Cabinet/Furniture Construction Drawing I, II, III (32CBMK010, 011, 012)	6
Cabinet/Furniture Construction IV-A,B,C (32CBMK021, 022, 023)	6
Wood working for Crafters I,II,III (32CBMK030, 031, 032)	6
Windsor Chair Construction I,II,III (32CBMK040, 041, 042)	6
Wood Technology: Understanding Wood* (32CBMK070)	2
Woodworking Techniques* (32CBMK071)	2
Wood Finishing* (32CBMK072)	2
Wood Carving I,II,III (32CBMK075, 076, 077)	6
	<hr/> 36
Total Credit Hours	<hr/> 60

* Offered alternate year.

Content:

All information contained in this Bulletin is current at time of printing. However, programs offered, course requirements, courses offered, scholarships available, and university rules, policies and procedures are all subject to change without notice. Content of this Bulletin is for general informational purposes only. Current students should not use the program requirements listed here to plan their course of study. All students are encouraged to meet with their advisers every quarter before registering for classes. Call 513-732-5319 for questions.

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