Touro University International

Bachelor of Science in Computer Science

STUDENT DATA:
NAME: ROADMAP'S DEGREE **SSN:** 000-00-0000

	Credit Required	Potential Credit
English Composition I (ENG 101)	**4.00**	
(Introductory writing skills. Emphasis will be on sentence structure, chronological and spatial paragraph development, and general writing skills. Students will have at least two graded writing assignments each module.) {DANTES Code = 11.07.00}		
College Mathematics (MAT 101)	**4.00**	
(This course covers the basic concepts and skills of mathematics needed in business administration and health sciences. Specific topics include finite mathematics, sets of numbers, functions and limits of functions, curve sketching, linear equations, matrices, numerical sets, and the basics of probability theory and analysis.) {DANTES Code = 14.07.00}		
Basic Statistics (MAT 201)	**4.00**	
(This course covers the basic concepts and skills of statistical analysis needed in business administration. Specific topics include measures of central tendency, probability distributions, sampling theory, estimation, hypothesis testing, simple regression and correlation, analysis of variance, multiple regression, and introduction to non-parametric testing. College credit by examination may apply.) {DANTES Code = 14.09.01}		
Advanced Mathematics (MAT 202)	**4.00**	
This course will cover the following topics: introduction to derivatives, advanced derivatives with applications, introduction to integrals, advanced integration with applications, and introduction to matrices and linear algebra. This course will focus on both theory as well as applications to the social sciences and natural sciences.		
Microeconomics (ECO 201)	**4.00**	
(This course surveys the marketing environment of virtual commerce and explores strategies to successfully develop marketing plans and programs in this environment. Special emphasis is given to environmental and strategic considerations that are unique to e-commerce. College credit by examination may apply.) {DANTES Code = 20.05.00}		

Modern World History (HIS 101) **4.00**

(This course traces the evolution of the human experience since the industrial revolution in the early 19th century. The nature of social systems, cultures, economic transformations, the role of religion, education, and criminal justice in the development of modern cultures will be explored. Particular attention will be paid to the methods of `doing' history. Students will learn to analyze and interpret historical facts and critically assess the views of different historians and philosophers of history. College credit by examination may apply.)

Western Philosophy (PHI 201) **4.00**

(This course will explore the main branches of philosophy through the writings of western philosophers. The works of Plato, Aristotle, Spinoza, Descartes, Hegel, Kant, Marx, Mill and more, will be used as a springboard for critical thought about the basic questions facing humanity. Epistemology, the study of knowledge, metaphysics, the study of reality, and ethics, the study of proper human interaction, will be examined through the texts of the philosophers who wrote about them.)
{DANTES Code = 03.01.09}

Foundations of Psychology (PSY 101) **4.00**

(This class will provide a basic introduction to the history and practice of psychology - the study of human behavior. We will examine the history of psychological theory from Freud to the present day. Some emphasis will be placed on the biological elements of psychology such as sensation, perception, learning, and memory. However, the majority of course time will be spent on social psychology and understanding the needs and challenges of the individual in society. Human relationships and interpersonal qualities such as marriage and intimacy, attitudes, aggression, group psychology, and self-perception will be explored. College credit by examination may apply.)
{DANTES Code = 20.09.00}

Applied Physics I (SCI 201) **4.00**

This is the first in a sequence of two general physics courses . In these two courses , the basic principles of physics will be presented without the use of calculus. MAT101 and MAT102 are the math prerequisites. This course covers the topics of Mechanics, Fluid Dynamics and Thermodynamics. Assignments are a combination of applied problem sets and virtual laboratory exercises.

Applied Physics II (SCI 202) **4.00**

This is the second in a sequence of two general physics courses . In these two courses , the basic principles of physics will be presented without the use of calculus. MAT101 and MAT102 are the math prerequisites. This course covers the topics of Electricity (electric charges, currents, ac and dc currents) and Magnetism, Sound, and Light. Assignments are a combination of applied problem sets and virtual laboratory exercises.

Applied Scientific Inquiry (SCI 204) **4.00**

This course covers two major subject areas. The first area covers the basic physical and mathematical principles that underpin computer and

communication hardware. Topics include semiconductor physics, Boolean algebra, digital electronics, integrated circuits, input and output devices, memory devices, and communication devices. The second area covers some important design and problem-solving techniques such as scientifically-based system design, simulation, prototyping, and system testing.

Foundations of Sociology (SOC 201) **4.00**

(This course will introduce students to the theoretical foundations of modern sociology. We will explore the concept of "culture", the nature of socialization, the foundations of social order, control, power, race and ethnicity, religion, education and the nature of social change. Focusing on the community, institutions, and the social whole, students will be challenged to think through the relationship of the individual to his or her greater social surroundings. College credit by examination may apply.)
{DANTES Code = 20.10.00}

Computer Science Lower Division Core Courses

Introduction to Computer Science and Program Design (CSC 111) **4.00**

Nature and scope of 21st century computer science. Purposes of computer science in business, government, health care and the military. Introduction to hardware, software and programming through Python.
{DANTES Code = 05.XX.XX series}

Introduction to Object Oriented Programming (OOP) (CS C113) **4.00**

Introduction to program design and execution; identification of procedural vs. object oriented programming (OOP); skill development in OOP through Python.
{DANTES Code = 05.02.01}

Intermediate Object Oriented Programming (CSC 212) **4.00**

Nature and scope of Object Oriented Programming. Introduction to Java and Jython programming for use in applications, applets and servlets in contemporary computing environments.

Computer Science Upper Division Core Courses

Business Communications (BUS 303) **4.00**

(The purpose of this course is to develop student skills in effective communication in business and professional settings. Effective methods of verbal, nonverbal and written communication will be introduces. Consideration will be given to the effect of information technology on organizational communication, as well as to issues relating to intercultural communication.)
{DANTES Code = 03.10.12}

Data Structures & Algorithms (CSC 300) **4.00**

This class covers the analysis and implementation of fundamental algorithms and data structures. Topics covered are linked lists, stacks, queues, directed graphs, tree representations and traversals, searching (hashing, binary search trees, multiway trees), garbage collection, memory management, and internal and external sorting. Students will study formal

techniques for solving problems by programming and techniques for analyzing the speed/efficiency of algorithms. The class will also introduce students to implementing the algorithms and data structures in different object-oriented programming languages including Python, Java, and C++.

Advanced Programming Topics (CSC 310) **4.00**

Introduction to C++, a widely used procedural language with Object Oriented qualities. Discussion of C#, a new hybrid language. Intelligent agents, rule-based inference, neural nets and genetic algorithms are applied in terms of embedded knowledge management. Grid computing environments are discussed.

Database Systems I (CSC 316) **4.00**

(Databases are pervasive throughout organizations for the storage and retrieval of routine and mission critical data, information and knowledge. This course provides students with an introduction to and an overview of database systems including database design, Entity Relationship data modeling, the relational model of data and SQL. Students will work with a relational database and create the database schema, learn and apply normalization rules and add, modify and retrieve data from the database using Structure Query Language,SQL.)

Database Systems II (CSC 317) **4.00**

(This course extends the concepts presented in CSC 315 and focuses on: linking programs and databases, the object-relational model, development of other models including object-oriented (ODMG) and semi-structured data models (XML), integration of heterogeneous databases, web interfaces for database usage and implementation through ODBC and JDBC. The course requires hands-on exercises with tutorial and completed projects.)

Web Engineering & Programming I (CSC 324) **4.00**

(The Web is becoming a norm as the interface for providing static and dynamic information to consumers and other users and for interfacing with data sources such as databases, e-commerce applications (e.g., credit card processing) and middle-ware (mission critical) support software. This course introduces components of web engineering including business process modeling, graphics, TCPIP networking and communications, dynamic web content, web server deployment, browser compatibility of web applications and web server models based on JSP, ASP, HTML, shtml, and other approaches. Applets, servlets, client side and host side programming will be discussed. Students will be introduced to the PHP, Perl and JavaScript programming languages and will develop dynamic web pages using several of the above technologies and models.)

Computer Science in e-business (CSC)323 **4.00**

(Computer-based applications in E-Business and E-Commerce. Electronic Payment Systems, EDI, E-Commerce Security, data mining and knowledge management are covered. Focus is on using computer to help organizations achieve strategic competitive advantage and maintaining a secure E-Commerce environment.)

Operating Systems and Environments (CSC 325) **4.00**

Introduction to operating systems and operating systems environments. Introduction to Unix, Linux, Windows 200x Server and Mac operating systems with application work in Linux. Maintenance, security and network hosting from an operating systems perspective is emphasized.

Web Engineering & Programming II (CSC 405) **4.00**

(This course extends the concepts of CSC 324 and introduces several advanced programming and modeling methods such as Java 2 Enterprise Edition (J2EE with enterprise Java Beans (EJB)) and other extensions for connecting middle-ware software to the web. Students will be introduced to ABEL, a java centric, rule-based, neural nets programming model. Students will be introduced to advanced web engineering methods such as: such as .Net, J2EE, and others. Also covered are the basic concepts of the Cocoon 2 architecture and XML Server Pages (XSP) as a means for creating and publishing dynamic XML content. Students will learn how to use Cocoon 2 to generate and publish XML and HTML content based on database data. Students will develop projects using these languages and methods to help understand the power of providing dynamic content on web sites.)

Client Server Networks and Distributed Processing (CSC 412) **4.00**

This course is about understanding networks, particularly object oriented client-server networks (OON). Emphasis will be on understanding network protocols, distributed processing, load balancing, clustering and other network principles. Other topics will include Virtual Private Networks (VPN), Voice over IP (VOIP), thin client and other cutting edge technologies.

Advanced Networking: Wireless Hybrid Networks (CSC 414) **4.00**

Integration of diverse technologies into a networking environment. Application emphasis of wireless networks, hybrid networks which include components of wire, wireless, dialup and other networking topologies. J2EE wireless extensions, security issues and maintenance.

Web Services (Capstone) (CSC 422) **4.00**

Web services are an emerging technology for web-centric computing. They are self-contained, self-describing, modular applications which can be published, located and invoked across the web. Current standards for web service will be evaluated and students will work with web services toolkits and utilize java, xml and other tools for integrated web services computing.

Linear Algebra (MAT 401) **4.00**

This class will cover the basics of linear algebra, with the emphasis on applications towards business and technology management. Specific topics covered include matrix operations, systems of equations, determinants, Cramer's Rule, eigenvalues, and eigenvectors. Case assignments will focus on mathematical problems and concepts. A session long project will be required that emphasizes a specific application of linear algebra.

Introduction to Operations Management (OPM 300) **4.00**

The purpose of this course is to identify issues related to the creation of an organization’s goods and services. Students will study issues such as productivity, quality management, comparing service and manufacturing operations, just-in-time systems, capacity planning, scheduling, and inventory management and control and their relationship to other business functions like marketing, human resource management, accounting, and finance.

Statistical Analysis (STS 401) **4.00**

This course presents modern statistical analysis techniques to student to enable them to make better business decisions. Students will learn what data is and how to categorize it, how to measure data using differing scales of measurement, how to compute and use probabilities, how to develop and test hypotheses, and the value of using simple and multiple regression analysis to assist with business decisions. The students will have a comprehensive understanding of the logic patterns associated with statistical analysis and the value of statistical analysis to business decision making.

Excess Duplicate Credit

TOTAL 120.00 0.00

Thank you for requesting support from the U.S. Coast Guard Institute (CGI). Whereas we serve as an activity in support of your unit Educational Services Officer (ESO), you are encouraged to seek assistance from your local ESO in your academic endeavors. The following information is provided to help you understand what is presented in this degree plan:

This document is an UNOFFICIAL Degree Plan to provide you with a preliminary assessment of how your prior learning experiences might fit into the specified degree program for this academic institution. If you choose to pursue this degree option, you must present it to a college representative, who will review it for the following:

o Accurate representation of the college's degree program requirements, including course numbers and titles, credit hours for each course, lower- and upper-level course requirements, and the total number of credits needed for the degree.

o Appropriate assignment of ACE Guide-recommended credit at the lower or upper level for military service schools and occupations, CLEP, DSST, and other tests, transfer credit for courses from other colleges and universities, certification programs, etc.

o Appropriate assignment of SOC Course Category Codes from the SOC Handbook Transferability Tables. The SOC Degree Program Handbooks can be obtained from the SOC web site at: www.soc.aascu.org should you wish to learn more about the course transfer guarantees among SOC network institutions.

IMPORTANT NOTE: When you are ready to seek admission into this degree program, please contact the USCG Institute at 1-405-954-7241. Your advisor will send the college or university an official U.S. Coast Guard Institute transcript, a copy of

the degree plan, and a ready-for-signature SOC Student Agreement which, when signed by a college official, becomes a contract for degree completion committing the college or university to supporting you in your academic endeavors.

Credit for all courses you have taken must be reflected on official transcripts sent directly to this college from the administrative offices of the colleges you previously attended. This degree plan is often used for information purposes by college counselors pending receipt of the official transcripts from the source colleges.

This degree plan is not intended to compete with your local college or university. Keep in mind, you are allowed to transfer in a significant amount of the degree requirements to this institution. As such, credit from local colleges, college level examination programs, or advanced military training may be applied to this degree. You may also complete the courses necessary from this college either in residence (on campus or possibly on a military base at a campus extension in the Education Center) or through distance delivery of the courses. If you have questions, please contact the college counselor or your advisor listed at the bottom of this Degree Plan.

DEGREE PLAN LEGEND:

SH = Semester hours
VOC = Vocational, not relative to an academic degree
LL = Lower Level, i.e. courses at the Freshman/Sophomore level
UL = Upper Level, i.e. courses at the Junior/Senior level
GL = Graduate Level (sometimes recommended by ACE for very complex courses)
[#] such as [EN024A] or [EN024B] = SOC Course Category Codes*
{#} such as {DANTES Code = 01.02.03} = DANTES Academic Codes **

* SOC Course Category Codes: Service members Opportunity Colleges (SOC) is a consortium of over 1,600 accredited colleges and universities seeking to provide degree opportunities to the military. Over 170 of these institutions participate in network degree programs developed for the Army, Navy, Marine Corps, and Coast Guard. A SOC course category number beside a course from one of these institutions, such as [EN024A] or [EN024B] for English Composition, indicates that courses from other degree program institutions with the same code may be taken to satisfy the degree requirement. See the SOC Degree Programs Handbooks at http://www.soc.aascu.org/

** DANTES Academic Codes: The Defense Activity for Non-Traditional Education Support (DANTES) publishes the DANTES Independent Study Catalog (DISC) annually, which lists more than 6,000 courses from dozens of regionally accredited colleges and universities. Because this is a degree from a SOC affiliated college, the academic residency requirements are limited, thereby allowing students to transfer in a significant portion of the degree, as mentioned above. If the course you desire to take is not offered by this institution when you want to take it, consider the opportunities the courses in the DISC present. For more information, visit http://www.dantes.doded.mil/dantes_web/distancelearning/disc/front/cont.htm Keep in mind, you should always check with the counselor or academic advisor at this institution before enrolling in a course listed in the DISC to ensure it will be accepted in transfer toward this degree.

Touro University International General Information:

Touro University International (TUI) is the international Internet university that knows no bounds. It is a worldwide university that is open 24 hours a day, 365 days a year. That means no matter where in the world a student lives, he or she can learn quickly, conveniently and easily.

Touro University International differentiates itself from other universities and colleges currently offering courses and programs through the Internet by its commitment to quality and excellence as well as the use of "state-of-the-art" technology. Students are able to complete all degree requirements in their home countries and at their own pace. TUI offers the best possible learning experience by using both synchronous learning (via Internet videoconferencing) as well as asynchronous learning (via CD-ROM). Internet teleconferencing enables (TUI) to create a complete interactive learning process with a real-time, instructor controlled environment.

TUI has created the Cyber Classroom on the Internet. This Cyber Classroom is case and applications oriented, and emphasizes a high level of interaction between professors and students and among students.

All students can interact by e-mail or in live communication with their professors. All students are encouraged to collaborate with each other on cases.

Touro University International (TUI) is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges, 985 Atlantic Avenue, #100, Alameda, CA 94501, 510-748-9001

The average cost for online courses is $250.00 per credit hour, Undergraduate Study, subject to change.

TUI is pleased to announce that under its Military Discount Program servicemen and -women may earn up to 28 semester credits per fiscal year toward a Bachelor or Master's degree at Touro University International (TUI) AT NO COST TO THEM.

TUI's Military Discount Program (MDP) is available to the following personnel under the guidelines set forth below:

" Regular military personnel
" Drilling and active duty reservists
" Retired military personnel
" Members of the National Guard and Air National Guard

1. Free courses from TUI under this program are only available for students settling their tuition at TUI by using the full amount of the $4,500 DoD Tuition Assistance for the fiscal year.

2. The free courses must be taken within the same fiscal year in which the full amount of the $4,500 DoD Tuition Assistance has been used.

3. The standard TUI undergraduate tuition for all programs will be $250 per

semester credit. Under the MDP, TUI will reduce undergraduate tuition so that service members who receive tuition assistance from their branch of the militarywill have NO TUITION COST for up to 28 semester credits per year. For these servicemembers, MDP will provide tuition reduced by 25% of total tuition for credits beyond 28 per fiscal year. This policy is effective for the TUI Bachelor of Science in Business Administration degree, the TUI Bachelor of Science in Health Sciences degree, the TUI Bachelor of Science in Computer Science degree, and the TUI Bachelor of Science in Information Technology Management degree. The following table describes the MDP for TUI Bachelor's degrees. For further details, please visit our web site at http://www.tourou.edu/cba/mtap.htm.

For more information regarding the BS degree, please contact:

Dr. George Marron/Dr. Gregory Herbert
Touro University International
5665 Plaza Drive, 3rd Floor
Cypress, CA 90630
Ph 714.816.0366 fax 714.816.0367
E-mail: infoDEV@tourou.edu
http://www.tourou.edu

POLICY NOTES:

General Requirements:

- A minimum grade point average of 2.2.
- A minimum of 48-semester hours of upper division course work required for this degree.
- A grade of "D" is NOT accepted in transfer.

Lower division transferred courses will frequently be three semester credits. That is acceptable as long as the lower division total from both transferred and Touro University International courses are 60 semester credits.

This college is rated as one of the nation's best in U.S. News & World Report's "America's Best Colleges" issue.

Evaluation completed by: Charles Morrison On: 07 June 2007