Table of Contents

The Richard C. Goodwin College of Professional Studies Undergraduate Programs

Drexel University

Catalog 2006 / 2007

The Richard C. Goodwin College of Professional Studies

The Richard C. Goodwin College of Professional Studies provides traditional students and adult learners with an academic foundation and practical education for their professional and personal advancement.

About the College

About the curriculum

Degree completion options

Facilities

Majors

The College responds to the demands of today's learner by offering competitive educational programs that tailor a student's learning experience to her/his professional career aspirations. The programs listed on the right lead to a baccalaureate degree.

Architecture
Applied Engineering Technology
Construction Management
Communications & Applied Technology
Computing and Security Technology
Culinary Arts
General Studies
Hospitality Management
Industrial Engineering Technology
Sport Management

Concentrations

Applied Engineering Technology:
- Electrical Engineering Technology
- Manufacturing Engineering Technology
- Mechanical Engineering Technology

General Studies:
- Individualized Studies
- Liberal Arts
- Physical Sciences

Hospitality Management
- Food & Beverage Managemen

- Lodging Administration
- Travel & Tourism
- Gaming & Resort Management

Drexel University

Catalog 2006 / 2007

The Richard C. Goodwin College of Professional Studies

The mission of the Goodwin College of Professional Studies is to provide contemporary students with the academic foundation and practical education that meets their career aspirations and facilitates their professional and personal advancement.

While still serving a large adult, part-time student population, the College has grown into a distinct entity that creates and delivers programs that are professional and applied in nature for both full-time traditional and nontraditional students. Today, the College offers full-time and part-time programs, credit and non-credit courses, classes during the day, evening, Saturdays, and online—as well as programs designed to suit the needs of the corporate sector.

The College also provides a range of continuing adult and professional education programs, certificates of proficiency, licensing and certification test preparation, and customer contracted training. The College abides by the continuing education unit (CEU) criteria for quality education.

All Good win programs are unique, aligning with market and industry needs, and blending theory with practice through laboratory experiments, field trips, and solid alliances with key businesses and industries. Instruction at Goodwin is supported by a team of educators with noteworthy educational credentials and expertise, and varied industrial background.

The Richard C. Goodwin College of Professional Studies

Students can pursue studies leading to a baccalaureate degree in the following nine majors:

- Architecture
- Applied Engineering Technology
- Construction Management
- Communications & Applied Technology
- Computing and Security Technology
- Culinary Arts
- General Studies
- Hospitality Management
- Industrial Engineering
- Sport Management

Degree requirements
Requirements for Goodwin degrees are provided by individual programs according to the requirements for each major, which are set forth in subsequent pages. The minimum number of credits required for the degree of Bachelor of Science varies from one program to another. All graduating students, regardless of the program, must have earned a grade point average of 2.0 or higher for all coursework undertaken at Drexel University.

Writing-Intensive Course Requirements
In order to graduate, all students beginning with the entering class of Fall 2002 must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in the student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid “clustering” these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog indicates that this course can fulfill a writing-intensive requirement. Departments will designate specific sections of such courses as writing-intensive. Sections of writing-intensive courses are not indicated in this catalog. Students should check the section comments in Banner when registering. Students scheduling their courses in Banner can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term. For more information on writing-intensive courses, see the Drexel University Writing Program's Writing-Intensive Course page.

The Richard C. Goodwin College of Professional Studies

The College offers several degree completion options to students with busy schedules or wishing to complete previous studies.

Accelerated Degree Programs
These programs are designed for people who already have earned an associate's degree or equivalent and for working adults and professionals. The types of programs available are listed below:

- Corporate onsite degree completion
- Saturday Scholars Degree Completion Program

Part-time Evening Studies
The College offers several partnership programs with other colleges and schools at the University. These degree programs are housed in the respective day departments, and are offered in the evening for students who cannot attend classes during the day. However, many of these degree programs may require courses during the day. Detailed program descriptions and curriculum requirements may be found by visting the College's Part-Time Undergraduate Studies web page.

Off-site Programs
The Goodwin College brings high quality Drexel courses and faculty members to your facility, offering your employees an exceptional and convenient education. Through Drexel, companies may choose to offer their employees programs and certificates at their place of work. The College works seamlessly with organizations to provide the support and training that their employees want and that management needs in order to maintain a competitive edge in their industry.
A Drexel education is a benefit that makes sense for both employers and employees. It enhances an organization's reputation, improves employee retention rates, and makes for a skilled and talented workforce.
Visit http://www.drexel.edu/goodwin/ for more information.

Drexel University and Burlington County College (BCC) programs
Drexel University and Burlington County College (BCC) have joined together to create a unique educational opportunity: Drexel at BCC. This partnership enables BCC students to earn a bachelor's degree from Drexel University while remaining on BCC's Mount Laurel campus. Currently available programs include:

- Applied Engineering Technology
- Computing and Security Technology
- Construction Management
- Hospitality Management

For more information, visit the Drexel at BCC web site.

Drexel University

Catalog 2006 / 2007

Architecture

The Part-Time Evening Program

The Part-Time Evening Program leads to a Bachelor of Architecture degree. The course of study usually takes seven years to complete, but students with transfer credits in studio design can accelerate their program. Since all courses are offered in the evening, students are expected to supplement their academic work with full-time employment in architectural offices. Please contact the Department of Architecture at 215-895-2409 for further information.

Architecture: Part-Time Evening Program

Bachelor of Architecture Degree: 209.0 credits.

Degree Requirements

Required courses

General education requirements		Credits
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
MATH 181	**Mathematical Analysis I**	3.0
MATH 182	**Mathematical Analysis II**	3.0
MATH 183	**Mathematical Analysis III**	3.0
PHYS 182	**Applied Physics I**	3.0
PHYS 183	**Applied Physics II**	3.0
PHYS 184	**Applied Physics III**	3.0
	Humanities and social science electives	9.0
	Free electives	12.0

Departmental requirements		Credits
ARCH 111	**Studio 1-1**	3.0
ARCH 112	**Studio 1-2**	3.0
ARCH 113	**Studio 1-3**	3.0
ARCH 121	**Studio 2-1**	3.0
ARCH 122	**Studio 2-2**	3.0
ARCH 123	**Studio 2-3**	3.0
ARCH 231	**Studio 3-1***	3.0
ARCH 232	**Studio 3-2**	3.0
ARCH 233	**Studio 3-3**	3.0
ARCH 241	**Studio 4-1**	4.0
ARCH 242	**Studio 4-2**	4.0
ARCH 243	**Studio 4-3**	4.0
ARCH 351	**Studio 5-1**	4.0
ARCH 352	**Studio 5-2**	4.0
ARCH 353	**Studio 5-3**	4.0
ARCH 361	**Studio 6-1***	4.0
ARCH 362	**Studio 6-2**	4.0
ARCH 363	**Studio 6-3**	4.0

ARCH 496	**Thesis I**	8.0
ARCH 497	**Thesis II**	8.0
ARCH 498	**Thesis III**	8.0

*Prior to taking this course student must meet the Department of Architecture's minimum studio advancement requirements. See the Department's Advising Guidelines web page page for more details.

Required professional courses		**Credits**
ARCH 14I	**Architecture and Society I**	3.0
ARCH 142 WI	**Architecture and Society II**	3.0
ARCH 143 WI	**Architecture and Society III**	3.0
ARCH 150	**Introduction to CADD I**	4.0
ARCH 153	**Introduction to CADD II**	4.0
ARCH 155	**Basic Architectural Drawing**	3.0
ARCH 156	**Graphic Communication I**	3.0
ARCH 161	**Architectural Construction**	3.0
ARCH 261	**Environmental Systems I**	3.0
ARCH 262	**Environmental Systems II**	3.0
ARCH 263	**Environmental Systems III**	3.0
ARCH 321 WI	**General Lecture Series I**	3.0
ARCH 322 WI	**General Lecture Series II**	3.0
ARCH 323 WI	**General Lecture Series III**	3.0
CIVE 261	**Materials and Structural Behavior I**	3.0
CIVE 262	**Materials and Structural Behavior II**	3.0
CIVE 263	**Materials and Structural Behavior III**	3.0

History and theory electives		**12.0 Credits**
Three or four of the following courses		
ARCH 341	**Theories of Architecture I**	3.0
ARCH 342	**Theories of Architecture II**	3.0
ARCH 343	**Theories of Architecture III**	3.0
ARCH 344	**History of the Modern Movement I**	3.0
ARCH 345	**History of the Modern Movement II**	3.0
ARCH 346	**History of Philadelphia Architecture**	3.0
ARCH 347	**Summer Study Abroad (6 credits)**	6.0
ARCH 348	**Studies in Vernacular Architecture**	3.0
ARCH 441	**Urban Design Seminar I**	3.0
ARCH 442	**Urban Design Seminar II**	3.0
ARCH 499	**Special Topics in Architecture**	3.0

Professional electives		**Credits**
Any three of the following courses*		
ARCH 157	**Graphic Communication II**	3.0
ARCH 421 WI	**Environmental Psychology and Design Theory**	3.0
ARCH 431	**Architectural Programming**	3.0
ARCH 432	**The Development Process**	3.0

ARCH 435	**Management Seminar I**	3.0
ARCH 436	**Management Seminar II**	3.0
ARCH 451	**Advanced Drawing**	3.0
ARCH 455	**Computer Applications in Architecture I**	3.0
ARCH 456	**Computer Applications in Architecture II**	3.0
ARCH 461	**Technology Seminar I**	3.0
ARCH 462	**Technology Seminar II**	3.0
ARCH 465	**Energy and Architecture**	3.0
ARCH 499	**Special Topics in Architecture**	3.0
CIVE 400	**Structural Design I**	3.0
CIVE 401	**Structural Design II**	3.0
CIVE 402	**Structural Design III**	3.0
CIVE 464	**Acoustics and Noise Control in Buildings I**	3.0
CMGT 462	**Construction Management I**	3.0
CMGT 463	**Value Engineering II**	3.0
CMGT 363	**Estimating I**	3.0
PHTO 110	**Photography**	3.0
VSST 111	**Figure Drawing I**	3.0
VSST 202	**Multimedia: Space**	4.0
VSST 301	**Painting I**	4.0
VSST 311	**Sculpture**	4.0
	Other approved engineering courses	3.0

* History and theory electives can also be used to satisfy professional elective requirements.

Writing-Intensive Course Requirements
In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid “clustering” these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog indicates that this course can fulfill a writing-intensive requirement. Departments will designate specific sections of such courses as writing-intensive. Sections of writing-intensive courses are not indicated in this catalog. Students should check the section comments in Banner when registering. Students scheduling their courses in Banner can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term. For more information on writing-intensive courses, see the Drexel University Writing Program's Writing-Intensive Course page.

Architecture

Bachelor of Architecture Degree: 209.0 credits

Part-time Evening Program

Recommended Plan of Study:

First year

(Fall)		Credits
ARCH 111	**Studio 1-1**	3.0
ARCH 155	**Basic Architectural Drawing**	3.0
ENGL 101	**Expository Writing and Reading**	3.0
(Winter)		
ARCH 112	**Studio 1-2**	3.0
ARCH 156	**Graphic Communication I**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
(Spring)		
ARCH 113	**Studio 1-3**	3.0
ARCH 161	**Architecture Construction**	3.0
ENGL 103	**Techniques of Analysis Evaluation**	3.0
(Summer)		
ARCH 150	**Introduction to CADD I**	4.0
	Total credits	31.0

Second year

(Fall)		Credits
ARCH 121	**Studio 2-1**	3.0
ARCH 14I WI	**Architecture and Society I**	3.0
MATH 181	**Mathematical Analysis I**	3.0
(Winter)		
ARCH 122	**Studio 2-2**	3.0
ARCH 142 WI	**Architecture and Society II**	3.0
MATH 183	**Mathematical Analysis II**	3.0
(Spring)		
ARCH 123	**Studio 2-3**	3.0
ARCH 143 WI	**Architecture and Society III**	3.0
MATH 182	**Mathematical Analysis III**	3.0
(Summer)		
ARCH 153	**Introduction to CADD II**	4.0

	Total credits	31.0

Third year

(Fall)		**Credits**
ARCH 231	**Studio 3-1***	3.0
PHYS 182	**Applied Physics I**	3.0
	Humanities or social sciences elective	3.0
(Winter)		
ARCH 232	**Studio 3-2**	3.0
PHYS 183	**Applied Physics II**	3.0
	Humanities or social sciences elective	3.0
(Spring)		
ARCH 233	**Studio 3-3**	3.0
PHYS 184	**Applied Physics III**	3.0
	Humanities or social sciences elective	3.0
	Total credits	27.0

*Prior to taking this course student must meet the Department of Architecture's minimum studio advancement requirements. See the Department's Advising Guidelines web page page for more details.

Fourth year

(Fall)		**Credits**
ARCH 241	**Studio 4-1**	4.0
ARCH 261	**Environmental Systems I**	3.0
CIVE 261	**Materials and Structural Behavior I**	3.0
(Winter)		
ARCH 242	**Studio 4-2**	4.0
ARCH 262	**Environmental Systems II**	3.0
CIVE 262	**Materials and Structural Behavior II**	3.0
(Spring)		
ARCH 243	**Studio 4-3**	4.0
ARCH 263	**Environmental Systems III**	3.0
CIVE 263	**Materials and Structural Behavior III**	3.0
	Total credits	30.0

Fifth year

(Fall)		**Credits**
ARCH 351	**Studio 5-1**	4.0
ARCH 321 WI	**General Lecture Series I**	3.0
	History/Theory elective	3.0
(Winter)		
ARCH 352	**Studio 5-2**	4.0
ARCH 322 WI	**General Lecture Series II**	3.0
	History/Theory elective	3.0
(Spring)		
ARCH 353	**Studio 5-3**	4.0
ARCH 323 WI	**General Lecture Series III**	3.0
	History/Theory elective	3.0

	Total credits	30.0

Sixth year

(Fall)		**Credits**
ARCH 361	**Studio 6-1***	4.0
	History/Theory elective	3.0
	Free elective	3.0
(Winter)		
ARCH 362	**Studio 6-2**	4.0
	Professional elective	3.0
	Free elective	3.0
(Spring)		
ARCH 363	**Studio 6-3**	4.0
	Professional elective	3.0
	Free elective	3.0
	Total credits	30.0

*Prior to taking this course student must meet the Department of Architecture's minimum studio advancement requirements. See the Department's Advising Guidelines web page page for more details.

Seventh year (Thesis)

(Fall)		**Credits**
ARCH 496	**Thesis I**	8.0
	Professional elective	3.0
(Winter)		
ARCH 497	**Thesis II**	8.0
	Free elective	3.0
(Spring)		
ARCH 498	**Thesis III**	8.0
	Total credits	33.0

Top

Drexel University
Catalog 2006 / 2007

Applied Engineering Technology

The Bachelor of Science (B.S.) degree in Applied Engineering Technology provides an integrated educational experience directed toward development of the ability to apply fundamental knowledge to the solution of practical technological problems.

All students enrolled in the program are required to take general education courses including mathematics, the sciences and liberal arts. During their sophomore year, students need to choose one of the three available concentrations, namely electrical, manufacturing, or mechanical engineering technology. These concentrations consist of core fundamental courses, technical electives, free electives and a three-term senior design project reflecting industrial practices.

The AET program distinguishes itself from traditional engineering programs by placing emphasis on the application of theory, by integrating most courses with laboratory experience, and by incorporating faculty with extensive industrial experience.

The AET program includes full-time and part-time enrollment options. Students pursuing the full-time option can opt for a four-year program with a six-month internship or a five-year program with an eighteen-month co-op period.

Applied engineering technology graduates are uniquely qualified to serve in a variety of functions requiring traditional and nontraditional technological skills. The program also prepares students for graduate study in a variety of fields including engineering management, business administration, and health technology.

Applied Engineering Technology
Manufacturing Engineering Technology Concentration

Bachelor of Science Degree: 187.5 credits

Required courses

Humanities and social sciences requirements		**34.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
COM 111	**Introduction to Corporate Communication**	3.0
COM 230	**Principles of Speech**	3.0
ECON 201	**Microeconomics**	4.0
HIST 285	**Technology in Historical Perspective**	3.0
PHIL 315	**Engineering Ethics**	3.0
	Liberal studies electives	9.0

Basic Science requirements		**14.5 Credits**
CHEM 111	**General Chemistry I**	4.0
CHEM 113	**Chemistry Laboratory I**	1.5
PHYS 152	**Physics for Life Sciences I**	4.5
PHYS 153	**Physics for Life Sciences II**	4.5

Mathematics requirements		**15.0 Credits**
MATH 110	**Precalculus**	3.0
MATH 121	**Calculus and Analytic Geometry I**	4.0
MATH 122	**Calculus and Analytic Geometry II**	4.0
STAT 201	**Statistics I**	4.0

Applied Engineering Technical Core		**62.0 Credits**
EET 201	**Circuit Analysis I**	4.0
EET 202	**Circuit Analysis II**	4.0
EET 203	**Non-Destructive Evaluation of Materials**	4.0
EET 204	**Introduction to Nanotechnology**	4.0
EET 205	**Digital Electronics with Laboratory**	4.0

EET 311	**Modeling of Engineering Systems**	4.0
EET 319	**Programmable Logic Controllers**	4.0
EET 401	**Applied Micro-controllers**	3.0
MET 100	**Graphical Communication**	4.0
MET 101	**Manufacturing Materials**	4.0
MET 204	**Quality Control**	3.0
MET 205	**Robotics and Mechatronics**	3.0
MET 209	**Fluid Power**	3.0
MET 213	**Applied Mechanics**	4.0
MHT 205	**Thermodynamics I**	3.0
MHT 226	**Measurement Lab**	3.0
CIVE 240	**Engineering Economics**	3.0
INDE 370	**Industrial Project Management**	3.0

MET Concentration requirements		**24.0 Credits**
MET 201	**Introduction to Manufacturing Industries**	3.0
MHT 201	**Kinematics**	3.0
MET 313	**Machine Tool Processing**	3.0
MET 316	**Computer Numerical Control**	3.0
MET 407	**Manufacturing Processes**	3.0
MET 408	**Manufacturing Information Management**	3.0
MET 310	**Advanced Robotics/Mechatronics**	3.0
MET 411	**Advanced Computer Numerical Control**	3.0

MET Technical electives		**9.0 Credits**
Students select 9.0 credits from the following courses:		
MET 301	**ADvanced Design Graphics**	3.0
MET 402	**Manufacturing Design w/CAD**	3.0
MET 403	**Three Dimensional Modeling**	3.0
MET 404	**Digital Instrumentation**	3.0
MET 409	**Green Manufacturing**	3.0
MET 380	**Special Topics in Manufacturing Engineering Technology**	2.0

Capstone course requirements		**9.0 Credits**
MET 421	**Project Design I**	3.0
MET 422	**Project Design II**	3.0
MET 423	**Project Design III**	3.0

Miscellaneous		**8.0 Credits**
CS 161	**Introduction to Computing**	3.0
EET 102	**Introduction to AET**	2.0

UNIV 101	**The Drexel Experience**	2.0
Free electives		**15.0 Credits**

Drexel University

Catalog 2006 / 2007

Recommended Plan Of Study

BS Applied Engineering Technology

5 YR UG Co-op Concentration /Manufacturing Engineering Tech

Term 1		Credits
CHEM 111	General Chemistry I	4.0
CHEM 113	General Chemistry I Laboratory	1.5
EET 102	Introduction to Applied Engineering Technology	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 110	Precalculus	3.0
PHYS 152	Physics for Life Sciences I	4.5
UNIV 101	The Drexel Experience	1.0
	Term Credits	*20.0*

Term 2		Credits
ENGL 102	Persuasive Writing and Reading	3.0
MATH 121	Calculus I	4.0
MET 100	Graphical Communication	4.0
PHYS 153	Physics for Life Sciences II	4.5
UNIV 101	The Drexel Experience	1.0
	Term Credits	*16.5*

Term 3		Credits
CS 161	Introduction to Computing	3.0
EET 201	Circuit Analysis I	4.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 122	Calculus II	4.0
MET 101	Manufacturing Materials	4.0
	Term Credits	*18.0*

Term 4		Credits
COM 111	Principles of Communication	3.0
EET 202	Circuit Analysis II	4.0
EET 205	Digital Electronics with Laboratory	4.0
MHT 226	Measurement Lab	3.0
STAT 201	Business Statistics I	4.0
	Term Credits	*18.0*

Term 5		Credits
EET 203	Non-Destructive Evaluation of Materials	3.0
EET 204	Introduction to Nanotechnology	3.0
HIST 285	Technology in Historical Perspective	3.0
MET 205	Robotics and Mechatronics	3.0
MHT 205	Thermodynamics I	3.0
	Term Credits	*15.0*

Term 6		Credits
COM 230	Techniques of Speaking	3.0
ECON 201	Economics I	4.0
EET 311	Modeling of Engineering Systems	4.0
EET 319	PLC Fundamentals	4.0
MET 213	Applied Mechanics	4.0
	Term Credits	*19.0*

Term 7		Credits
CIVE 240	Engineering Economic Analysis	3.0
EET 401	Applied Micro-controllers	3.0
MET 204	Applied Quality Control	3.0
MET 209	Fluid Power	3.0
PHIL 315	Engineering Ethics	3.0

	Term Credits	*15.0*

Term 8		Credits
MET 201	Introduction to Mfg Processes	3.0
MET 203	Machine Tool Processing	4.0
MHT 201	Kinematics	3.0
	Free elective	3.0
	MET technical elective (See degree requirements for options)	3.0
	Term Credits	*16.0*

Term 9		Credits
INDE 370	Industrial Project Management	3.0
MET 310	Advanced Robotics and Mechatronics	3.0
MET 316	Computer Numerical Control	3.0
MET 407	Manufacturing Processes	3.0
MET 408	MFG Information Management	3.0
	Term Credits	*15.0*

Term 10		Credits
MET 411	Advanced Computer Numerical Control	3.0
MET 421	Senior Design Project I	3.0
	Free elective	3.0
	Liberal studies elective	4.0
	Term Credits	*13.0*

Term 11		Credits
MET 422	Senior Design Project II	3.0
	Free electives	6.0
	Liberal studies elective	3.0
	MET technical elective (See degree requirements for options)	3.0
	Term Credits	*15.0*

Term 12		Credits
MET 423	Senior Design Project III	3.0
	Free elective	3.0
	Liberal studies elective	3.0
	MET technical elective (See degree requirements for options)	3.0
	Term Credits	*12.0*

	Total Credits (minimum)	192.5

Applied Engineering Technology
Electrical Engineering Technology Concentration

Bachelor of Science Degree: 187.5 credits

Required courses

Humanities and social sciences requirements		**34.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
COM 111	**Introduction to Corporate Communication**	3.0
COM 230	**Principles of Speech**	3.0
ECON 201	**Microeconomics**	4.0
HIST 285	**Technology in Historical Perspective**	3.0
PHIL 315	**Engineering Ethics**	3.0
	Liberal studies electives	9.0

Basic Science requirements		**14.5 Credits**
CHEM 111	**General Chemistry I**	4.0
CHEM 113	**Chemistry Laboratory I**	1.5
PHYS 152	**Physics for Life Sciences I**	4.5
PHYS 153	**Physics for Life Sciences II**	4.5

Mathematics requirements		**15.0 Credits**
MATH 110	**Precalculus**	3.0
MATH 121	**Calculus and Analytic Geometry I**	4.0
MATH 122	**Calculus and Analytic Geometry II**	4.0
STAT 201	**Statistics I**	4.0

Applied Engineering Technical Core		**62.0 Credits**
EET 201	**Circuit Analysis I**	4.0
EET 202	**Circuit Analysis II**	4.0
EET 203	**Non-Destructive Evaluation of Materials**	4.0
EET 204	**Introduction to Nanotechnology**	4.0
EET 205	**Digital Electronics with Laboratory**	4.0

EET 311	**Modeling of Engineering Systems**	4.0
EET 319	**Programmable Logic Controllers**	4.0
EET 401	**Applied Micro-controllers**	3.0
MET 100	**Graphical Communication**	4.0
MET 101	**Manufacturing Materials**	4.0
MET 204	**Applied Quality Control**	3.0
MET 205	**Automation & Computer Assisted Machine Systems**	3.0
MET 104	**Fluid Power**	3.0
MET 103	**Applied Mechanics**	4.0
MHT 205	**Thermodynamics I**	3.0
MHT 226	**Measurement Lab**	3.0
CIVE 240	**Engineering Economics**	3.0
INDE 370	**Industrial Project Management**	3.0

EET Concentration requirements		**26.0 Credits**
EET 206	**Analog Electronics I**	4.0
EET 313	**Signals and Systems I**	4.0
EET 317	**Analog Electronics II**	4.0
EET 322	**Energy Conversion**	4.0
EET 323	**Electrical Systems Design**	3.0
EET 324	**Power Electronics**	4.0
EET 325	**Microprocessors**	3.0

EET Technical electives		**6.0 Credits**
Students select 6.0 credits from the following courses:		
EET 402	**Control Engineering**	3.0
EET 404	**Signals and Systems II**	3.0
EET 406	**Communications**	3.0
EET 407	**Power Systems**	3.0
EET 409	**Optical System Design**	3.0
MHT 295	**Plasma Laboratory**	2.0

Capstone course requirements		**9.0 Credits**
MET 421	**Project Design I**	3.0
MET 422	**Project Design II**	3.0
MET 423	**Project Design III**	3.0

Miscellaneous		**8.0 Credits**
CS 161	**Introduction to Computing**	3.0
EET 102	**The Drexel Experience**	2.0
UNIV 101	**The Drexel Experience**	2.0

Free electives	**13.0 Credits**

Recommended Plan Of Study

BS Applied Engineering Technology

5 YR UG Co-op Concentration /Electrical Engineering Tech.

Term 1		Credits
CHEM 111	General Chemistry I	4.0
CHEM 113	General Chemistry I Laboratory	1.5
ENGL 101	Expository Writing and Reading	3.0
MATH 110	Precalculus	3.0
PHYS 152	Physics for Life Sciences I	4.5
UNIV 101	The Drexel Experience	1.0
EET 102	Introduction to Applied Engineering Technology	3.0
	Term Credits	*20.0*

Term 2		Credits
ENGL 102	Persuasive Writing and Reading	3.0
MATH 121	Calculus I	4.0
MET 100	Graphical Communication	3.0
PHYS 153	Physics for Life Sciences II	4.5
UNIV 101	The Drexel Experience	1.0
	Term Credits	*15.5*

Term 3		Credits
CS 161	Introduction to Computing	3.0
EET 201	Circuit Analysis I	4.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 122	Calculus II	4.0
MET 101	Manufacturing Materials	4.0
	Term Credits	*18.0*

Term 4		Credits
COM 111	Introduction to Corporate Communication	3.0
EET 202	Circuit Analysis II	4.0
EET 205	Digital Electronics with Laboratory	4.0
MHT 226	Measurement Lab	3.0
STAT 201	Business Statistics I	4.0
	Term Credits	*18.0*

Term 5		Credits
EET 203	Non-Destructive Evaluation of Materials	3.0
EET 204	Introduction to Nanotechnology	3.0
HIST 285	Technology in Historical Perspective	3.0
MET 205	Automation and Computer-Integrated Manufacturing	4.0
MHT 205	Thermodynamics I	3.0
	Term Credits	*16.0*

Term 6		Credits
COM 230	Techniques of Speaking	3.0
ECON 201	Economics I	4.0
EET 311	Modeling of Engineering Systems	4.0
EET 319	Programmable Logic Controllers	4.0
MET 103	Applied Mechanics	4.0
	Term Credits	*19.0*

Term 7		Credits
CIVE 240	Engineering Economic Analysis	3.0
EET 401	Applied Micro-controllers	3.0
MET 104	Fluid Power	4.0
MET 204	Applied Quality Control	4.0
PHIL 315	Engineering Ethics	3.0

	Term Credits	*17.0*

Term 8		Credits
EET 206	Analog Electronics I	4.0
EET 322	Energy Conversion	4.0
EET 325	Microprocessors	3.0
	Free elective	3.0
	Term Credits	*14.0*

Term 9		Credits
EET 313	Signals and Systems I	4.0
EET 317	Analog Electronics II	4.0
EET 323	Electrical Systems Design	3.0
INDE 370	Industrial Project Management	3.0
	Term Credits	*14.0*

Term 10		Credits
EET 324	Power Electronics	4.0
MET 421	Senior Design Project I	3.0
	Free elective	3.0
	Liberal studies elective	3.0
	Term Credits	*13.0*

Term 11		Credits
MET 422	Senior Design Project II	3.0
	EET technical elective (See degree requirements for options)	3.0
	Free elective	3.0
	Liberal studies elective	3.0
	Term Credits	*12.0*

Term 12		Credits
MET 423	Senior Design Project III	3.0
	EET technical elective (See degree requirements for options)	3.0
	Free elective	2.0
	Liberal studies elective	3.0
	Term Credits	*11.0*

	Total Credits (minimum)	187.5

Applied Engineering Technology
Mechanical Engineering Technology Concentration

Bachelor of Science Degree: 187.5 credits

Required courses

Humanities and social sciences requirements		**34.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
COM 111	**Introduction to Corporate Communication**	3.0
COM 230	**Principles of Speech**	3.0
ECON 201	**Microeconomics**	4.0
HIST 285	**Technology in Historical Perspective**	3.0
PHIL 315	**Engineering Ethics**	3.0
	Liberal studies electives	9.0

Basic Science requirements		**14.5 Credits**
CHEM 111	**General Chemistry I**	4.0
CHEM 113	**Chemistry Laboratory I**	1.5
PHYS 152	**Physics for Life Sciences I**	4.5
PHYS 153	**Physics for Life Sciences II**	4.5

Mathematics requirements		**15.0 Credits**
MATH 110	**Precalculus**	3.0
MATH 121	**Calculus and Analytic Geometry I**	4.0
MATH 122	**Calculus and Analytic Geometry II**	4.0
STAT 201	**Statistics I**	4.0

Applied Engineering Technical Core		**62.0 Credits**
EET 201	**Circuit Analysis I**	4.0
EET 202	**Circuit Analysis II**	4.0
EET 203	**Non-Destructive Evaluation of Materials**	4.0
EET 204	**Introduction to Nanotechnology**	4.0
EET 205	**Digital Electronics with Laboratory**	4.0

EET 311	**Modeling of Engineering Systems**	4.0
EET 319	**Programmable Logic Controllers**	4.0
EET 401	**Applied Micro-controllers**	3.0
MET 100	**Graphical Communication**	4.0
MET 101	**Manufacturing Materials**	4.0
MET 204	**Applied Quality Control**	3.0
MET 205	**Automation & Computer Assisted Machine Systems**	3.0
MET 104	**Fluid Power**	3.0
MET 103	**Applied Mechanics**	4.0
MHT 205	**Thermodynamics I**	3.0
MHT 226	**Measurement Lab**	3.0
CIVE 240	**Engineering Economics**	3.0
INDE 370	**Industrial Project Management**	3.0

MHT Concentration requirements		**26.0 Credits**
MHT 201	**Kinematics**	3.0
MHT 206	**Thermodynamics II**	3.0
MHT 222	**Applied Dynamics**	3.0
MHT 301	**Fluid Mechanics I**	3.0
MHT 314	**Thermo and Heath Transfer Laboratory**	3.0
MHT 401	**Mechanical Design I**	4.0
MHT 402	**Mechanical Design II**	4.0
MET 203	**Machine Tool Processing**	3.0

EET Technical electives		**6.0 Credits**
Students select 6.0 credits from the following courses:		
MHT 224	**Applied Dynamics II**	3.0
MHT 403	**Fluid Mechanics II**	4.0
MHT 404	**Advanced Materials**	4.0
MHT 405	**HVAC**	4.0
MHT 295	**Environmental Control Plasma Lab**	2.0

Capstone course requirements		**9.0 Credits**
MET 421	**Project Design I**	3.0
MET 422	**Project Design II**	3.0
MET 423	**Project Design III**	3.0

Miscellaneous		**8.0 Credits**
CS 161	**Introduction to Computing**	3.0
EET 102	**The Drexel Experience**	2.0
UNIV 101	**The Drexel Experience**	2.0

Free electives	**13.0 Credits**

Drexel University

Catalog 2006 / 2007

Recommended Plan Of Study

BS Applied Engineering Technology

5 YR UG Co-op Concentration /Mechanical Engineering Tech.

Term 1		Credits
CHEM 111	General Chemistry I	4.0
CHEM 113	General Chemistry I Laboratory	1.5
EET 102	Introduction to Applied Engineering Technology	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 110	Precalculus	3.0
PHYS 152	Physics for Life Sciences I	4.5
UNIV 101	The Drexel Experience	1.0
	Term Credits	*20.0*

Term 2		Credits
ENGL 102	Persuasive Writing and Reading	3.0
MATH 121	Calculus I	4.0
MET 100	Graphical Communication	4.0
PHYS 153	Physics for Life Sciences II	4.5
UNIV 101	The Drexel Experience	1.0
	Term Credits	*16.5*

Term 3		Credits
CS 161	Introduction to Computing	3.0
EET 201	Circuit Analysis I	4.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 122	Calculus II	4.0
MET 101	Manufacturing Materials	4.0
	Term Credits	*18.0*

Term 4		Credits
COM 111	Principles of Communication	3.0
EET 202	Circuit Analysis II	4.0
EET 205	Digital Electronics with Laboratory	4.0
MHT 226	Measurement Lab	3.0
STAT 201	Business Statistics I	4.0
	Term Credits	*18.0*

Term 5		Credits
EET 203	Non-Destructive Evaluation of Materials	3.0
EET 204	Introduction to Nanotechnology	3.0
HIST 285	Technology in Historical Perspective	3.0
MET 205	Robotics and Mechatronics	3.0
MHT 205	Thermodynamics I	3.0
	Term Credits	*15.0*

Term 6		Credits
COM 230	Techniques of Speaking	3.0
ECON 201	Economics I	4.0
EET 311	Modeling of Engineering Systems	4.0
EET 319	Programmable Logic Controllers	4.0
MET 103	Applied Mechanics	4.0
	Term Credits	*19.0*

Term 7		Credits
CIVE 240	Engineering Economic Analysis	3.0
EET 401	Applied Micro-controllers	3.0
MET 204	Applied Quality Control	3.0
MET 209	Fluid Power	3.0
PHIL 315	Engineering Ethics	3.0

	Term Credits	*15.0*

Term 8		Credits
MET 313	Machine Tool Processing	3.0
MHT 201	Kinematics	3.0
MHT 206	Thermodynamics II	3.0
MHT 222	Applied Dynamics I	3.0
MHT 301	Fluid Mechanics I	3.0
	Term Credits	*15.0*

Term 9		Credits
INDE 370	Industrial Project Management	3.0
MHT 314	Thermo and Heat Transfer Lab	3.0
MHT 401	Mechanical Design I	4.0
	Free elective	3.0
	Term Credits	*13.0*

Term 10		Credits
MET 421	Senior Design Project I	3.0
MHT 210	Mechanical Design II	4.0
	Free elective	4.0
	Liberal studies elective	3.0
	Term Credits	*14.0*

Term 11		Credits
MET 422	Senior Design Project II	3.0
	Free elective	3.0
	Liberal studies elective	3.0
	MHT technical elective (See degree requirements for options)	3.0
	Term Credits	*12.0*

Term 12		Credits
MET 423	Senior Design Project III	3.0
	Free elective	3.0
	Liberal studies elective	3.0
	MHT technical elective (See degree requirements for options)	3.0
	Term Credits	*12.0*

	Total Credits (minimum)	187.5

Construction Management

Construction management is a dynamic profession that is a combination of art and science.While an understanding of the technical aspects of construction is extremely important, it is also essential that construction professionals have knowledge of the business and management aspects of the profession.While construction has traditionally been a very conservative industry, the increasing rate of technological development and competition in the industry serves to accelerate the development of new construction methods, equipment, materials, and management techniques. As a result of these forces, there is an increasing need for innovative and professionally competent construction professionals. Students in this program receive broad academic, technical, business, and construction management courses that are designed to produce these well-rounded construction professionals.

Construction Management

Bachelor of Science Degree: 180.0 credits

Required courses

English requirements		**9.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0

Mathematics requirements		**11.0 Credits**
CS 161	**Introduction to Computing**	3.0
MATH 101	**Math Analysis I**	4.0
MATH 102	**Math Analysis II**	4.0

Science requirements		**18.5 Credits**
CHEM 101	**General Chemistry I**	3.5
CHEM 102	**General Chemistry II**	4.5
CHEM 113	**Chemistry Laboratory I**	1.5
PHYS 182	**Applied Physics I**	3.0
PHYS 183	**Applied Physics II**	3.0
PHYS 184	**Applied Physics III**	3.0

Business requirements		**28.0 Credits**
ACCT 115	**Financial Accounting**	4.0
BLAW 201	**Business Law I**	4.0
ECON 201	**Economics I**	4.0
ECON 202	**Economics II**	4.0
FIN 301	**Introduction to Finance**	4.0
STAT 201	**Statistics I**	4.0
STAT 202	**Statistics II**	4.0

Humanities and social science		**17.0 Credits**
	Humanities and social science electives	

Professional core requirements		70.0 Credits
CIVE 240	**Engineering Economics**	3.0
CIVE 251	**Engineering Surveying**	3.0
CMGT 161	**Building Materials and Construction Management I**	3.0
CMGT 162	**Building Materials and Construction Management II**	3.0
CMGT 253	**Environmental Systems I**	3.0
CMGT 254	**Environmental Systems II**	3.0
CMGT 261	**Construction Safety**	3.0
CMGT 262	**Building Codes**	3.0
CMGT 263	**Understanding Construction Drawing**	3.0
CMGT 264	**Construction Management of Field Operations**	3.0
CMGT 361	**Contracts & Specifications I**	3.0
CMGT 362	**Contracts & Specifications II**	3.0
CMGT 363	**Estimating I**	3.0
CMGT 364	**Estimating II**	3.0
CMGT 365	**Soil Mechanics in Construction**	4.0
CMGT 371	**Structural Aspects in Construction I**	3.0
CMGT 372	**Structural Aspects in Construction II**	3.0
CMGT 468	**Real Estate Development**	3.0
CMGT 461	**Construction Management I**	3.0
CMGT 462	**Construction Management II**	3.0
CMGT 463	**Value Engineering I**	3.0
CMGT 465	**Marketing Construction Services**	3.0
CMGT 467	**Techniques of Project Control**	3.0

Professional electives* **12.0 Credits**

Students select 12.0 credits from the following courses. Students may choose to take other professional electives but the permission of the Program Manager is required.

ACCT 116	**Managerial Accounting Foundations**	4.0
BLAW 202	**Business Law II**	4.0
CMGT 380	**Special Topics: Leadership in Construction**	3.0
CMGT 380	**Special Topics: Construction in the Global Market**	3.0
CMGT 380	**Special Topics: HR in the Construction Industry**	3.0
HRMT 330	**Collective Bargaining**	4.0
INDE 361	**Quality Control**	3.0

Free electives	15.0 Credits

Recommended Plan Of Study

BS Construction Management
5 YR UG Co-op Concentration

Term 1		Credits
CHEM 111	General Chemistry I	4.0
CHEM 113	General Chemistry I Laboratory	1.5
CMGT 161	Building Materials & Construction Methods I	3.0
ENGL 101	Expository Writing and Reading	3.0
MATH 101	Introduction to Analysis I	4.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*16.5*

Term 2		Credits
CMGT 162	Building Materials & Construction Methods II	3.0
ECON 201	Economics I	4.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 102	Introduction to Analysis II	4.0
UNIV 101	The Drexel Experience	1.0
	Humanities/Social Science elective	3.0
	Term Credits	*18.0*

Term 3		Credits
ACCT 111	Financial Accounting	3.0
CMGT 263	Understanding Construction Drawings	3.0
ECON 202	Economics II	4.0
ENGL 103	Analytical Writing and Reading	3.0
	Term Credits	*13.0*

Term 4		Credits
CMGT 253	Environmental Systems I	3.0
CMGT 261	Construction Safety	3.0
CMGT 371	Structural Aspects in Construction I	3.0
FIN 301	Introduction to Finance	4.0
PHYS 152	Physics for Life Sciences I	4.5
	Term Credits	*17.5*

Term 5		Credits
CMGT 254	Environmental Systems II	3.0
CMGT 372	Structural Aspects in Construction II	3.0
CMGT 465	Marketing Construction Services	3.0
STAT 201	Business Statistics I	4.0
	Term Credits	*13.0*

Term 6		Credits
BLAW 201	Business Law I	4.0
CMGT 361	Contracts And Specifications I	3.0
STAT 202	Business Statistics II	4.0
	Humanities/Social Science elective	3.0
	Term Credits	*14.0*

Term 7		Credits
CMGT 362	Contracts And Specifications II	3.0
CMGT 380	Special Topics: Labor Relations	3.0
PHIL 301	Business Ethics	3.0
	Free electives	6.0
	Term Credits	*15.0*

Term 8		Credits
CIVE 240	Engineering Economic Analysis	3.0
CIVE 251	Engineering Surveying	3.0

CMGT 262	Building Codes	3.0
	Humanities/Social Science elective	3.0
	Term Credits	*12.0*

Term 9		Credits
CMGT 380	Spec Topics: Project Management	3.0
CMGT 468	Real Estate	3.0
	Free elective	3.0
	Humanities/Social Science elective	3.0
	Professional elective (See degree requirements for list)	3.0
	Term Credits	*15.0*

Term 10		Credits
CMGT 363	Estimating I	3.0
CMGT 461	Construction Management I	3.0
ORGB 300	Organizational Behavior	4.0
	Free elective	3.0
	Humanities/Social Science elective	3.0
	Term Credits	*16.0*

Term 11		Credits
CMGT 364	Estimating II	3.0
CMGT 462	Construction Management II	3.0
CMGT 463	Value Engineering I	3.0
	Free elective	3.0
	Humanities/Social Science elective	3.0
	Term Credits	*15.0*

Term 12		Credits
CMGT 467	Techniques of Project Control	3.0
	Free elective	3.0
	Professional electives (See degree requirements for list)	9.0
	Term Credits	*15.0*

	Total Credits (minimum)	180.0

Drexel University

Catalog 2006 / 2007

Communications and Applied Technology

Overview

The Bachelor of Science in Communications and Applied Technology is a multidisciplinary program designed for individuals who want to increase their knowledge of all aspects of business communications and relevant communication technologies, while understanding the business principles that are necessary to achieve corporate goals. The major offers a multidisciplinary approach combining theoretical and applied learning principles and encompasses the spectrum of internal and external communications that organizations utilize in their management and marketing functions. The program is tailored to meet the needs of people who sell, communicate, and manage in industries that are heavily customer oriented and are involved in or affected by world markets. The goal of the program is to increase students' understanding of communication, management, applicable technology, business, the world economy, and relationships within their corporate culture.

Program Goals:

• Combine communications and technology skills training with study of sound business fundamentals.

• Hone written, oral, and interpersonal communication skills for effectiveness in a variety of organizational settings, with both internal and external audiences.

• Expand written communication skills including research and design skills to produce reports, proposals, web sites, and other corporate documents.

• Provide conceptual understanding of various principles of management and organizational processes.

• Develop problem-solving, conflict-management, and decision-making skills

• Examine factors that explain international movement of persons, goods, services, financial capital, and technology across national boundaries.

• Understand legal and ethical issues in business communication, technological advancement, employer-employee relations, obligations to customers, and foreign populations.

Assessment of Prior Learning

The Goodwin College of Professional Studies will grant transfer credit for American Council on Education (ACE)-evaluated corporate training offered by

professional associations such as the American Institute of Banking, the American College, and the College for Financial Planning as well as for industry certifications such as Microsoft Certified Professional. ACE-evaluated military training will be considered as well. In addition, credit by examination earned via College-Level Examination Program (CLEP), Defense Activity for Nontraditional Education Support (DANTES), Thomas Edison College Examination Program (TECEP), and Excelsior College Examinations (ECE) will also be assessed. All credits earned through assessment of prior learning are subject to advisor approval.

Curriculum

To complete the Bachelor of Science degree in Communications and Applied Technology, students must earn a minimum of 180 quarter credits comprising the following:

English Composition
Humanities
Social Sciences
Physical Sciences
Mathematics
Business
Computing Technology
Customer Operations

Communications and Applied Technology

Bachelor of Science Degree in General Studies: 180.0 credits

Required courses

English composition requirements		**9.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0

Mathematics requirements		**9.0 Credits**
MATH 181	**Mathematical Analysis I**	3.0
MATH 182	**Mathematical Analysis II**	3.0
MATH 183	**Mathematical Analysis III**	3.0

Science requirements (Choose one sequence)		**6.0 Credits**
BIO 161	**General Biology I**	3.0
BIO 162	**General Biology II**	3.0
or		
CHEM 161	**General Chemistry I**	3.0
CHEM 162	**General Chemistry II**	3.0

Humanities Electives		**12.0 Credits**
	Four humanities electives*	12.0

***Africana studies, communication, fine arts (history of architecture, art, film, music, theatre), foreign language, linguistics, literature, philosophy, women's studies, writing.**

Social Science Electives*		**18.0 Credits**
	Six social science electives	18.0

****Anthropology, economics, history, political science, psychology, sociology.**

Free Electives	**32.0 Credits**
No more than 5 credits of free electives may be in business	

Business requirements		**40.0 Credits**
ACCT 115	**Financial Accounting Foundations**	4.0

BLAW 201	**Business Law I**	4.0
ECON 201	**Economics I**	4.0
ECON 202	**Economics II**	4.0
FIN 301	**Introduction to Finance**	4.0
INTB 200	**International Business**	4.0
MKTG 301 WI	**Introduction to Marketing Management**	4.0
ORGB 300 WI	**Organizational Behavior**	4.0
OPM 300 WI	**Operations Management**	4.0
STAT 201	**Statistics I**	4.0

Communications and Applied Technology		**54.0 Credits**
CAT 200	**Strategies forLifelong Learning**	3.0
CAT 201	**Interpersonal Communication**	3.0
CAT 301	**Project Management**	3.0
CAT 302	**Customer Service Theory and Practice**	3.0
CAT 303	**Client Relations Management**	3.0
CAT 360	**Applied Organizational Research**	3.0
CAT 491	**Senior Project in CAT I**	3.0
CAT 492	**Senior Project in CAT II**	3.0
COM 230	**Techniques of Speaking**	3.0
COM 240	**New Technologies in Communication**	3.0
COM 270 WI	**Business Communication**	3.0
COM 370 WI	**Advanced Business Writing**	3.0
COM 335 WI	**Writing for the World Wide Web**	3.0
COM 340	**Desktop Publishing**	3.0
CT 230	**Web Development I: Introduction**	3.0
CT 240	**Web Development II: E-Commerce**	3.0
CT 385	**Web Development II: Database***	3.0
PHIL 323	**Organizational Ethics**	3.0

*After completion of CT 230, CT 240 and CT 385, students can sit for the Certified Internet Webmaster (CIW) exam.

Computing and Security Technology

The Computing and Security Technology curriculum centers on the application of software and hardware technology to solve real-world problems. Attention is given to maintenance and administration of information systems, with courses covering each of the major components of computer infrastructure: hardware, servers, Linux, Windows, networks, web, security, databases and OO programming.

The Computing and Security Technology program is supported by eight state-of-the-art computer labs in the Goodwin College building and faculty are selected based on their academic credentials and industry experience.

Students have an opportunity to pursue two educational paths: a concentration in computing technology or a concentration in computing security. Each concentration consists of 96 credits, divided into 60 credits of core courses and 36 credits of required courses in the specific concentration.

For additional information about this major, visit the Goodwin College of Professional Studies web site.

Computing Technology

Bachelor of Science Degree: 185.0 credits

Required courses

English requirements		**12.0 Credits**
COM 230	**Techniques of Speaking**	3.0
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0

Mathematics requirements		**9.0 Credits**
MATH 181	**Mathematical Analysis I**	3.0
MATH 182	**Mathematical Analysis II**	3.0
MATH 183	**Mathematical Analysis III**	3.0

Natural Science requirements		**9.0 Credits**
BIO 151	**Applied Biology**	3.0
CHEM 151	**Applied Chemistry**	3.0
PHYS 151	**Applied Physics I**	3.0

Liberal studies electives *	**12.0 Credits**

*Students must complete 12.0 credits in Liberal Studies covering a range of subject areas in the humanities and/or social sciences: anthropology, psychology, sociology, political science, history, philosophy, literature, economics, communication, music or art.

Free electives	**47.0 Credits**

Computing Technology Core Requirements		**60.0 Credits**
CT 200	**Server I**	3.0
CT 320	**Server II**	3.0
CT 140	**Network Administration I**	3.0
CT 330	**Network Administration II**	3.0
CT 350	**Network Administration III**	3.0
CT 210	**Linux I**	3.0

CT 310	**Linux II**	3.0
CT 410	**Linux III**	3.0
CT 340	**Operating System Architecture I**	3.0
CT 360	**Operating System Architecture II**	3.0
CT 380	**Operating System Architecture III**	3.0
CT 230	**Web Development I**	3.0
CT 240	**Web Development II**	3.0
CT 385	**Web Development III**	3.0
CT 392	**Web Development IV**	3.0
CT 400	**Network Security I**	3.0
CT 395	**IT Security I**	3.0
CT 420	**IT Security II**	3.0
CT 491	**Senior Project I**	3.0
CT 496	**Senior Project II**	3.0

Computing Technology Concentration requirements		**36.0 Credits**
CT 100	**Microcomputer Hardware**	3.0
CT 120	**Microcomputer Operating System**	3.0
CT 220	**Database I**	3.0
CT 375	**Database II**	3.0
CT 425	**Database III**	3.0
CT 430	**Database IV**	3.0
CT 435	**Database V**	3.0
CT 370	**OO Systems Analysis**	3.0
CT 290	**OO Client Side Programming**	3.0
CT 390	**OO Server Side Programming**	3.0
CT 405	**OO Enterprise Programming**	3.0
CT 431	**Project Management**	3.0

Computing Technology electives

CT 438	**Database VI**	4.0
CT 388	**Special Topics in Computing Technology I**	4.0
CT 389	**Special Topics in Computing Technology II**	4.0

Computing Security Concentration requirements		**36.0 Credits**
CT 300	**Security Technology Models and Architecture**	3.0
CT 312	**Access Control and Intrusion Detection Technology**	3.0
CT 315	**Security Management Practice**	3.0
CT 325	**O/S Security Architecture I**	3.0
CT 336	**IP Security and VPN Technology**	3.0
CT 393	**IP Security Risk Assessment**	3.0
CT 402	**Network Security II**	3.0
CT 412	**IT Security Policies**	3.0
CT 415	**Disaster Recovery and ContinuityPlanning**	3.0

CT 422	**Incident Response Best Practices**	3.0
CT 432	**IT Security System Audits**	3.0
CT 472	**IT Security Defense Countermeasures**	3.0

Computing Security electives

CT 382	**Applied Cryptography**	3.0
CT 212	**Computer Forensics**	3.0
CT 222	**Security and Information Warfare**	3.0
CT 295	**Public Key Infrastructure Technology**	3.0
CT 326	**O/S Security Architecture II**	3.0
CT 355	**Wireless Network Security**	3.0
CT 362	**Network Auditing**	3.0

Culinary Arts

Bachelor of Science Degree: 184.0 credits

The Culinary Arts program at Drexel University prepares students for leadership positions in the fine foods segment of the hospitality industry.

Culinary Arts

The culinary arts program prepares students for leadership positions in the fine foods segment of the hospitality industry. This baccalaureate degree in culinary arts is among the first of its kind in the United States. This program comprises approximately equal parts liberal arts, business and administration, hospitality management, and culinary arts. Students also receive a minor in business administration as well as completing the first year of foundation courses required for any accredited MBA degree. The incentive allows students to continue their education by taking advantage of many of the one-year MBA programs currently offered throughout the United States. In addition, the culinary arts program has take on an exciting new area of specialization: Culinology. The Research Chef's association defines Culinology as a merger between culinary arts and food science. It is now nationally recognized as a valued discipline and an emerging trend within the field of culinary education and the industry at large. Specific jobs for professionals with skills in the culinary arts and Culinology include food research and development professionals, corporate R & D chefs, applied food science specialists and chef educators.

For more information, visit the Culinary Arts and Hospitality Management Programs web site.

Culinary Arts

Bachelor of Science Degree:

General education requirements		Credits
COM 280	**Public Relations**	3.0
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
MATH 101	**Introduction to Analysis I**	4.0
MATH 102	**Introduction to Analysis II**	4.0
NFS 101	**Introduction to Nutrition and Foods**	3.0
HRM 210	**Safety and Sanitation**	4.0
UNIV 101	**The Drexel Experience**	2.0
	Arts and humanities electives	9.0
	Social science electives	6.0
	Free electives	12.0

Business minor courses		Credits
ACCT 115	**Financial Accounting Foundations**	4.0
ECON 201	**Economics I**	4.0
ECON 202	**Economics II**	4.0
FIN 301	**Introduction to Finance**	4.0
MKTG 301 WI	**Introduction to Marketing Management**	4.0
ORGB 300 WI	**Organizational Behavior**	4.0
OPM 300 WI	**Operations Management**	4.0
STAT 201	**Statistics I**	4.0

Departmental requirements		Credits
HRM 110	**Introduction to the Hospitality Industry**	3.0
HRM 115	**Culinary Science**	3.0
HRM 120	**Principles of Food-Service Management**	3.0
HRM 130	**Tourism I**	3.0
HRM 150	**Customer Service**	3.0
HRM 215	**Commercial Food Production**	3.0
HRM 200	**Productivity Software for the Hospitality Industry**	3.0
HRM 230	**Design Application Seminar**	3.0
HRM 310	**Hospitality Accounting Systems**	3.0

HRM 320	**Hospitality Management Information Systems**	3.0
HRM 330	**Hospitality Marketing**	3.0
HRM 335	**Beverage Management**	3.0
HRM 410	**Laws of Hospitality Industry**	3.0
HRM 455	**Hospitality Human Resources**	3.0

Culinary arts requirements		**Credits**
CULA 200	**Professional Skills Laboratory I: Starch Workshop**	1.5
CULA 205	**Professional Skills Laboratory II: Butchery Workshop**	1.5
CULA 210	**Professional Skills Laboratory III: Baking Workshop**	1.5
CULA 215	**Foundations of Professional Baking**	3.0
CULA 220	**Patisserie I**	2.0
CULA 225	**Patisserie II**	2.0
CULA 230	**Major Techniques and Traditions**	3.0
CULA 235	**Professional Dining Room Management**	1.5
CULA 300	**Vegetarian Cuisine**	3.0
CULA 305	**The Italian Tradition**	3.0
CULA 310	**The French Tradition**	3.0
CULA 315	**The American Tradition**	3.0
CULA 320	**Advanced Culinary Studio**	3.0
CULA 325	**Garde Manger Lab**	2.0
CULA 400	**Directed Study With a Master Chef**	2.0
CULA 405	**Culture and Gastronomy I**	3.0
CULA 410	**Culture and Gastronomy II**	3.0
CULA 415	**Food Styling and Show Competition**	2.0
CULA 420	**Senior Design Project**	3.0
CULA 216	**A la Carte Cuisine**	3.0

Drexel University

Catalog 2006 / 2007

Recommended Plan Of Study

BS Culinary Arts

4 YR UG Co-op Concentration

Term 1		Credits
ENGL 101	Expository Writing and Reading	3.0
HRM 110	Introduction to the Hospitality Industry	3.0
HRM 130	Tourism I	3.0
HRM 200	Software for Hospitality Industry	3.0
MATH 101	Introduction to Math Analysis I	4.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*17.0*

Term 2		Credits
ENGL 102	Persuasive Writing and Reading	3.0
HRM 150	Customer Service	3.0
HRM 210	Safety and Sanitation	3.0
MATH 102	Introduction to Math Analysis II	4.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*14.0*

Term 3		Credits
ENGL 103	Analytical Writing and Reading	3.0
HRM 120	Principles of Food-Service Management	3.0
HRM 410	Laws of Hospitality Industry	3.0
NFS 101	Introduction to Nutrition and Food	3.0
	Arts and Humanities elective	3.0
	Term Credits	*15.0*

Term 4		Credits
ACCT 115	Financial Accounting Foundations	4.0
ECON 201	Economics I	4.0
HRM 115	Culinary Science	3.0
HRM 220	Purchasing for the Hospitality Industry	3.0
HRM 230	Design Application Seminar	3.0
	Term Credits	*17.0*

Term 5		Credits
CULA 215	Foundations of Professional Baking	3.0
CULA 230	Major Techniques and Tradition	3.0
ECON 202	Economics II	4.0
HRM 215	Commercial Food Production	3.0
HRM 310	Hospitality Accounting Systems	3.0
	Term Credits	*16.0*

Term 6		Credits
CULA 205	Professional Skills Laboratory II	1.5
CULA 216	A la Carte Cuisine	3.0
CULA 220	Patisserie I	2.0
CULA 235	Professional Dining Room Management	1.5
CULA 315	The American Tradition	3.0
CULA 325	The Garde Manger Laboratory	2.0
	Term Credits	*13.0*

Term 7		Credits
CULA 200	Professional Skills Laboratory I	1.5
CULA 305	The Italian Tradition	3.0
STAT 201	Statistics I	4.0
	Arts and Humanities elective	3.0
	Culinary Arts (CULA) elective	3.0

	Term Credits	*14.5*

Term 8		Credits
CULA 225	Patisserie II	2.0
CULA 310	The French Tradition	3.0
CULA 405	Culture and Gastronomy I	3.0
FIN 301	Introduction to Finance	4.0
	Arts and Humanities elective	3.0
	Culinary Arts (CULA) elective	3.0
	Term Credits	*18.0*

Term 9		Credits
COM 280	Public Relations	3.0
CULA 210	Professional Skills Laboratory III	1.5
CULA 300	Vegetarian Cuisine	3.0
CULA 410	Culture and Gastronomy II	3.0
OPM 300	Operations Management	4.0
	Arts and Humanities elective	3.0
	Term Credits	*17.5*

Term 10		Credits
CULA 400	Directed Studies with a Master Chef	2.0
CULA 415	Food Styling and Show Competition	2.0
HRM 330	Hospitality Marketing	3.0
ORGB 300	Organizational Behavior	4.0
	Culinary Arts (CULA) elective	3.0
	Term Credits	*14.0*

Term 11		Credits
CULA 320	Advanced Culinary Studio	3.0
HRM 320	Hospitality Management Information Systems	3.0
HRM 335	Beverage Management	3.0
MKTG 301	Introduction to Marketing Management	4.0
	Term Credits	*13.0*

Term 12		Credits
CULA 420	Senior Design Project	3.0
HRM 455	Hospitality Human Resources Management	3.0
	Culinary Arts (CULA) elective	3.0
	Social science electives	6.0
	Term Credits	*15.0*

	Total Credits (minimum)	184.0

General Studies

The General Studies program is designed for students who wish to gain a breadth of knowledge in the humanities, social sciences, and natural sciences. In addition, general studies students focus on a particular area of interest by following one of the concentrations that exist in the program:

Individualized Studies
This is a concentration designed for individuals with a diverse college background and varied educational interests that cannot be captured in a single degree program. In consultation with their academic advisor, students select a specialization within the concentration according to their interests. Students have the opportunity to experiment in a variety of academic subjects through a generous amount of free electives. An attractive feature is that students can complete certificate programs en route to their B.S. degree.

Liberal Studies
A concentration in Liberal Studies provides a broad-based liberal arts education that increases one's appreciation of the world at large and lays the necessary groundwork for graduate study. All liberal studies students take courses in communication, art or architecture history, literature, philosophy, history, political science, psychology, anthropology/sociology, and liberal studies electives. The final 36 credits in the course of study comprise the student's concentration requirements. Students choose to concentrate in either humanities or social sciences. The humanities concentration usually appeals to students interested in focusing on the fine arts, foreign language, literature, or writing. The social science concentration is excellent preparation for graduate school (including law school), research, and careers in which one would deal extensively with people.

Physical Sciences
A concentration in Physical Sciences can lead to graduate school, careers in research and, with the selection of natural science courses, medical , dental, pharmacy, and veterinary school. Students take courses in the following areas: calculus, biology, chemistry, and physics.

For more information on this major, visit Goodwin College's General Studies web page.

Individualized Studies

Bachelor of Science Degree in General Studies: 180.0 credits

Required courses

English requirements		**12.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
COM 230	**Techniques of Speaking**	3.0

Mathematics and Computers requirements		**12.0 Credits**
MATH 181	**Mathematical Analysis I**	3.0
MATH 182	**Mathematical Analysis II**	3.0
MATH 183	**Mathematical Analysis III**	3.0
CS 161	**Introduction to Computing**	3.0

Natural Science requirements		**9.0 Credits**
BIO 151	**Applied Biology**	3.0
CHEM 151	**Applied Chemistry**	3.0
PHYS 151	**Applied Physics**	3.0

Specialization Requirements	**45.0 Credits**
Students must complete 45.0 credits within an area of specialization.	

Liberal Studies requirements	**36.0 Credits**
Students must complete 36.0 credits in Liberal Studies, covering a range of subject areas in the humanities and/or social sciences: anthropology, psychology, sociology, political science, history, philosophy, literature, economics, communication, music, and art.	

Free electives	**66.0 Credits**

General Studies

Bachelor of Science Degree: 180.0 credits

Recommended Plan of Study

General Studies is an individualized plan of study currently advised by Ann M. Solan. Students enroll in the program with a variety of different academic backgrounds, and may apply their credit hours from other institutions toward this multi-disciplinary degree. Flexible policies on transfer credits provide students with the ability to build upon prior coursework and earn a baccalaureate degree relevant to their individualized educational needs. Through the General Studies major, students can create an interdisciplinary program to meet their individual educational goals or to prepare for a particular job or career.

Students majoring in General Studies, in consultation with the director of the program, devise a personalized study plan. The plan of study provides a rationale for their concentration and how the elective credits are to be used.

Liberal Studies

Bachelor of Science Degree in General Studies: 180.0 credits

Required courses

English requirements		**9.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
Mathematics and Computers requirements		**12.0 Credits**
MATH 181	**Mathematical Analysis I**	3.0
MATH 182	**Mathematical Analysis II**	3.0
CS 161	**Introduction to Computing**	3.0
	Statistics elective	3.0
Natural Science requirements		**9.0 Credits**
BIO 151	**Applied Biology**	3.0
CHEM 151	**Applied Chemistry**	3.0
PHYS 151	**Applied Physics**	3.0
Communication requirements		**9.0 Credits**
COM 210	**Theory and Models of Communication**	3.0
COM 230	**Techniques of Speaking**	3.0
	Communication elective	3.0
Women's or African-American Studies requirements		**3.0 Credits**
Music requirements		**3.0 Credits**
MUSC 130	**Introduction to Music**	3.0
Art History/Architecture requirements		**9.0 Credits**
ARTH 101	**History of Art I: Ancient to Medieval**	3.0
ARTH 102	**History of Art II: Renaissance to Modern**	3.0
ARTH 103	**History of Art III: Early Modern to Postmodernism**	3.0
or		
ARCH 141	**Architecture and Society I**	3.0
ARCH 142 WI	**Architecture and Society II**	3.0
ARCH 143 WI	**Architecture and Society III**	3.0
Liberal Studies requirements		**69.0 Credits**

Students must complete 69.0 credits in Liberal Studies covering a range of subjects in the humanities and/or social sciences.

History	9.0
Literature	9.0
Philosophy	9.0
Political Science	9.0
Psychology	9.0
Anthropology or Sociology	9.0
Liberal Studies electives*	15.0

*(Subjects listed above, plus economics, women's and African-American studies, and music/art history.)

Concentration Requirements **36.0 Credits**

Students must complete 36.0 credits within an area of concentration focusing on the humanities and/or social sciences. Courses must be upper level with at least 18.0 credits selected from one discipline. Social Science students are required to take SOC 250 and SOC 350: Research Methods I & II as part of their concentration.

Humanities/Social Science courses include anthropology, psychology, sociology, political science, history, philosophy, and literature.

Free electives **21.0 Credits**

Physical Sciences

Bachelor of Science Degree in General Studies: 180.0 credits

Required courses		
English requirements		**9.0 Credits**
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
Mathematics and Computer Science requirements		**19.0 Credits**
CS 171	**Computer Programming I**	3.0
MATH 121	**Calculus I**	4.0
MATH 122	**Calculus II**	4.0
MATH 123	**Calculus III**	4.0
MATH 200	**Multivariate Calculus**	4.0
Communication requirements		**6.0 Credits**
COM 230	**Techniques of Speaking**	3.0
COM 310	**Technical Communication**	3.0
Philosophy requirements		**6.0 Credits**
PHIL 351	**Philosophy of Technology**	3.0
or		
PHIL 361	**Philosophy of Science**	
PHIL 251	**Ethics**	3.0
or		
BMES 338	**Biomedical Ethics and Law**	
Physical Science requirements		**37.5 Credits**
Biology		
BIO 161	**General Biology I**	3.0
BIO 162	**General Biology II**	3.0
BIO 163	**General Biology III**	3.0
Chemistry		
CHEM 161	**General Chemistry I**	3.0
CHEM 162	**General Chemistry II**	3.0
CHEM 163	**General Chemistry II**	3.0
CHEM 164	**General Chemistry Lab I**	2.0
CHEM 165	**General Chemistry Lab II**	2.5
Physics		

PHYS 185	**Physics I**	3.0
PHYS 186	**Physics I-A**	2.0
PHYS 187	**Physics II**	3.0
PHYS 188	**Physics II-A**	2.0
PHYS 281	**Physics III**	3.0
PHYS 282	**Physics III-A**	2.0

Physical Science electives **27.0 Credits**

Students must complete 27.0 credits of natural science electives. Courses must be upper level in biology, chemistry, and/or physics.

Liberal Studies electives **27.0 Credits**

Students must complete 27.0 credits covering a range of subjects in the humanities and/or social sciences: anthropology. economics, fine arts, history, literature, philosophy, political science, psychology, sociology, etc.

Free electives **48.5 Credits**

Drexel University

Catalog 2006 / 2007

Hospitality Management

The Hospitality Management program at Drexel University, Goodwin College recognizes the critical importance of an interdisciplinary education with a global perspective for tomorrow's leaders and managers. Committed to building student knowledge across functional areas and contributing disciplines, the program allows for increased specialization with concentrations in one of four areas:

- Food & Beverage Management
- Gaming and Resort Management
- Travel and Tourism
- Hotel Management Administration

According to The Gourman Report, which provides rankings of undergraduate programs in American and international universities, Drexel University's Hospitality Management program was ranked in the top tenth percentile of national programs.

For more information, visit the Culinary Arts and Hospitality Management Programs web site.

Hospitality Management

Bachelor of Science Degree:

General education requirements		Credits
COM 230	Techniques of Speaking	3.0
COM 280	Public Relations	3.0
ENGL 101	Expository Writing and Reading	3.0
ENGL 102	Persuasive Writing and Reading	3.0
ENGL 103	Analytical Writing and Reading	3.0
MATH 101	Introduction to Analysis I	4.0
MATH 102	Introduction to Analysis II	4.0
NFS 101	Introduction to Nutrition and Foods	3.0
UNIV 101	The Drexel Experience	2.0
	Foreign language courses or arts and humanities electives	12.0
	Social science electives	6.0
	Free electives	12.0

Business minor courses		Credits
Business minor courses		Credits
ACCT 115	Financial Accounting Foundations	4.0
ECON 201	Economics I	4.0
ECON 202	Economics II	4.0
FIN 301	Introduction to Finance	4.0
MKTG 301 WI	Introduction to Marketing Management	4.0
ORGB 300 WI	Organizational Behavior	4.0
OPM 300 WI	Operations Management	4.0
STAT 201	Statistics I	4.0

Departmental requirements		Credits
HRM 110	Introduction to the Hospitality Industry	3.0
HRM 115	Culinary Science	3.0
HRM 120	Principles of Food-Service Management	3.0
HRM 130	Tourism I	3.0
HRM 135	Tourism II	3.0
HRM 150	Customer Service	3.0
HRM 200	Productivity Software for the Hospitality Industry	3.0
HRM 210	Safety and Sanitation	3.0
HRM 215	Commercial Food Production	3.0

HRM 230	**Design Application Seminar**	3.0
HRM 310	**Hospitality Accounting Systems**	3.0
HRM 320	**Hospitality Management Information Systems**	3.0
HRM 325	**Hotels Rooms Division Management**	3.0
HRM 330	**Hospitality Marketing**	3.0
HRM 335	**Beverage Management**	3.0
HRM 410	**Laws of Hospitality Industry**	3.0
HRM 455	**Hospitality Human Resources**	3.0
	Concentration courses	21.0-22.0
	Departmental electives	15.0

Concentrations

Food and Beverage Management (F&B)

Courses		Credits
HRM 220	**Purchasing for the Hospitality Industry**	3.0
HRM 250	**Contract Food-Service Management**	3.0
HRM 315	**Continental, Ethnic, and Regional Cuisine**	3.0
HRM 340	**Catering Management**	3.0
HRM 350	**Cost Controls in Hospitality**	3.0
HRM 415	**Fine Dining**	4.0
HRM 435	**Wine and Spirits**	3.0

Lodging Administration (LA)

Courses		Credits
HRM 345	**Convention and Trade Shows Management**	3.0
HRM 420	**Hotel/Restaurant Architecture:History and Design**	3.0
HRM 350	**Cost Controls in Hospitality**	3.0
HRM 465	**Special Topics: Franchise Management in HMA**	3.0
HRM 465	**Special Topics: Room Division Management**	3.0
HRM 465	**Special Topics: Hotel Sales and Marketing**	3.0
HRM 465	**Special Topics: Resort Development**	3.0

Tourism and Travel (T&T)

Courses		Credits
HRM 150	**Customer Service**	3.0
HRM 345	**Convention and Trade Shows Management**	3.0
HRM 365	**Heritage Tourism**	3.0
HRM 399	**Guest Lecture Series**	3.0
HRM 465	**Special Topics: Airline Operations**	3.0
HRM 465	**Special Topics: Current Research in T&T**	3.0
HRM 465	**Special Topics: TTOO and TTAA Management**	3.0
HRM 465	**Special Topics: Tourism Economics**	3.0

Recommended Plan Of Study

BS Hospitality Management
4 YR UG Co-op Concentration

Term 1		Credits
ENGL 101	Expository Writing and Reading	3.0
HRM 110	Introduction to the Hospitality	3.0
HRM 130	Tourism I	3.0
HRM 200	Productivity Software for the Hospitality Industry	3.0
MATH 101	Introduction to Math Analysis I	4.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*17.0*

Term 2		Credits
ENGL 102	Persuasive Writing and Reading	3.0
HRM 150	Customer Service	3.0
HRM 210	Safety and Sanitation	3.0
MATH 102	Introduction to Math Analysis II	4.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*14.0*

Term 3		Credits
ENGL 103	Analytical Writing and Reading	3.0
HRM 115	Culinary Science	3.0
HRM 120	Principles of Food-Service Management	3.0
HRM 135	Tourism II	3.0
HRM 410	Laws of Hospitality Industry	3.0
NFS 101	Introduction to Nutrition and Food	3.0
	Term Credits	*18.0*

Term 4		Credits
ACCT 115	Financial Accounting Foundations	4.0
ECON 201	Economics I	4.0
HRM 215	Commercial Food Production	3.0
HRM 230	Design Application Seminar	3.0
	Term Credits	*14.0*

Term 5		Credits
ECON 202	Economics II	4.0
HRM 310	Hospitality Accounting Systems	3.0
HRM 325	Hotel Room Division Management	3.0
	Free elective	3.0
	HRMT concentration course (See degree requirements for list)	3.0
	Term Credits	*16.0*

Term 6		Credits
STAT 201	Statistics I	4.0
	Arts and Humanities elective	3.0
	HRMT concentration course (See degree requirements for list)	3.0
	Hospitality Management program elective	3.0
	Term Credits	*13.0*

Term 7		Credits
	Arts and Humanities elective	3.0
	HRMT concentration course (See degree requirements for list)	3.0
	Hospitality Management program elective	3.0
	Social science elective	3.0
	Term Credits	*12.0*

Term 8		Credits
COM 230	Techniques of Speaking	3.0

FIN 301	Introduction to Finance	5.0
	HRMT concentration course (See degree requirements for list)	3.0
	Hospitality Management program elective	3.0
	Term Credits	*14.0*

Term 9		Credits
COM 280	Public Relations	3.0
OPM 300	Operations Management	4.0
	Arts and Humanities elective	3.0
	Free elective	3.0
	HRMT concentration course (See degree requirements for list)	3.0
	Hospitality Management program elective	3.0
	Term Credits	*19.0*

Term 10		Credits
HRM 330	Hospitality Marketing	3.0
ORGB 300	Organizational Behavior	4.0
	Arts and Humanities elective	3.0
	Free elective	3.0
	HRMT concentration course (See degree requirements for list)	3.0
	Term Credits	*16.0*

Term 11		Credits
HRM 320	Hospitality Management Information Systems	3.0
HRM 335	Beverage Management	3.0
MKTG 301	Introduction to Marketing Management	4.0
	HRMT concentration course (See degree requirements for list)	3.0
	Term Credits	*13.0*

Term 12		Credits
HRM 455	Hospitality Human Resources Management	3.0
	Free elective	3.0
	HRMT concentration course (See degree requirements for list)	3.0
	Hospitality Management program elective	3.0
	Social science elective	3.0
	Term Credits	*15.0*

	Total Credits (minimum)	181.0

Industrial Engineering Technology

The current demand for industrial engineers is high, but the supply of credentialed industrial engineers is limited. The trend toward an automated workplace and demands for greater efficiency in business and industry further enhance employment prospects for industrial engineers.

Coursework
The coursework for the Bachelor of Science in Industrial Engineering Technology provides a solid understanding of materials, design, statistics, operations research, information systems, methods engineering, manufacturing engineering, cost accounting, and production economy. Emphasis is placed on basic engineering and applied science, with the remainder of the program devoted to the humanities and those aspects of management pertinent to organizing and managing systems to produce and distribute services and products.Through the selection of electives, the curriculum offers options for specialization in a number of areas, providing the student with a sound basis for graduate study in management and industrial engineering.

Core courses include chemistry, calculus, physics, computer programming, principles of economics, technical writing, and coursework in various engineering principles. In the final year, students complete three levels of project design in a team setting.

For more information on this major, visit Goodwin College's Industrial Engineering Technology web page.

Industrial Engineering Technology

Bachelor of Science Degree: 186.0 credits

Required courses

English composition requirements		15.0 Credits
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
COM 310	**Technical Communication**	3.0
COM 230	**Principles of Communication**	3.0

Mathematics requirements		21.0 Credits
MATH 121	**Calculus I**	4.0
MATH 122	**Calculus II**	4.0
MATH 123	**Calculus III**	4.0
MATH 261	**Linear Algebra**	3.0
STAT 261	**Statistics I**	3.0
STAT 262	**Statistics II**	3.0

Science requirements		20.0 Credits
CHEM 161	**General Chemistry I**	3.0
CHEM 164	**Chemistry Laboratory**	2.0
PHYS 185	**Physics I**	3.0
PHYS 186	**Physics I-A**	2.0
PHYS 187	**Physics II**	3.0
PHYS 188	**Physics II-A**	2.0
PHYS 281	**Physics III**	3.0
PHYS 282	**Physics III-A**	2.0

Business requirements		12.0 Credits
ACCT 115	**Financial Accounting Foundations**	4.0
FIN 301	**Introduction to Finance**	4.0
MKTG 301 WI	**Introduction to Marketing Management**	4.0

Humanities and Social Science requirements		17.0 Credits

ECON 201	**Economics I**	4.0
ECON 202	**Economics II**	4.0
HIST 285	**Technology in Historical Perspective**	3.0
PHIL 315	**Engineering Ethics**	3.0
	Two Humanities and Social Sciences electives*	6.0

* HIST 285 Technology in Historical Perspective is a recommended Humanities and Social Sciences elective.

Engineering sciences requirements		**17.0 Credits**
CT 100	**Microcomputer Hardware**	3.0
CT 290	**Client Side Programmnig**	3.0
MET 100	**Graphical Communication**	4.0
MET 101	**Manufacturing Materials**	4.0

Industrial Engineering Core requirements		**49.0 Credits**
INDE 300	**Quality Management**	3.0
INDE 350	**Industrial Engineering Simulation**	3.0
INDE 351	**Intelligent Manufacturing Systems**	3.0
INDE 361	**Quality Control**	3.0
INDE 362	**Operations Research for Engineering I**	3.0
INDE 363	**Operations Research for Engineering II**	3.0
INDE 365	**Systems Analysis Methods I**	3.0
INDE 366	**Systems Analysis Methods II**	3.0
INDE 367	**Data Processing**	3.0
INDE 370	**Industrial Project Management**	3.0
INDE 470	**Engineering Quality Methods**	3.0
INDE 490	**Senior Project Design**	4.0
OPM 300 WI	**Operations Management**	4.0
OPM 341	**Supply Chain Management**	4.0
OPM 325	**Advanced Planning and Control of Operations**	4.0

Professional (Technical) electives	**21.0 Credits**

Free electives	**14.0 Credits**

Drexel University

Catalog 2006 / 2007

Recommended Plan Of Study

BS Industrial Engineering Technology

Term 1		Credits
CHEM 161	General Chemistry I	3.0
CHEM 164	General Chemistry Laboratory I	2.0
ENGL 101	Expository Writing and Reading	3.0
MATH 121	Calculus I	4.0
	Term Credits	*12.0*

Term 2		Credits
CT 100	Microcomputer Hardware	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 122	Calculus II	4.0
PHYS 185	Physics I	3.0
PHYS 186	Physics I-A	2.0
	Term Credits	*15.0*

Term 3		Credits
ENGL 103	Analytical Writing and Reading	3.0
MATH 123	Calculus III	4.0
MET 101	Manufacturing Materials	4.0
PHYS 187	Physics II	3.0
PHYS 188	Physics II-A	2.0
	Term Credits	*16.0*

Term 4		Credits
COM 111	Principles of Communication	3.0
MATH 261	Linear Algebra	3.0
MET 100	Graphical Communication	4.0
PHYS 281	Physics III	3.0
PHYS 282	Physics III-A	2.0
	Term Credits	*15.0*

Term 5		Credits
ACCT 115	Financial Accounting Foundations	4.0
HIST 285	Technology in Historical Perspective	3.0
INDE 362	Operations Research for Engineering I	3.0
STAT 261	Statistics I	3.0
	Humanities/Social Science elective	3.0
	Term Credits	*16.0*

Term 6		Credits
FIN 301	Introduction to Finance	4.0
INDE 363	Operations Research for Engineering II	3.0
INDE 365	Systems Analysis Methods I	3.0
STAT 262	Statistics II	3.0
	Free electives	6.0
	Term Credits	*19.0*

Term 7		Credits
CT 290	Client Side Programming	3.0
INDE 361	Quality Control	3.0
OPM 300	Operations Management	4.0
	Free elective	3.0
	Term Credits	*13.0*

Term 8		Credits
ECON 201	Economics I	4.0
INDE 350	Industrial Engineering Simulation	3.0

INDE 366	Systems Analysis Methods II	3.0
INDE 370	Industrial Project Management	3.0
OPM 325	Control Production & Operations	4.0
	Technical elective	3.0
	Term Credits	*20.0*

Term 9		Credits
COM 230	Techniques of Speaking	3.0
ECON 202	Economics II	4.0
INDE 351	Intelligent Manufacturing Systems	4.0
PHIL 315	Engineering Ethics	3.0
	Technical elective	3.0
	Term Credits	*17.0*

Term 10		Credits
CIVE 240	Engineering Economic Analysis	3.0
INDE 300	Quality Management	3.0
MKTG 301	Introduction to Marketing Management	4.0
	Technical electives	6.0
	Term Credits	*16.0*

Term 11		Credits
INDE 367	Data Processing	3.0
INDE 470	Engineering Quality Methods	3.0
POM 341	Advanced Operations Planning & Control	3.0
	Free elective	3.0
	Technical elective	3.0
	Term Credits	*15.0*

Term 12		Credits
INDE 490	Senior Project Design	4.0
	Free elective	3.0
	Technical electives	6.0
	Term Credits	*13.0*

	Total Credits (minimum)	187.0

Sport Management

Through Drexel's Sport Management program, students master the knowledge and skills necessary for success in the fields of Sport Management, athletics/ coaching, sports psychology and other professions supporting sports and recreation.

The program focuses on the integration of applicable areas of learning including communications, nutrition, human performance, psychology, athletics and business management. It uses a multidisciplinary approach (athletics and human performance; sport and the psycho-socio-cultural process; sports as an industry) to understand sports and manage the sports industry. Students will also develop the important supporting skills in technology. The major emphasizes the practical application of skills to the solution of problems in the management of sports, athletics and recreation on the professional, amateur and community level.

Coursework
The B. S. in Sport Management consists of 181 credits. All students enrolled in the program are required to take 47 credits of general education courses plus 49 credits of core courses on the foundations of Sport Management. These courses are supplemented by 27 credits of free electives.The balance of the program is based on technical elective courses drawn from four major concentrations, namely Athletics, Health & Human Performance (15 credits);The
Business of Sport (15 credits); Sport & the Psycho-Socio-Cultural Process (15 credits);Technology for Sport Management (13 credits).

Degree Completion Options
The Bachelor of Science degree in sport management can be completed in either four or five years:

Five-year option, with co-op experience
This option allows for the greatest amount of employment experience, with three distinct six-month periods of employment included with studies. After the start of the sophomore year, students study or work through all terms, including summers.

Four-year option, with internship experience
This option includes just one six-month period of full-time employment. After the start of the sophomore year, students study or work through all terms, including summers.

Sport Management

Bachelor of Science Degree: 181.0 credits

General education requirements		47.0 Credits
BIO 151	**Applied Biology I**	3.0
CHEM 151	**Applied Chemistry**	3.0
COM 230	**Techniques of Speaking**	3.0
COM 270	**Writing for Business**	3.0
CS 161	**Introduction to Computing**	3.0
or		
INFO 101	**Introduction to Information Technology**	3.0
ENGL 101	**Expository Writing and Reading**	3.0
ENGL 102	**Persuasive Writing and Reading**	3.0
ENGL 103	**Analytical Writing and Reading**	3.0
MATH 101	**Introduction to Analysis I**	4.0
MATH 102	**Introduction to Analysis II**	4.0
PHYS 151	**Applied Physics**	3.0
PSCI 100	**Introduction to Political Science**	4.0
UNIV 101	**The Drexel Experience**	2.0

Select one of the following three English courses:

ENGL 200 WI	**Classical to Medieval Literature**	3.0
ENGL 201	**Renaissance to the Enlightenment**	3.0
ENGL 202 WI	**Romanticism to Modernism**	3.0

Select one of the following two English courses:

ENGL 203 WI	**Post-Colonial Literature I: Africa/Asia/Caribbean/Japan/ Middle East**	3.0
ENGL 204	**Post-Colonial Literature II: Africa/Asia/Caribbean/Japan/ Middle East**	3.0

Core courses		52.0 Credits
BUSN 101	**Foundations of Business I**	4.0
ACCT 115	**Financial Accounting Foundations**	4.0
COM 290	**Sports and the Mass Media**	3.0
ORGB 300 WI	**Organizational Behavior**	4.0
HRMT 323	**Principles of Human Resource Administration**	4.0
SMT 110	**Business of Sport**	3.0
SMT 152	**Leadership in Sport and Society**	3.0

SMT 200	**Introduction to Facility and Event Management**	3.0
SMT 201	**Sports Marketing, Promotion and Public Relations**	3.0
SMT 230	**Sport and the Law**	3.0
SMT 250	**Technology and Sport**	3.0
SMT 300	**Quantitative Analysis /Statistics for Sports**	3.0
SMT 320	**Economic Aspects of Sport Management**	3.0
PHIL 325	**Ethics in Sport Management**	3.0
PSY 245	**Sports Psychology**	3.0
SOC 268	**Sociology of Sport**	3.0

Athletics, Health and Human Performance **15.0 Credits**

Select five of the following courses:

ANAT 101	**Anatomy & Physiology I**	5.0
BCS 352	**Life-Span Human Development***	3.0
NFS 101	**Introduction to Nutrition and Foods**	3.0
NFS 310	**Nutrition and Sports**	3.0
PSY 310	**Drugs and Human Behavior**	3.0
SMT 280	**Kinesiology**	3.0
SMT 101	**Principles of Coaching**	3.0
SMT 120	**Life Skills for Coaches**	3.0
SMT 210	**Prevention/Care for Athletic Injuries**	3.0
SMT 340	**International Aspects of Sport Management**	3.0
SMT 390	**Special Topics in Sport Management**	3.0

* Course offered through the College of Nursing and Health Professions

The Business of Sport **15.0 Credits**

BLAW 201	**Business Law I**	4.0
ECON 201	**Economics I**	4.0

In addition to BLAW 201 and ECON 201, students select from following electives to complete a minimum of 15.0 credits in this area:

ACCT 116	**Managerial Accounting Foundations**	4.0
BLAW 202	**Business Law II**	4.0
ECON 202	**Economics II**	4.0
MKTG 301	**Introduction to Marketing Management**	4.0
SMT 220	**Recreation, Wellness and Society**	3.0
SMT 235	**Sports Administration and Governance**	3.0
SMT 340	**International Aspects of Sport Management**	3.0
SMT 365	**Operations Management in Sports**	3.0
SMT 475	**Coaching Practicum**	3.0

Sport and the Psycho/Socio-cultural Process **15.0 Credits**

Select five of the following courses:

PHIL 210	**Philosophy of Sport**	3.0
PSY 101	**General Psychology I**	3.0
PSY 120	**Developmental Psychology**	3.0

PSY 140	**Approaches to Personality**	3.0
PSY 212	**Physiological Psychology**	3.0
PSY 230	**Psychology of Learning**	3.0
PSY 342	**Counseling Psychology**	3.0
PSY 355	**Health Psychology**	3.0
SMT 330	**Gender Equity and Women in Sport**	3.0
SMT 335	**Minority Issues and Opportunities in Sport**	3.0
SOC 101	**Introduction to Sociology**	3.0
SOC 210	**Race and Ethnic Relations**	3.0
SOC 250	**Research Methods I**	3.0

Technology for Sport Management		**13.0 Credits**
COM 240	**New Technologies in Communication**	3.0
COM 335	**Writing for the World Wide Web**	3.0
MIS 300	**Management of Information Systems**	4.0
	Technology elective**	3.0

**Suggested Technology electives include: COM 300 On-line Journalism, COM 340 Desktop Publishing, INFO 102 Intro to Information Systems, INFO 105 Information Evaluation, Organization and Use, DIGM 150 Overview of Digital Media, FMVD 110 Shooting and Lighting, MIS 341 Micro-computing Technology for Business. Check with the Sport Management program for additional technical elective options.

Electives		**26.0 Credits**
	Free electives***	26.0

*** Students may pursue a minor or take further studies in the sport management area electives.

Writing-Intensive Course Requirements

In order to graduate, all students beginning with the entering class of 2002/01 (fall, 2002) must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid “clustering” these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog indicates that this course can fulfill a writing-intensive requirement. Departments will designate specific sections of such courses as writing-intensive. Sections of writing-intensive courses are not indicated in this catalog. Students should check the section comments in Banner when registering. Students scheduling their courses in Banner can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term. For more information on writing-intensive courses, see the Drexel University Writing Program's Writing-Intensive Course page.

Drexel University

Catalog 2006 / 2007

Recommended Plan Of Study

BS Sport Managment

5 YR UG Co-op Concentration

Term 1		Credits
BUSN 101	Foundations of Business I	4.0
ENGL 101	Expository Writing and Reading	3.0
MATH 101	Introduction to Math Analysis I	4.0
SMT 110	Business of Sports	3.0
SOC 101	Introduction to Sociology	3.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*18.0*

Term 2		Credits
BIO 151	Applied Biology	3.0
ENGL 102	Persuasive Writing and Reading	3.0
MATH 102	Introduction to Math Analysis II	4.0
PSY 101	General Psychology I	3.0
SMT 200	Facility and Event Management	3.0
UNIV 101	The Drexel Experience	1.0
	Term Credits	*17.0*

Term 3		Credits
ACCT 115	Financial Accounting Foundations	4.0
CHEM 151	Applied Chemistry	3.0
ENGL 103	Analytical Writing and Reading	3.0
CS 161	Introduction to Computing	3.0
or		
INFO 101	Introduction to Information Technology	3.0
	Athletics/Health/Performance course (See degree requirement)	3.0
	Term Credits	*16.0*

Term 4		Credits
BLAW 201	Business Law I	4.0
COM 270	Business Communication	3.0
COM 290	Sports and the Mass Media	3.0
PHYS 151	Applied Physics	3.0
SMT 250	Technology and Sport	3.0
	Term Credits	*16.0*

Term 5		Credits
COM 230	Techniques of Speaking	3.0
ECON 201	Economics I	4.0
PSY 245	Sports Psychology	3.0
SMT 201	Sports Marketing, Promotion, and Public Relations	3.0
	Athletics/Health/Performance course (See degree requirement)	3.0
	Term Credits	*16.0*

Term 6		Credits
COM 240	New Technologies in Communication	3.0
SMT 152	Leadership in Sport and Society	3.0
SOC 268	Sociology of Sport	3.0
	Business of Sport course (See degree requirements for list)	3.0
	Free elective	3.0
	Term Credits	*15.0*

Term 7		Credits
ORGB 300	Organizational Behavior	4.0
PSCI 100	Introduction to Political Science	4.0
	Athletics/Health/Performance course (See degree requirement)	3.0
	Sport & Pscyho/Sociocultural course (See degree requirments)	3.0

	Term Credits	*14.0*

Term 8		Credits
HRMT 323	Principles of Human Resource Administration	4.0
ENGL 203	Post-Colonial Literature I	3.0
or		
ENGL 204	Post-Colonial Literature II	3.0
	Business of Sport course (See degree requirements for list)	3.0
	Free elective	3.0
	Sport & Pscyho/Sociocultural course (See degree requirments)	3.0
	Term Credits	*16.0*

Term 9		Credits
MIS 300	Management Information Systems	4.0
ENGL 200	Classical to Medieval Literature	3.0
or		
ENGL 201	Renaissance to the Enlightenment	3.0
or		
ENGL 202	Romanticism to Modernism	3.0
	Business of Sport course (See degree requirements for list)	3.0
	Free elective	4.0
	Term Credits	*14.0*

Term 10		Credits
PHIL 325	Ethics in Sports Management	3.0
SMT 300	Quantitative Analysis and Statistics in Sport	3.0
	Business of Sport course (See degree requirements for list)	3.0
	Free elective	3.0
	Technology elective (See degree requirements)	3.0
	Term Credits	*15.0*

Term 11		Credits
COM 335	Writing for the World Wide Web	3.0
SMT 230	Sport and the Law	3.0
	Athletics/Health/Performance course (See degree requirement)	3.0
	Free elective	3.0
	Term Credits	*12.0*

Term 12		Credits
SMT 320	Economic Aspects of Sports Management	3.0
	Free electives	6.0
	Sport & Pscyho/Sociocultural course (See degree requirments)	3.0
	Term Credits	*12.0*

	Total Credits (minimum)	181.0

Minor in Construction Management

Students in Civil Engineering, Architectural Engineering and Architecture may select to pursue Construction Management as a minor area of study. Because construction is inherently related to design in these disciplines, the Construction Management minor can be a natural extension of each field of study.

The requirements for the minor include:

- completion of a minimum of 24 credits
- courses used to fulfill general education requirements may not be counted toward an academic minor
- up to nine credits earned within the student's major may be counted toward the minor with minor department approval.
- prerequisite courses may be counted toward the minor if recommended by the minor department.

Required courses		Credits
CMGT 161	**Building Materials and Construction Management I**	3.0
CMGT 162	**Building Materials and Construction Management II**	3.0
CMGT 361	**Contracts & Specifications I**	3.0
CMGT 362	**Contracts & Specifications II**	3.0
CMGT 363	**Estimating I**	3.0
CMGT 467	**Techniques of Project Control**	3.0

Two of the following elective courses may be chosen to meet the minor requirements* :

CMGT 261	**Construction Safety**	3.0
CMGT 263	**Understanding Construction Drawing**	3.0
CMGT 364	**Estimating II**	3.0
CMGT 461	**Construction Management I**	3.0
CMGT 462	**Construction Management II**	3.0
CMGT 463	**Value Engineering I**	3.0
CMGT 465	**Marketing Construction Services**	3.0

* Choice of electives must be approved by the department based on the student's major field and prior experience.

Certain courses within the student's major may also be used to meet the minor requirements. These include:

ARCH 261	**Environmental Systems I**	3.0
ARCH 262	**Environmental Systems II**	3.0
CIVE 240	**Engineering Economics**	3.0
ARCH 161	**Architectural Construction***	3.0

* ARCH 161 can be substituted for CMGT 161 for Architects. An elective may be substituted for CMGT 162.

Construction Management

Certificate Programs

The Certificate Program was started at the request of two contractors' associations: the General Building Contractors Association and the Contractors Association of Eastern Pennsylvania. It is designed for people who have undergraduate degrees in other fields and are employed or wish to be employed in the construction industry. It is also used as a credential for people who are already working in the construction industry, but do not wish to pursue an undergraduate degree.The certificate program is a two-year program with the certificate awarded upon completion of 36 credits. Students interested in continuing their education after certification are able to apply their coursework and credits directly to the Bachelor of Science in Construction Management.

Program of Study:

- Building Materials and Construction Methods I
- Building Materials and Construction Methods II
- Contracts and Specifications I
- Contracts and Specifications II
- Estimating I
- Understanding Construction Drawings
- Construction Management I
- Construction Management II
- Value Engineering I
- Marketing Construction Services
- Techniques of Project Control
- Construction Management of Field Operations

Course substitutions or other electives may be taken with prior approval from the Construction Management Program Manager.