BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Assessment and Accountability **NO**.: AAC 07-30

COMMITTEE DATE: June 6, 2007

BOARD DATE: June 14, 2007

MOVED: The Board of Higher Education hereby approves the petition of **ITT Technical Institute located in Woburn and Norwood, Massachusetts, to award the Bachelor of Science in Digital Entertainment and Game Design, Bachelor of Science in Electronic and Communications Engineering Technology, and Bachelor of Science in Information Systems Security.**

By January 31 of 2008, and of each year thereafter, ITT shall submit an annual report to the Chancellor, reviewing the status of the institution's degree-granting programs. In accordance with 610 CMR, 2.07 (5) the annual report should:

a. evaluate the general quality of curricula, the faculty and the student body,
b. provide statistical information on the number of students completing the requirements for the degree, job placement and/or transfer statistics, the financial status of the institution, operating costs and revenues,
c. provide evidence that both degree authority and tuition and refund policies are clearly stated in the publicity of the institution, and
d. certify whether, in fact, the institution's degree-granting programs are maintained and operated within the provisions and spirit of the criteria and guidelines set forth for proprietary institutions with degree-granting authority.

The report should also provide statistical information on the number and breakdown (new freshmen, transfer, etc.) of students enrolling in each program.

Prior to enrolling students in the degree programs, the College must submit the résumés or CVs of the full-time faculty members for each degree program to the Chancellor of the Board of Higher Education.

Authority: Massachusetts General Laws Chapter 69, Section 30 et seq.

Contact: Aundrea Kelley, Associate Vice Chancellor for Academic Policy

BOARD OF HIGHER EDUCATION

June 2007

ITT Technical Institute

Bachelor of Science in Digital Entertainment and Game Design
Bachelor of Science in Electronic and Communications Engineering Technology
Bachelor of Science in Information Systems Security

INTENT

ITT Technical Institutes have petitioned the Board to award three Bachelor of Science degrees in Digital Entertainment and Game Design (DEGD), Electronic and Communications Engineering Technology (ECET), and Information Systems Security (ISS). Each proposed program builds on an existing associate program and is intended to help graduates prepare for career opportunities in a variety of entry-level positions in their fields.

A fast-growing segment of the Massachusetts' software industry is computer game production. In 2002 U.S. video game sales were about $10 billion – more than Hollywood generated in domestic box office revenues. According to the International Game Developers Association (IGDA), the industry was worth more than $25 billion in 2002. Games have become increasingly more complex, and producing one often involves more than 100 people. ITT has found that while the industry has become too large not to require workers with an education specifically geared to the digital entertainment field, there are few schools currently offering this specialty. The proposed DEGD degree program is intended to help address the need for more highly trained workers in digital entertainment.

With respect to the proposed ECET program, Massachusetts Division of Employment and Training projections for the occupational categories most likely to employ graduates of the ECET program - Electrical and Electronic Technicians/Technologists and Engineering Technicians/ Technologists, NEC have grown by about 10 percent during the last decade and are expected to experience continued growth.

ITT also has found that all businesses – small, medium, and large – need to focus on cybersecurity because any company that operates in today's technologically advanced world and uses computers, the Internet or email in conducting business is vulnerable as a potential target for cyber-attacks. There is a shortage of people adequately trained in cybersecurity, and the number of unfilled jobs in the U.S. has been estimated as high as 50,000. Congressional hearings in October 2001 helped spotlight the small number of security specialists and the United States' growing reliance on computers and communications technology in banking, health care, online commerce and email, as well as for national security and public utilities.

BACKGROUND

The ITT Technical Institutes in Norwood and Woburn, Massachusetts, are two campuses in a network of co-educational, postsecondary educational institutions operated by ITT/ESI, headquartered in Carmel, Indiana. ITT Educational Services, Inc., operates 87 separate ITT Technical Institutes that offer a variety of diploma, associate, bachelor and master degree programs located in 33 states. ITT seeks to turn out graduates from its education programs with skills that match employer needs in electronics and information technology-based industry sectors. ITT uses business product line terminology to describe its education offerings. The management systems at ITT are designed for close control of program and support service quality and related financial performance measurement. A list of sites nationally is in Attachment A.

The ITT Technical Institutes in Massachusetts are accredited by the Accrediting Council for Independent Colleges and Schools and offer the Associate in Applied Science in Computer Drafting and Design, the Associate in Applied Science in Computer and Electronics Technology, and the Associate in Applied Science in Information Technology. The Board of Higher Education initially approved ITT to offer degrees in Massachusetts in June 1994.

An organization chart for each Massachusetts site is contained in Attachment B.

Faculty and Students in Massachusetts

Norwood Campus

	Faculty	Students
# Full time	3	290
# Part time	29	41
Total #	32	331

Number of Graduates in most recently completed academic year 76

Woburn Campus

	Faculty	Students
# Full time	3	336
# Part time	37	49
Total #	40	385

Number of Graduates in most recently completed academic year 99

ACADEMIC AND RELATED MATTERS

Admission and Enrollment (Attachment C)
While there are similarities between the Associate in Applied Science degree programs and the first two years of the proposed baccalaureate programs, each is intended to be unique and stand alone. As such, the entrance requirements for these programs are different. The admissions requirements for all programs offered at the college are outlined in the college catalog. New enrollment for most of the proposed Massachusetts' baccalaureate programs is expected to average between 40-50 students per year. A detailed enrollment projection is contained in Attachment C

Acceptance into the bachelor degree programs will be granted for first-year students if they are over the age of 16, possess a high school diploma or equivalent and have earned a score of 400 on both the critical reading and math portions of the SAT, or a score of 17 on the ACT. Transfer students need to have earned 36 quarter credit hours or equivalent with an overall cumulative grade point average of 2.0 on a 4.0 scale from an accredited postsecondary institution.

Tuition
Students who enroll into one of the proposed baccalaureate programs will be charged a $100 Academic Fee upon enrollment, a $200 Administrative Fee upon graduation or termination from the program, and $425 per credit hour of instruction. The total estimated tuition for the 180 credit hours is $76,500.

Curriculum. (Attachment D).
Each program curriculum contains a mixture of technical basic, core, and general education courses. The general education courses comprise approximately 35 percent of the total

program, 64 of the 180 total quarter credit hours. In addition to all courses being offered to students in the traditional, residential format, select courses will also be made available to students in an online format.

RESOURCES

Faculty and Administration

The college directors act as the general managers for the facilities and are responsible for the staffing of their respective campuses. Each director reports to a district manager, who in turn reports to the vice president of operations at the ITT/ESI headquarters in Carmel, Indiana. Each college is composed of four departments with a departmental manager reporting to the director. The Academic Affairs Department is overseen by the campus dean, who reports to the director on matters related to student retention and graduation. The dean provides leadership to school chairs and instructors to ensure that academic objectives, plans and programs are met. Recruitment of additional faculty will be an ongoing process as the programs grow and the need to offer more sessions of each course per quarter increases.

The ITT Curriculum Knowledge Network (CKN) is a tool that allows the corporate Curriculum Department and faculty of all ITT Technical Institutes to share and disburse course-based and subject-related information and best practices in curriculum implementation system-wide. With CKN, the Curriculum Department can deploy course material to faculty and receive faculty feedback to directly impact course improvements for the entire organization.

The purpose of the CKN is to provide a course-based, peer-to-peer, virtual community support environment in which instructors teaching the same course from among all ITT Technical Institute campuses can volunteer and share information regarding the quality and delivery of the course. Users actively contribute to the synergy of expertise generated on this site and in turn benefit from such synergy that may help expand capabilities in delivery of courses taught.

Program Advisory Committees

Each program will be reviewed on a periodic basis by the institutions' Program Advisory Committee (PAC). PACs meet at least twice a year to share and exchange information, suggest curriculum updates or modifications, and discuss industry trends. Recommendations derived from committee activities are reviewed and evaluated by the corporate curriculum managers for possible curricula modifications. The mission of the PAC is to specifically offer advice or assistance in the following areas: curriculum, equipment, laboratory layout, faculty, employer needs, faculty professional development, guest speakers, field trips, part-time jobs, graduate placement, and public reactions to the college, its programs and activities.

Library

The campus Learning Resource Centers (LRC) are conveniently located within each school facility and are available to students during normal school hours. The LRCs are designed and equipped to support the technical, career orientation and life-long learning goals of the college's educational programs by providing an organized collection of materials (both hard bound and electronic) that is built upon the curriculum, and includes basic skills and general education holdings and a substantial amount of technical material along with general reference. Libraries at both the Norwood and Woburn sites are professionally staffed.

In addition to the LRC, students have access to the ITT Technical Institutes' Virtual Library at any time from any location through an Internet connection and standard Web browser. Students receive an online orientation to the Library as part of the general course orientation. The Virtual Library is managed by the Corporate Librarian located at ITT/ESI's corporate offices in Carmel, Indiana, and currently provides access to approximately 12,000 full-text magazines and professional journals as well as abstracts and indexing for hundreds of additional titles through ten databases. The Norwood and Woburn campuses recognize the need for students

to have access to bound copies of reference materials that are in addition to the vast amount of reference data that is provided in the ITT Technical Institute Virtual Library and are working to provide this additional resource to students through the use of articulation agreements with local and regional educational libraries and consortiums.

Fiscal (Attachment E)
The vast majority of the ITT Technical Institutes' expenditures proposed programs will be in the areas of equipment, facility, instructional and library resources, which all relate to the educational process. The projected levels of expenditure and revenue outlined in the financial projections were derived from an on-going analysis of all past and current program start-up efforts within the ITT/ESI system of ITT Technical Institutes.

Primary marketing is the major advertising expense. While several different media are used (internet, direct mailings, etc.), television remains the primary means of advertising program offerings.

It is assumed that 50 percent of the students will complete the programs. This retention rate was determined based upon review of historical retention rates at ITT Technical Institutes that offer associate degree programs. In other states normally a much higher retention rate in the last two years of participation in an ITT baccalaureate program offering occurs; however, an upward adjustment from a 50 percent completion rate was not taken in order to provide a more conservative approach within the financial model.

Full-time students will take 12 credits per quarter with an initial cost per credit hour of $425. A 5 percent price increase was assumed to be in effect starting with each March quarter. Price increases were determined based upon historical price increases across the ITT system of colleges over the past several years. It is assumed that all students beginning the program will have no transfer credit.

It is also assumed that 90 percent of the students will participate in the financial aid programs available to them, which would include Pell, Stafford Loans, PLUS, in addition to private loans. This rate of participation approximates the actual participation rates that have been historically observed in baccalaureate programs across the entire system of ITT Technical Institutes.

EXTERNAL REVIEW
Visiting Committee
Dr. Richard Brandenburg (Chairman), Professor Emeritus, Business Administration, University of Vermont; Dr. Suban Krishnamoorthy, Professor of Computer Science, Department of Computer Science, Framingham State College; Dr. Thomas Massey, Dean of Continuing and Professional Education, Clark University; and Dr. James Ostrow, Vice President of Academic Affairs, Lasell College, comprised the team of external reviewers. The Visiting Committee reviewed the extensive application documentation submitted by ITT and conducted on-site meetings and further document reviews, February 29-March 3, 2004, at the ITT facility at Tempe, Arizona. The Tempe site was selected because the three Bachelor of Science degrees submitted for approval to the Massachusetts Board of Higher Education currently are offered at that location. Further, aspects of education program and support services important to B.S. program operations at Tempe were judged to be similar to operational requirements for offering, if approved, the same bachelor's degree programs at Norwood and Woburn, Massachusetts.

The Visiting Committee found the course development process and course design structure to be major strengths. Because conception and creation of curricula and courses are carried out centrally for the entire ITT system, the organization gains major benefits from economies and skills and scale. This well-structured process includes feedback from a variety of internal and external sources.

The corporate-wide Virtual Library was also deemed a significant strength. Faculty and students commented favorably on the perceived continuing improvement in Virtual Library resources. This Library has the potential for continued expansion resulting from its subscriptions to information service organizations that can be expected to expand the scope and content of their future service offerings. Learning Resource Centers offer a variety of services for students and represent strength of ITT programming.

ITT's plan to place the entire general education program on-line within one-year's time was a concern to the Committee. The Committee recommended the need for testing and refinement in a time-phased program start-up process to ensure the integrity of general education within a baccalaureate context. This would also provide adequate training time for faculty as well as close monitoring of student dropout rates in relation to dropout rates in standard-delivery courses. The Committee also recommended that the Massachusetts' sites pay careful attention to teaching assignments (whether for on-site or on-line faculty) to ensure that they are based upon direct relationships between academic credentials and the courses (with respect to both subject area *and* course level). The Visiting Committee emphasized that it is essential for the directors to receive the clear-cut commitment and support needed to meet this hiring requirement from all relevant ITT management functions, including operations, finance and academic affairs at headquarters and district levels.

The Committee found that the ITT admissions policy appeared to make no distinction between baccalaureate and associate degree programs and recommended that ITT needs to provide a description of the minimum admissions standards and requirements for the proposed Massachusetts B.S. degree programs. The Committee also recommended that additional remedial courses with post-testing, possibly linked to a provisional admissions process, be considered in order to increase prospects for student success at the baccalaureate level.

The Committee also reported that the Massachusetts catalogs should be updated to fully describe ITT policies on new student assessment, placement and remediation courses, especially for reading, writing and mathematics, admission and graduation requirements, tuition and fees, course offerings, and course delivery modes for the proposed baccalaureate programs. The catalog also needed to contain a description of the history, plans, mission and education philosophy for the Norwood and Woburn campuses; list in addition to administrative staff and advisory board members, the members of the local independent board of trustees that will have to be established to provide independent oversight of ITT in Massachusetts. A roster of teaching faculty must be published in the catalog and specify, in addition to information about all faculty member's backgrounds and qualifications, whether they have full-time, part-time, or adjunct status. The Committee also stated that while students enrolling in one of the B.S. programs may transfer in course credits, it is important that all Massachusetts' publications make very clear that the B.S. programs, if approved, will be offered in their entirety and not as the final two years of a "two plus two" program. The Committee report also stated. "The catalog description of career services seemed to focus more on what the school does not promise than on services that are provided and how the student can access them. Similarly, transfer credit policy descriptions seemed to discourage students who may desire to transfer credits into another institution in contradiction to statements in other publications that ITT students are prepared for transfer to other institutions. This apparent contradiction should be corrected."

Institutional Response.

ITT worked at length and in great detail in outlining actions taken in response to the Visiting Committee report.

While some coursework will be offered online, courses, including general education courses will be offered on site as well.

Admissions standards for the baccalaureate program were upgraded to include an SAT/ACT requirement.

The Woburn and Norwood directors recognized that the baccalaureate program is a four-year program that needs to conform to Massachusetts Board of Higher Education regulations by hiring Ph.D.-credentialed faculty in each of the three B.S. degree major fields and that all must be taught by faculty who are appropriately credentialed by degree, field, and experience.

The Massachusetts campuses instituted a system of assessment and placement that includes non-credit remedial courses for students who do not pass the placement exam.

New catalogs were designed for the Massachusetts sites that address all of the comprehensive scope of areas—ranging from trustee lists to transfer policy—mentioned in the report of the Visiting Committee.

PUBLIC HEARING
A public hearing was scheduled for June 5, 2006, at 10:30 a.m. in the office of the Board of Higher Education.

STAFF ANALYSIS and RECOMMENDATION
Staff reviewed all materials submitted, including the petition, visiting committee reports, and institutional responses. Staff visited both the Norwood and Woburn facilities in May 2007 and held multiple discussions with the visiting team and with representatives of the institution. Following an exhaustive review of all documentation submitted, staff believes that ITT has provided sufficient documentation to support the School's overall readiness to offer the degrees requested and meets the criteria set forth in 610 CMR 2.07(3) in the Degree-Granting Regulations for Independent Institutions of Higher Education.

Recommendation is for approval of the petition of ITT Technical Institute to offer the Bachelor of Science in Digital Entertainment and Game Design, Bachelor of Science in Electronic and Communications Engineering Technology, and Bachelor of Science in Information Systems Security.

By January 31 of 2008, and of each year thereafter, ITT shall submit an annual report to the Chancellor, reviewing the status of the institution's degree-granting programs. In accordance with 610 CMR, 2.07 (5) the annual report should:

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Prior to enrolling students in the degree programs, the College must submit the résumés or CVs of the full-time faculty members for each degree program to the Chancellor of the Board of Higher Education.

Attachment A - **ITT School List**

Alabama
- Bessemer

Arizona
- Tempe
- Tucson

Arkansas
- Little Rock

California
- Anaheim
- Clovis
- Lathrop
- Oxnard
- Rancho Cordova
- San Bernardino
- San Dimas
- San Diego
- Sylmar
- Torrance

Colorado
- Thornton

Florida
- Fort Lauderdale
- Jacksonville
- Lake Mary
- Miami
- Pinellas Park
- Tampa

Georgia
- Duluth
- Kennesaw

Idaho
- Boise

Illinois
- Burr Ridge
- Mount Prospect
- Orland Park

Indiana
- Fort Wayne
- Indianapolis
- Newburgh

Kentucky
- Lexington
- Louisville

Louisiana
- Baton Rouge
- Saint Rose

Maryland
- Owings Mills

Massachusetts
- Norwood
- Woburn

Michigan
- Canton
- Flint
- Grand Rapids
- Troy

Minnesota
- Eden Prairie

Missouri
- Arnold
- Earth City
- Kansas City

Nebraska
- Omaha

Nevada
- Henderson

New Mexico
- Albuquerque

New York
- Albany
- Getzville
- Liverpool

North Carolina
- Charlotte

Ohio
- Dayton
- Hilliard
- Norwood
- Strongsville
- Warrensville Heights
- Youngstown

Oklahoma
- Oklahoma City
- Tulsa

Oregon
- Portland

Pennsylvania
- Bensalem
- Dunmore
- King of Prussia
- Mechanicsburg
- Monroeville
- Pittsburgh

South Carolina
- Columbia
- Greenville

Tennessee
- Cordova
- Knoxville
- Nashville

Texas
- Arlington
- Austin
- Houston (2 locations)
- Richardson
- San Antonio
- Webster

Utah
- Murray

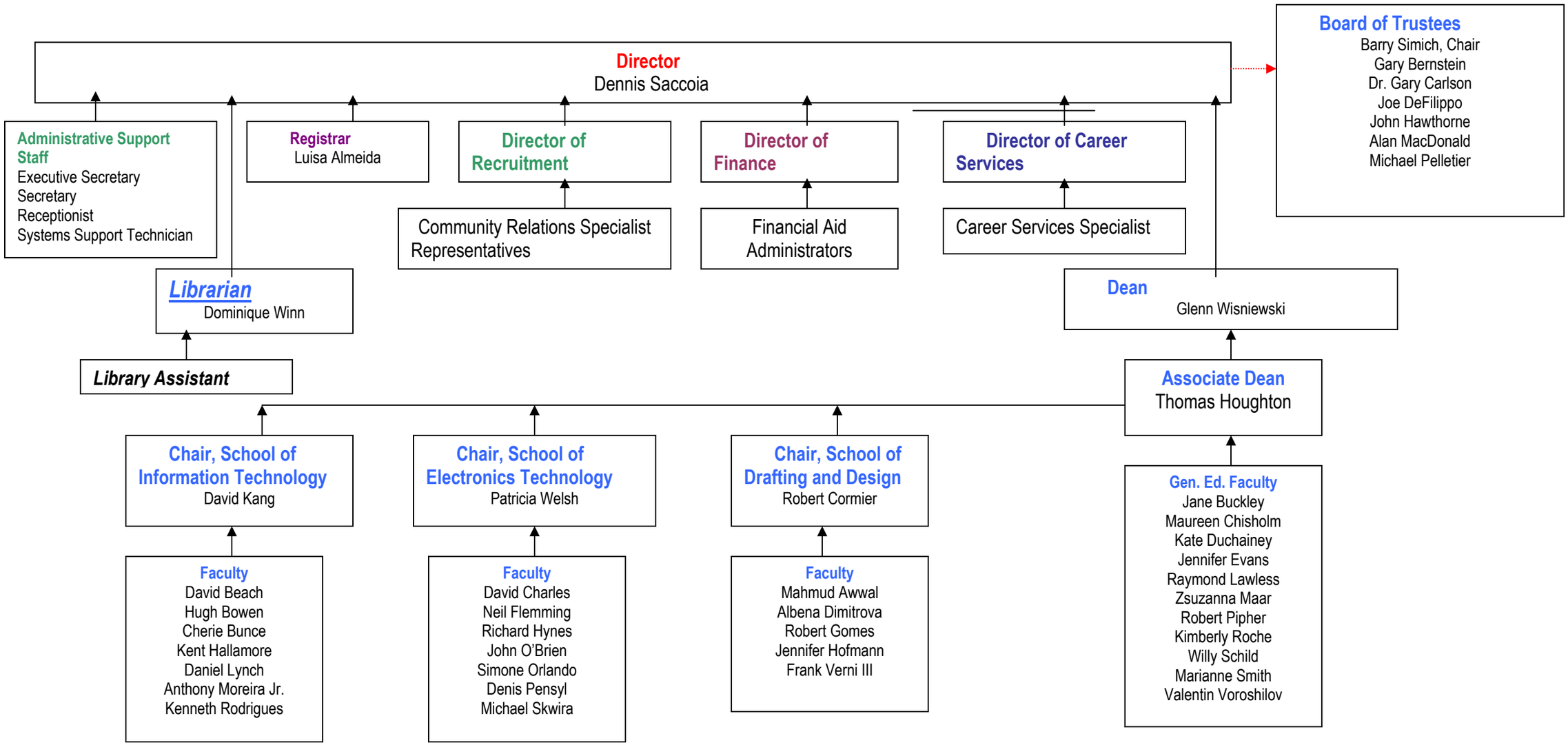
Virginia
- Chantilly
- Norfolk
- Richmond
- Springfield

Washington
- Everett
- Seattle
- Spokane Valley

Wisconsin
- Greenfield
- Green Bay

ATTACHMENT B – ORGANIZATIONAL CHARTS

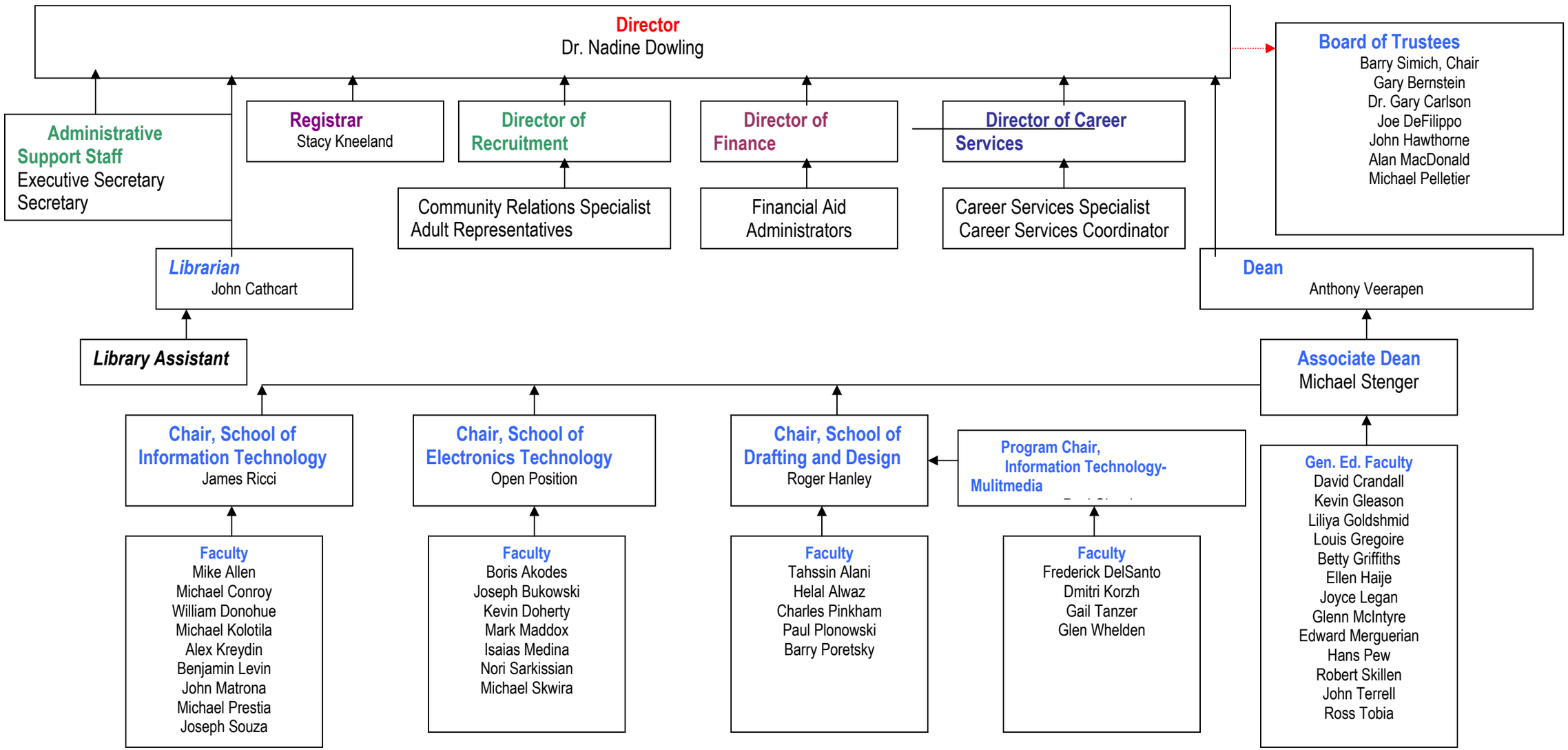
ITT Technical Institute- Norwood, MA
ITT Technical Institute -Woburn, Massachusetts



23 March 2007

ITT Technical Institute -Woburn, Massachusetts

ORGANIZATIONAL CHART



23 March 2007

Attachment C – Projected Enrollments

Projected Enrollment
Digital Entertainment and Game Design

PROGRAM ENROLLMENT PROJECTION

Norwood, Massachusetts

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	17	17	23	24
Continuing Full Time	---	13	22	34
New Part Time	3	3	4	4
Continuing Part Time	---	2	4	6
Totals	20	35	53	68

Woburn, Massachusetts

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	17	17	23	24
Continuing Full Time	---	13	22	34
New Part Time	3	3	4	4
Continuing Part Time	---	2	4	6
Totals	20	35	53	68

Electronics and Communications Engineering Technology

Norwood, Massachusetts

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	37	42	47	49
Continuing Full Time	---	27	53	75
New Part Time	6	8	8	9
Continuing Part Time	---	5	9	13
Totals	43	82	117	146

Woburn, Massachusetts

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	37	42	45	48
Continuing Full Time	---	27	53	73
New Part Time	6	8	8	9
Continuing Part Time	---	5	9	13
Totals	43	82	115	143

Information Systems Security

Norwood, Massachusetts

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	38	47	49	53
Continuing Full Time	---	29	57	80
New Part Time	7	8	9	9
Continuing Part Time	---	5	10	14
Totals	45	89	125	153

Woburn, Massachusetts

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	38	47	51	53
Continuing Full Time	---	27	55	80
New Part Time	7	8	9	9
Continuing Part Time	---	5	10	14
Totals	48	87	125	156

ATTACHMENT D: CURRICULUM OUTLINES

Bachelor of Science in Electronics and Communications Engineering Technology

Required (Core) Courses in the Major (Total # courses required = *25)*		
Course Number	Course Title	Credit Hours
ET115	DC Electronics	4
ET127	PC Technology	4
ET145	AC Electronics	4
ET215	Electronic Devices I	4
ET225	Networking Concepts	4
ET245	Electronic Devices II	4
ET255	Digital Electronics I	4
ET275	Electronic Communications Systems I	4
ET285	Digital Electronics II	4
ET315	Electronic Communications Systems II	4
ET445	Advanced Circuit Analysis I	4
ET446	Advanced Circuit Analysis II	4
ET455	Digital Communications Systems I	4
ET456	Digital Communication Systems II	4
ET475	Electronic Circuit Design I	4
ET476	Electronic Circuit Design II	4
ET485	Capstone Project	4
IT340	Communications Cabling	4
IT342	Data and Network Communications II	4
IT343	Data and Network Communications II	4
IT350	Modern Wireless Communications	4
TB143	Introduction to Personal Computers	4
TB133	Strategies for the Technical Professional	4
TM380	Advanced Topics in Technical Mathematics	4
TM420	Technical Calculus	4
	Subtotal Required Credits	**100**
Elective Courses (Total # courses required = *4*) (attach list of choices if needed)		
Electives may be taken from one of the courses listed on the attached list of elective courses or through transfer credit from prior college experience. ITT Technical Institute courses will be selected through advising with the School Chair or Dean.		
	Subtotal Elective Credits	**16**
General Education Courses (Total # courses required = 16)		
Indicate Distribution of General Education Requirements Below Attach or Insert Link to List of General Education Offerings (Course Numbers, Titles, and Credits)		# of Gen Ed Credits
Arts and Humanities, including Literature and Foreign Languages Students are required to take 4 courses in Art and Humanities as noted on the attached list of general education courses		16
Mathematics and the Natural and Physical Sciences Students are required to take 4 courses in Mathematics and the Natural and Physical Sciences as noted on the attached list of general education courses		16
Social Sciences Students are required to take 4 courses in the social sciences as noted on the attached list of general education courses		16
In addition to the 48 credits of required general education, students must complete an additional 4 courses of elective general education selected from any category listed on the attached list of courses.		16
	Sub Total General Education Credits	**64**
Curriculum Summary		
Total number of courses required for the degree	45	
Total credit hours required for degree	180 quarter credit hours	

Prerequisite, Concentration or Other Requirements: None

Elective Courses

To satisfy the elective portion of the core requirements, students must complete 20 quarter credit hours. Students may choose four courses from any of the core courses listed below or transfer comparable credit from another institution as approved by the school in its discretion

Course Number	Course	Credit Hours
CD111	Introduction to Design and Drafting	4
CD121	Drafting/CAD Methods	4
CD140	Rapid Visualization	4
CD220	Materials and Processes	4
ET345	Control Systems	4
ET355	Microprocessors	4
ET375	C Programming in Linux	4
IT103	Operating Systems	4
IT104	Introduction to Computer Programming	4
IT107	Instructional Design	4
IT109	Microsoft Desktop Operating System	4
IT116	Intermediate Programming	4
IT201	Web Site Design	4
IT203	Database Development	4
IT204	Scripting and Web Authoring I	4
IT209	3D Modeling	4

General Education Courses

To satisfy the general education requirements, students must complete 64 quarter credit hours. Students must take those courses marked with an (*) and may choose four courses from any of the remaining general education courses, or transfer comparable credit from another institution as approved by the school, to complete the necessary quarter credit hours.

Course Number	Course	Credit Hours
	Humanities	
GE117	Composition I *	4
GE217	Composition II *	4
GE364	Art Appreciation	4
EG372	Written Analysis *	4
EG452	Economics and Change	4
EG462	Contemporary World Culture *	4
EG465	Modern and Contemporary Art	4
EG468	Ethics *	4
	Mathematics and Science	
GE127	College Mathematics I *	4
GE150	Survey of the Sciences	4
GE184	Problem Solving *	4
GE192	College Mathematics II *	4
GE253	Physics	4
EG360	Introductory Calculus *	4
EG381	Statistics	4
EG481	Environmental Issues *	4
	Social Science	
GE172	State and Local Government	4
GE273	Microeconomics	4
GE274	Macroeconomics	4
GE347	Group Dynamics *	4
GE375	Psychology	4
EG371	Research Methods *	4
EG351	Social Psychology	4
EG453	Political Issues and the Economy	4

Bachelor of Science in Digital Entertainment and Game Design

Required (Core) Courses in the Major (Total # courses required = *25)*		
Course Number	Course Title	Credit Hours
CD140	Rapid Visualization	4
IT104	Introduction to Computer Programming	4
IT107	Instructional Design	4
IT209	3D Modeling	4
IT210	Visual design Theory	4
IT211	Interactive Communications Design I	4
IT213	Interactive Communications Design II	4
IT309	Animation I	4
IT311	Animation II	4
GD300	Introduction to Gaming Technology	4
GD310	Managing Game Development	4
GD320	Physics of Animation	4
GD330	Game Design Process	4
GD340	Creative Writing and Storyboarding for Games	4
GD350	Game Design Strategies	4
GD360	Advanced Animation	4
GD370	Level Design I	4
GD400	Game Interface Design	4
GD410	Game Engines and Production	4
GD430	The Game Development Team	4
GD440	Capstone Project	4
TB143	Introduction to Personal Computers	4
TB133	Strategies for the Technical Professional	4
TM380	Advanced Topics in Technical Mathematics	4
TM420	Technical Calculus	4
	Subtotal Required Credits	**100**

Elective Courses (Total # courses required = *4*) (attach list of choices if needed)

Electives may be taken from one of the courses listed on the attached list of elective courses, or through transfer credit from prior college experience. ITT Technical Institute courses will be selected through advising with the School Chair or Dean.

	Subtotal Elective Credits	**16**
General Education Courses (Total # courses required = 16)		
Indicate Distribution of General Education Requirements Below Attach or Insert Link to List of General Education Offerings (Course Numbers, Titles, and Credits)		# of Gen Ed Credits
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In addition to the 48 credits of required general education, students must complete an additional 4 courses of elective general education selected from any category listed on the attached list of courses.		16
	Subtotal General Education Credits	**64**

Curriculum Summary	
Total number of courses required for the degree	45
Total credit hours required for degree	180 quarter credit hours

Prerequisite, Concentration or Other Requirements: None

Elective Courses

To satisfy the elective portion of the core requirements, students must complete 20 quarter credit hours. Students may choose four courses from any of the core courses listed below or transfer comparable credit from another institution as approved by the school in its discretion

Course Number	Course	Credit Hours
CD210	Engineering Graphics I	4
CD220	Materials and Processes	4
CD250	Engineering Graphics II	4
CD260	Digital Information Management	4
CD320	Basic Design Theory and Methods	4
CD340	Physical and Computer-Aided 3D Modeling	4
GD420	Level Design II	4
IT212	Broadcast Graphics	4
IT310	Audio/Video Techniques	4

General Education Courses

To satisfy the general education requirements, students must complete 64 quarter credit hours. Students must take those courses marked with an (*) and may choose four courses from any of the remaining general education courses, or transfer comparable credit from another institution as approved by the school, to complete the necessary quarter credit hours.

Course Number	Course	Credit Hours
	Humanities	
GE117	Composition I *	4
GE217	Composition II *	4
GE364	Art Appreciation	4
EG372	Written Analysis *	4
EG452	Economics and Change	4
EG462	Contemporary World Culture *	4
EG465	Modern and Contemporary Art	4
EG468	Ethics *	4
	Mathematics and Science	
GE127	College Mathematics I *	4
GE150	Survey of the Sciences	4
GE184	Problem Solving *	4
GE192	College Mathematics II *	4
GE253	Physics	4
EG360	Introductory Calculus *	4
EG381	Statistics	4
EG481	Environmental Issues *	4
	Social Science	
GE172	State and Local Government	4
GE273	Microeconomics	4
GE274	Macroeconomics	4
GE347	Group Dynamics *	4
GE375	Psychology	4
EG371	Research Methods *	4
EG351	Social Psychology	4
EG453	Political Issues and the Economy	4

Required (Core) Courses in the Major (Total # courses required = *25)*		
Course Number	Course Title	Credit Hours
IS311	Internetworking Infrastructure and Operations	4
IS312	Information Security Essentials	4
IS315	IS Risk Management and Intrusion Detection	4
IS316	Fundamentals of Network Security, Firewalls, and VPN	4
IS317	Hacker Techniques, Tools and Incident Handling	4
IS318	Information Security Perspective on Intranet, Internet and E-Commerce Infrastructure	4
IS411	Security Policies and Implementation Issues	4
IS413	Auditing E-Commerce Systems and IT Infrastructure	4
IS414	User Authentication Systems and Role-Based Security	4
IS415	System Forensics Investigation and Response	4
IS416	Securing Windows Platforms and Applications	4
IS417	Capstone Project	4
IS418	Securing Linux Platforms and Applications	4
IS421	Legal and Security Issues	4
IT103	Operating Systems	4
IT109	Microsoft Desktop Operating System	4
IT220	Network Standards and Protocols	4
IT221	Microsoft Network Operating Systems I	4
IT250	Linux Operating System	4
IT222	Microsoft Network Operating Systems II	4
IT302	Linux Systems Administration	4
IT320	WAN Technology and Application	4
IT321	Network Technology and Service Integration	4
TB143	Introduction to Personal Computers	4
TB133	Strategies for the Technical Professional	4
	Subtotal Required Credits	**100**
Elective Courses (Total # courses required = *4*) (attach list of choices if needed)		
Electives may be taken from one of the courses listed on the attached list of elective courses, or through transfer credit from prior college experience. ITT Technical Institute courses will be selected through advising with the School Chair or Dean.		
	Subtotal Elective Credits	**16**
General Education Courses (Total # courses required = 16)		
Indicate Distribution of General Education Requirements Below Attach or Insert Link to List of General Education Offerings (Course Numbers, Titles, and Credits)		# of Gen Ed Credits
Arts and Humanities, including Literature and Foreign Languages Students are required to take 4 courses in Art and Humanities as noted on the attached list of general education courses		16
Mathematics and the Natural and Physical Sciences Students are required to take 4 courses in Mathematics and the Natural and Physical Sciences as noted on the attached list of general education courses		16
Social Sciences Students are required to take 4 courses in the social sciences as noted on the attached list of general education courses		16
In addition to the 48 credits of required general education, students must complete an additional 4 courses of elective general education selected from any category on the attached list of courses.		16
	Subtotal General Education Credits	**64**
Curriculum Summary		
Total number of courses required for the degree	45	
Total credit hours required for degree	180 quarter credit hours	
Prerequisite, Concentration or Other Requirements: None		

Elective Courses

To satisfy the elective portion of the core requirements, students must complete 20 quarter credit hours. Students may choose four courses from any of the core courses listed below or transfer comparable credit from another institution as approved by the school in its discretion

Course Number	Course	Credit Hours
EC311	Introduction to Project Management	4
ET115	DC Electronics	4
ET127	PC Technology	4
ET145	AC Electronics	4
ET215	Electronic Devices I	4
ET225	Networking Concepts	4
ET245	Electronic Devices II	4
ET255	Digital Electronics I	4
ET275	Electronic Communications Systems I	4
ET285	Digital Electronics II	4
ET315	Electronic Communications Systems II	4
ET345	Control Systems	4
ET355	Microprocessors	4
IS314	Security Architecture of Common IT Platforms	4
IT104	Introduction to Computer Programming	4
IT116	Intermediate Programming	4
IT203	Database Development	4
IT204	Scripting and Web Authoring I	4
IT215	Scripting and Web Authoring II	4
IT216	PERL and CGI in LINUX Environment	4
IT300	Web Server Administration	4
IT313	Scripting and Web Authoring III	4
IT330	Network Systems Management	4
IT341	Web Security and Ethics	4

General Education Courses

To satisfy the general education requirements, students must complete 64 quarter credit hours. Students must take those courses marked with an asterisk (*) and may choose four courses from any of the remaining general education courses, or transfer comparable credit from another institution as approved by the school, to complete the necessary quarter credit hours.

Course Number	Course	Credit Hours
	Humanities	
GE117	Composition I *	4
GE217	Composition II *	4
GE364	Art Appreciation	4
EG372	Written Analysis *	4
EG452	Economics and Change	4
EG462	Contemporary World Culture	4
EG465	Modern and Contemporary Art	4
EG468	Ethics *	4
	Mathematics and Science	
GE127	College Mathematics I *	4
GE150	Survey of the Sciences	4
GE184	Problem Solving *	4
GE192	College Mathematics II *	4
GE253	Physics	4
EG360	Introductory Calculus	4
EG381	Statistics *	4
EG481	Environmental Issues	4
	Social Science	
GE172	State and Local Government	4
GE273	Microeconomics	4
GE274	Macroeconomics	4
GE347	Group Dynamics *	4
GE375	Psychology	4
EG371	Research Methods *	4
EG351	Social Psychology *	4
EG453	Political Issues and the Economy	4

Attachment E – Financial Projections

	Norwood Campus					Woburn Campus				
	AMOUNTS IN THOUSAND OF DOLLARS					AMOUNTS IN THOUSAND OF DOLLARS				
		Y1	Y2	Y3	Y4		Y1	Y2	Y3	Y4
Tuition	0	544	1796	3559	5300	0	398	1737	3599	5301
Fees	0	13	23	27	29	0	13	24	27	29
Total Revenue	0	557	1819	3587	5329	0	411	1761	3627	5330
Training Expenses										
Instructor Salaries - PHD	0	20	30	40	50	0	20	30	40	50
Instructor Salaries - Non-PHD	0	32	48	64	80	0	32	48	64	80
Instructor Salaries - Total	0	52	78	104	130	0	52	78	104	130
Labor Benefits	0	15	23	30	38	0	15	23	30	38
Course Supplies	0	28	91	179	266	0	21	88	181	266
Occupancy Costs			28	42	63			28	42	63
Other Training costs	0	105	160	300	380	0	105	160	300	380
Total Training Expenses	0	252	458	760	1007	0	245	455	761	1007
Marketing Expense	0	111	364	717	1066	0	82	352	725	1066
Total Expense	0	363	821	1477	2073	0	327	807	1487	2073
# of students in program at the end of the year:		50	124	231	267		55	134	246	278
		$11,167	$14,648	$15,547	$19,970		$7,444	$13,162	$14,745	$19,155

Assumptions:
3 programs at each school
Assumes additional classroom space required in Y2 and beyond
180 credit hour program (180 weeks)