


**Bachelor of Science in Information Technology - Web App Development**
**STUDENT DATA:**
**NAME:** ROADMAP'S DEGREE

**SSN:** 000-00-0000

<b>Credit</b>	<b>Potential</b>
<b>Required</b>	<b>Credit</b>

**Communications Electives**
**12.00**

Capella learners develop the communication skills necessary to effectively use the English language to communicate both verbally and in written form. In addition, they learn to read, write, speak, and listen critically.

The courses below are recommended:

ENGL1000 English Composition  
 ENG2000 Research Writing  
 SPC2000 Intercultural Communication  
 SPC2050 Visual Design in Communications (3 qtr hours)  
 {DANTES Code = 11.07.00}

(College credit by examination may apply. Visit the Capella website for course descriptions.)

**Ethical and Social Responsibility Course**
**6.00**

Capella learners develop an understanding of the ethical dimensions of their personal and professional lives. Through reflection on their own values and positions, as well as those of others, they learn what it means to be a socially responsible citizen in today's world and develop the ability to appropriately exercise that citizenship.

(College credit by examination may apply. Visit the UC website for a description of courses available.)  
 {DANTES Code = 17.05.00}

**Fine Arts and Humanities Electives**
**12.00**

(Capella learners develop an understanding of the arts and humanities as an expression of human culture, and through the critical analysis of works of art, literature, and philosophy, they develop the ability to form their own aesthetic judgments.)

ART2000 - Art History Survey  
 HUM1000 - Introduction to the Humanities  
 HUM1050 - World Religions  
 LIT2000 - Sports and Literature  
 PHI1000 - Introduction to Philosophy  
 PHI2000 - Ethics (Recommended course)

PHI2050 - Human Nature & Ethics (Recommended courses:)

(College credit by examination may apply. Visit the CU website for a description of courses available.)

{DANTES Code = 08.06.00 or most 08.XX.XX series}

**Mathematical and Logical Reasoning Course**

**6.00**

Capella learners develop an understanding of mathematical and logical reasoning and the ability to use mathematics and logic to address problems in their personal and professional lives.

The courses below are recommended:

Applied Algebra (MAT 1050)

Introductory Statistics (MAT 2000)

Pre-Calculus (MAT1051) strongly recommended

College credit by examination may apply. Visit the CU website for a description of these courses.)

{DANTES Code = 14.09.00 or 14.09.06 or 14.01.00}

**Natural Science Electives**

**12.00**

Capella learners develop an understanding of the scientific methods used to study phenomena in the natural sciences and an appreciation of the role scientific inquiry plays in addressing the critical issues facing today's world.

BIO1000 - Human Biology

BIO1050 - Biology and Society

CHM1000 - Chemistry for Changing Times

PHY1000 - Introduction to Astronomy

(College credit by examination may apply. Visit the CU website for a description of courses available.)

{DANTES Code = 16.13.00 or 16.99.00 or most 16.XX.XX series}

**Social Science Electives**

**12.00**

Capella learners develop an understanding of the scientific methods used to study human behavior and interaction and knowledge of the predominant theories resulting from this study.

(The three courses below are recommended:

ECO1050 - Microeconomics

ECO1051 - Macroeconomics

HIS1000 - Immigrants in the American City

PSY1000 - Introduction to Psychology

POL1000 - The Politics of American Government

SOC1000 - Introduction to Human Society

College credit by examination may apply. Visit the CU website for a description of these courses.)

{DANTES Code see 20.XX.XX series}

<b>Communicating in New Media (TS 3004)</b>	<b>6.00</b>
(This course provides learners with an understanding of the new computer-enabled communication media. A number of new media types are explored in this course, including hypertext, sound, animated graphics, and pictures. Learners develop skills to effectively use this media in their profession. Human factor considerations are identified throughout the course. Team exercises provide the learner with opportunities to practice collaborative and creative communication techniques. Cannot be fulfilled by transfer.)	
<b>Undergraduate Learner Success Lab (TS 3005)</b>	
(This Lab is designed to provide new undergraduate learners the knowledge and skills they need to be successful in their academic programs. The Lab familiarizes learners with the Capella online environment and support resources provided to ensure success. Learners build skills in the selection and use of methods, techniques, and library resources. Working with the academic advisor, learners will develop a Degree Completion Plan. TS3005 is an advisor-led course taken in the first quarter, in conjunction with TS3004, and carries no credit. Cannot be fulfilled by transfer.)	
<b>Fundamentals of Web Application Development (TS 3100)</b>	<b>6.00</b>
(This course emphasizes web application development fundamentals and engages the learner with the intellectual and software tools necessary for developing professional web applications. The learner gains experience with the professional process of planning and developing prototype web applications. The learner develops a personal website that serves as an e-portfolio and resume of the learning performance at Capella University.)	
<b>Fundamentals of E-Business (TS 3110)</b>	<b>6.00</b>
(This course provides an understanding of E-Business strategies and technologies. Through readings, class discussions, and exercises, learners gain an understanding of the factors needed to launch and succeed in business in the electronic marketplace. Learners are introduced to the following topics: creating an online business concept; assessing markets, competition and customers; assessing technical infrastructure requirements; understanding security and data privacy risks; and understanding the importance of legal and regulatory issues. Learners apply this understanding when they develop an E-Business Plan.)	
<b>Fundamentals of Project Management (TS 3120)</b>	<b>6.00</b>
(This course emphasizes the critical activities associated with managing and leading Information Technology projects. It includes vendor management, configuration management, project estimation, risk management, and managing cross-functional and multi-national teams. Case studies of Information Technology project successes and failures are explored. Learners build and apply a project plan during this course. Learners are also introduced to Software Management Practices within the Software Engineering Institute's Capability Maturity Model.)	
<b>Fundamentals of Database Systems (TS 3130)</b>	<b>6.00</b>
(This course introduces database analysis, database design, and N-tiered client server database systems. Topics include database structures, data	

dictionaries, data analysis, and common database applications. Learners develop an application in a popular database system. Advanced discussion topics include database scripting (SQL), API interfaces, database connectivity technologies (ODBC/JDBC), and data warehousing multidimensional databases and data mining methods that extract useful information from the data warehousing. A problem-based approach using SQL is used in this course.)

{DANTES Code = 05.03.00}

**Fundamentals of Software Development (TS 3140)**

**6.00**

(This course covers the software engineering fundamentals necessary for good programming practice. Current techniques used in large-scale Information System software development are introduced, including requirements analysis, functional specification, system design, implementation, testing and maintenance. A problem-based approach using practical examples is used. Learners are also introduced to Software Engineering Practices within the Software Engineering Institute's Capability Maturity Model.)

{DANTES Code = 05.02.01}

**Fundamentals of Network Systems (TS 3150)**

**6.00**

(This course provides an introduction to computer networks, protocols, TCP/IP and the Internet. The course also introduces network performance analysis, security issues, firewalls, SSL, digital certificates, encryption techniques, and types of authentication (strong and weak). The learners apply their knowledge in a project that is designed to give them first hand experience in building a networked application and/or analyzing and evaluating the performance of protocols and applications.)

{DANTES Code = 03.01.00 or 03.02.01}

**Ethical and Human Side of Information Technology (TS 3160)**

**6.00**

(This course uses specific case examples and projects to explore the ethical and human dimensions of Information Technology within organizations and in relationships with customers, partners, and society. Learners develop the ability to recognize, to take seriously and to exercise leadership in significant ethical and human matters related to Information Technology.)

**Presentation Layer: Client Side Programming (TS 4010)**

**6.00**

(This course focuses on advanced client side programming with a basic introduction to server side programming. It is an extension of IT3000 Fundamentals of Web Application Development. Topics include dynamic HTML, JavaScript, Java Applets, cascading style sheets, design templates, and principals of user-centered design. Learners are also introduced to multimedia and plug-in functionalities. The course includes a basic introduction to CGI programming and Server Side Includes (SSI). Learners apply their knowledge of client side programming as they enhance their personal e-portfolio website and construct a rudimentary e-business site. Learners are required to take IT3000 prior to taking this course. It is also suggested that IT3030 Fundamentals of Database Systems; and IT4808 Object Oriented Analysis, Design, and Programming be taken prior to this course.)

{DANTES Code = 05.03.01 or 05.03.05}

**Advanced Server Side Programming (TS 4012)**

6.00

(This course introduces the learner to more complex but also more flexible technologies supporting reusable business logic on the server. The learner is introduced to Enterprise Java Beans (EJBs), their capabilities and contexts for use. It is expected that the learner has a good knowledge of Java and is acquainted with Java Bean technology, although the concept of Java Beans will be refreshed in the class. The learner is introduced to distributed object technology. The technologies of CORBA and DCOM are also explained and compared. The learner uses EJBs and an Object Request Broker (ORB) to access information on a remote database and to display the results of computations on this data to a client's web page. The course also describes how Extensible Markup Language (XML) is utilized by Internet agents to share information between diverse business units. Learners are required to take IT4011 before taking this course.)

**System Assurance Quality and Testing (TS4802)**

6.00

(This course covers proven strategies for improving the quality of an information system through quality assurance and testing methods. Learners review system requirements for testability, participate in simulated design and code inspections, explore testing strategies, and prepare test plans. Learners are introduced to a common list of quality characteristics and methods to obtain them. Process improvement strategies and models are also discussed.)

**Object-Oriented Programming in Java (TS 4811)**

6.00

(This is an intermediate level object-oriented programming course using Java. Focus of the course will be on developing applications using the Java Software Development Kit (SDK), with numerous example programs and a course project. The course will also explore how Java relates to various features of C, C++ and C#. Prerequisite(s): TS4805 or equivalent knowledge upon school approval.)

**Application Layer: Server Side Programming (TS 4011)**

6.00

(This course provides the learner with the skills to build a professional web application with interfaces to an existing database. It builds upon the knowledge gained from TS3100 and TS4010. It expands upon the CGI skills touched upon in TS4010. It covers several mechanisms for interfacing a website with a back-end database (ASP.NET, ADO.NET, etc.), and providing dynamically created web pages to the client. The learners utilize CGI scripts to access a database. The learners also utilize an industry standard tool to interactively create a database aware Web site. The concepts of JDBC and ODBC are presented in support of these activities. Learners are introduced to mechanisms to improve performance of web applications. The learners expand the business website created in TS4010 interfacing it to a relational database.)  
{DANTES Code = 05.03.01 or 05.03.05}

**Server Side Programming ASP.NET (TS 4820)**

6.00

(This course provides the learner with advanced skills to build a professional Web application using .NET technology. It builds upon the knowledge and skills gained from TS4819. Learners will learn how to develop administrative Web pages that can add/delete/update records in a remote

database table. Learners will refresh their knowledge of SQL JOINS, and use it to create more complicated Web pages. They will extend their Web store to allow customers to register and create their own accounts and to accept customer orders and implement a full check-out sequence. Learners will learn more advanced ASP.NET techniques including session state and two different kinds of authentication. Learners must have taken TS4819, or have equivalent job experience with ASP.NET, VB.NET and ADO.NET and SQL.

Prerequisite(s): TS4819 or equivalent experience upon school approval.)

**Specialization Course** **6.00**

Select any 4000-level course (TS4805 is recommended). Visit the CU website for course listings and descriptions.

**Integrated Action Learning Project (TS 4990)** **6.00**

This course allows learners to apply knowledge and skills from other courses as they develop a project that benefits an organization, community, or industry. Learners prepare a proposal that includes a project description, deliverables, completion dates, and the associated learning that will be exhibited. Upon approval from the instructor, learners execute the proposal, record their progress weekly using a project tracking Web site, and produce a final project report.

**Free Electives** **30.00**

Choose elective courses that total a minimum of 30 credits. The School of Technology recommends that 18 of these credits be earned through undergraduate technology courses.

**Excess Duplicate Credit**

**TOTAL** ..... **186.00** **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](http://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](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.

#### Capella University General Information:

##### OVERVIEW

Founded in 1993, Capella University is an accredited online university that offers courses, certificates, bachelor's, master's, and doctoral degrees in business, technology, education, human services and psychology. Capella offers 76 specializations - totaling more than 760 online courses, and extensive learner services to support the professional and academic goals of working adults. By leveraging Internet technology to deliver high-quality programs, Capella has conquered the barriers of time and place faced by working adults.

##### SUPPORT FOR ARMED FORCES

As a member of the Armed Forces, you are entitled to the Capella Armed Forces tuition discount and may be eligible to receive credit for previous training and experience. In addition, you will have access to personal academic advising; writing, research, and computer skills support; career services, the Johns Hopkins Sheridan Library system, the online bookstore, and more.

##### EDUCATIONAL PHILOSOPHY

As an institution that is focused exclusively on adult learners, Capella University is a results-oriented institution focused on high-quality academic work designed to have immediate professional relevance. Capella strives to inspire achievement through an intimate, community-based learning experience. With a faculty-to-student ratio of 18:1, Capella's learners experience frequent online interaction between faculty and fellow learners-without regard to time or location.

##### 24/7 ACCESS TO COURSES-FROM ANYWHERE IN THE WORLD

Courses are asynchronous-which means that learners can participate 24 hours a day, 7 days a week, from any Internet connection anywhere in the world. Courses are characterized by a blend of assigned readings, threaded class discussions, faculty feedback, group projects, case studies, research and writing assignments. Learners can expect to spend a minimum of 10 hours each week in a course-with at least two hours devoted to online discussion.

##### FACULTY

Capella University faculty members are subject-matter experts of the highest caliber, each offering a balance of theoretical knowledge and practical experience. Professors include industry analysts, corporate executives, and adjunct professors from prestigious colleges and universities.

##### ACCREDITATION

Capella University is accredited by The Higher Learning Commission and a member of the North Central Association of Colleges and Schools\*. The NCA has recognized Capella for "its pioneering role in translating an adult learning model into action." Capella is the first and only online academic institution to participate in



the Higher Learning Commission's Academic Quality Improvement Program.

#### ENROLLMENT

16,000 enrolled learners located in all 50 states and more than 63 countries. The majority of Capella's learners are working adults who often are balancing family, work and educational achievement.

#### TUITION

The tuition for the courses required for this Bachelor of Science in Business General Program is \$1,740 per 6.0 quarter credit course. Capella offers, a 15% tuition discount on undergraduate programs and 10% tuition discount on graduate programs to active duty personnel and their immediate families, veterans/retirees, guards reservists and civilian employees of the Department of Defense.

Employees of government agencies, corporations, and private business may be eligible for military tuition rates if they are members of any of the seven Military Reserve or National Guard components. Check with the admissions office to determine eligibility if applicable.

For more information regarding Capella University, please contact:

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Capella University  
225 South Sixth Street  
9th Floor  
Minneapolis, MN 55402  
Direct Dial: 612.977.5570  
Toll Free: 1.888.227.3552 x5570  
Email: nicole.lovald@capella.edu  
info@capella.edu

#### POLICY NOTES:

##### General Requirements:

- Different grade point average depending on incoming credits.
- The maximum limit of nontraditional or transfer credit applied to this degree is 138 quarter credits.
- A grade of "D" is NOT accepted in transfer.

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: 05 June 2007