



# BSWD

BACHELOR OF SCIENCE IN  
WEB DESIGN AND DEVELOPMENT  
PROGRAM PLAN EFFECTIVE FALL 2011

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# BACHELOR OF SCIENCE IN WEB DESIGN AND DEVELOPMENT

## INTRODUCTION

As change, innovation, and tremendous growth continue to transform the Internet, our lives become increasingly integrated in this crucial medium. Neumont University's Bachelor of Science in Web Design and Development degree program focuses on the tools, technologies, and techniques needed to understand the language of web design and how to take that knowledge into a professional career creating a variety of interactive web sites, experiences, and applications.

The BSWD degree emphasizes both graphic design and development. Students learn the necessary core skills to survive, adapt, and thrive in the workplace as a hybrid designer/developer. In addition, the degree builds professional skills, including: writing, communicating, leadership, and organization. Students will develop their skills using Neumont University's problem and project based learning curricula.

The Neumont University's BSWD degree prepares a student for that first step into the interaction design industry- whether a student wants to pursue a role at a web development firm, an advertising agency, a media company, a large corporation, or launch his or her own entrepreneurial venture. Graduates of this degree program will be armed with the same tools used by professional developers to increase the usefulness of the Internet for billions of users across the globe.

Upon completing the BSWD degree program, graduates will possess a Bachelor of Science in Web Design and Development as well as a vast portfolio of real world projects.

## PROGRAM OVERVIEW

Students attend classes and work on projects generally between 8:00am and 6:00pm, Monday through Friday. The program is 10 quarters in length and requires a minimum of 2.5 years to complete. During a student's progression, he or she will spend a great deal of time collaborating with others in group settings.

## PROGRAM OBJECTIVES

Graduates of the Bachelor of Science in Web Design and Development are expected to master the following:

- Increase knowledge and understanding of self, the dynamics of group and team interactions, and their impact upon productivity, efficiency, and effectiveness

- Recognize the skills and techniques needed for problem solving and decision making
- Communicate effectively both orally and in writing
- Develop software using modern languages and integrated development environments
- Integrate disparate areas of technical and non-technical expertise through real-world projects
- Understand business fundamentals and how they relate to the Web
- Learn concept, design, code, and deploy standards-based content for a variety of formats including desktop, handhelds, and other emerging media environments
- Develop a strong foundation of artistic graphic design skills
- Be able to use and develop in a broad range of technologies including: XHTML, CSS, XML, ActionScript, JavaScript, Adobe Creative Suite, and more
- Become self aware of one's own style, artistic direction, and creative abilities

## BACHELOR OF SCIENCE IN WEB DESIGN AND DEVELOPMENT DEGREE REQUIREMENTS

To qualify for graduation with a Bachelor of Science in Web Design and Development, students are required to accomplish the following:

- Complete a minimum of 180 quarter credit hours with an average grade of 'C' (Cumulative Grade Point Average of 2.0) or higher for all work taken at the University
- Complete a minimum of 115 credit hours in required degree courses, including projects
- Complete a minimum of 55 credit hours in required General Education courses
- Complete a minimum of 10 credit hours of elective courses in any area
- Abide by all University rules and regulations
- To earn credits for a course, students must earn a passing grade.
- For required courses, a passing grade is a "C" or better. For non-required courses, a passing grade is "D-" or better.
- A coupled lecture and project course is considered to be one prerequisite and both must be passed to move into the next coupled lecture and project combination
- Only one coupled lecture and project course may be taken per quarter without Provost approval
- No unresolved judicial matters
- No outstanding financial obligations to the University

## BSWD PROGRAM PLAN

<b>MINIMUM GENERAL EDUCATION CREDITS REQUIRED</b>	<b>57 CREDITS</b>
Required General Education Courses	40 credits
Additional Required General Education Specific to Degree	17 credits
<b>MINIMUM BSGD CREDITS REQUIRED</b>	<b>113 CREDITS</b>
Required Core BSWD Courses	65 credits
Required BWGD Projects and Labs	48 credits
<b>MINIMUM ADDITIONAL ELECTIVE CREDITS REQUIRED</b>	<b>10 CREDITS</b>
<b>TOTAL REQUIRED FOR BS IN WEB DESIGN AND DEVELOPMENT</b>	<b>180 CREDITS</b>

## BSWD GENERAL EDUCATION COURSES

### REQUIRED GENERAL EDUCATION 40 CREDITS

FAC105 Leadership and Problem Solving	4 credits
FAC120 Spoken Communications	3 credits
FAC125 Collaborative and Interpersonal Communications I	3 credits
FAC299 Principles of Communication	2 credits
HUM100 Foundational English for Technical Professions	1 credit
HUM105 The Art and Science of Success	2 credits
HUM121 English Composition	3 credits
HUM150 Logic	4 credits
HUM221 Intermediate English Composition	2 credits
MAT100 Foundational Math for Technical Professions	1 credit
MAT110 Sets, Probability, and Number Systems	3 credits
MAT150 Trigonometry	3 credits
MAT250 Calculus	3 credits
SSC250 Human Relations and Personality Development	3 credits
SSC271 American Government	3 credits

### ADDITIONAL REQUIRED GENERAL EDUCATION SPECIFIC TO DEGREE 17 CREDITS

BUS220 Marketing Communications	3 credits
BUS290 Business Fundamentals	3 credits
FAC101 Art Appreciation	2 credits
FAC140 Elements of Design Theory	4 credits
PSC220 Introduction to Physics	3 credits
SSC350 Intellectual Property	2 credits

### TOTAL GENERAL EDUCATION CREDITS 57 CREDITS

## REQUIRED CORE BSWD COURSES

### WEB DESIGN AND DEVELOPMENT CORE COURSES 65 CREDITS

CSC110 Introduction to Computer Science	4 credits
CSC120 Topics in Computer Science	6 credits
CSC130 Principles of Software Engineering	4 credits
CSC150 Object Oriented Programming and Design	6 credits
CSC316 Website Design	4 credits
CSC325 Human Computer Interface Design	4 credits
DBT260 Business Database Systems	4 credits
MTM160 Graphic Design Tools	3 credits

MTM165 Graphic Design Projects	3 credits
MTM260 Media Design Tools	3 credits
MTM265 Media Design Projects	3 credits
MTM282 Interactive Web Development	4 credits
MTM316 Rich Internet Applications	4 credits
MTM350 Experience Design	2 credits
MTM370 Front-end Implementation	4 credits
MTM450 Web Game Design	3 credits
MTM470 Back-end Implementation	4 credits

## REQUIRED BSWD PROJECTS AND LABS

### PROJECT COURSES AND LABS 30 CREDITS

CSC160 Developing for the Windows Platform	4 credits
PRO160 Windows Platform Lab	2 credits
CSC180 Introduction to Java Development	4 credits
PRO180 Java Lab	2 credits
CSC240 Business Web Development	4 credits
PRO240 Business Web Development Project	2 credits
CSC260 Introduction to Dynamic Web Programming	4 credits
PRO260 Dynamic Web Lab	2 credits
CSC280 Developing Scalable Web Applications with Java EE	4 credits
PRO280 Scalable Web Applications Lab	2 credits

### DEVELOPMENTAL COURSES AND LABS 5 CREDITS

PRO393 Web Capstone Project	5 credits
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### ENTERPRISE PROJECTS 13 CREDITS

PRO490 Enterprise Projects I	6.5 credits
PRO491 Enterprise Projects II	6.5 credits

### ADDITIONAL ELECTIVES 10 CREDITS

### TOTAL PROGRAM CREDITS 180 CREDITS

# BSWD

# COURSE DESCRIPTIONS

## BUSINESS

### **BUS220 MARKETING COMMUNICATIONS** (3 CREDITS)

This course will equip students with the basic tools for developing and understanding effective marketing communications. It will focus on communication with customers in the form of advertising, sales promotion, public relations, and other areas of marketing. Print, internet, and multimedia marketing will be discussed. This course will emphasize marketing principles and best practices through developing an effective integrated marketing communications plan.

### **BUS290 BUSINESS FUNDAMENTALS** (3 CREDITS)

A survey of the various aspects of business including human resources, finance, client relations, and production. Students will be able to identify the type of information that is critical to each aspect of the business. Students will also learn about various organizational structures and some aspects of business law.

## COMPUTER SCIENCE

### **CSC110 INTRODUCTION TO COMPUTER SCIENCE** (4 CREDITS)

Students gain exposure to a wide variety of topics in Computer Science. While building real applications in the lab portion of this course, students also learn fundamental concepts about such topics as data storage and manipulation, object-oriented programming, and other introductory topics.

### **CSC120 TOPICS IN COMPUTER SCIENCE** (6 CREDITS)

Students gain exposure to a wide variety of topics in Computer Science. While building real applications in the lab portion of this course, students also learn about the different foci a student could have while studying Computer Science at Neumont University.

### **CSC130 PRINCIPLES OF SOFTWARE ENGINEERING** (4 CREDITS)

This course introduces students to the software development life cycle and includes discussions on software processes, process models, and methodologies. The course will also discuss support and maintenance related to software after it has been released.

### **CSC150 OBJECT ORIENTED PROGRAMMING AND DESIGN** (6 CREDITS)

This course provides a thorough introduction to object oriented programming. Topics include fundamentals of programming, classes and objects, inheritance, polymorphism, interfaces, events, and exception handling, with an emphasis on writing quality object-oriented code.

*Prerequisites: CSC110 Introduction to Computer Science*

### **CSC160 DEVELOPING FOR THE WINDOWS PLATFORM** (4 CREDITS)

This course introduces students to various concepts in the .NET environment and to programming standards within that environment. Topics may include Windows desktop application development, multi-user application development using ASP.NET, ADO.NET, XML, and Web Services.

*Prerequisites: DBT130 Relational Databases I (may be taken concurrently) or DBT260 Business Database Systems (may be taken concurrently); CSC150 Object Oriented Programming and Design.*

### **CSC180 INTRODUCTION TO JAVA DEVELOPMENT** (4 CREDITS)

Students are introduced to the Java core packages and APIs. Students learn skills for developing, deploying, and managing Java applications. Course content includes the language's syntax, core APIs, graphical user interface (GUI) framework(s), and platform tools.

*Prerequisites: DBT130 Databases I (may be taken concurrently) or DBT260 Business Database Systems (may be taken concurrently); CSC150 Object Oriented Programming and Design*

### **CSC230 COMPUTATIONAL THEORY** (4 CREDITS)

This course is designed to pique a student's interest in exploring and learning more about the theoretical side of computing. This course exposes students to conceptual tools that practitioners use in computer engineering. It develops critical thinking and problem solving skills by demonstrating elegant solutions to complicated problems.

*Prerequisites: CSC250 Algorithms and Data Structures*

### **CSC240 BUSINESS WEB DEVELOPMENT** (4 CREDITS)

In today's economy even the smallest businesses are expected to have a website. In this course students will learn how businesses can improve their processes by using the Internet to interface with customers, partners, and suppliers. This will include the implementation and programming of technologies such as ecommerce, live online customer service/support, and supply chain management tools. Students will also learn the phases of web development such as analysis, development, and deployment. This course will also include research of the tools and technology (both proprietary and open source) most commonly used to develop websites.

*Prerequisites: CSC110 Introduction to Computer Science*

*Corequisites: PRO240 Business Web Development*

### **CSC260 INTRODUCTION TO DYNAMIC WEB PROGRAMMING** (4 CREDITS)

This course builds on students' knowledge of the .NET environment and programming standards within that environment. Topics may include Windows desktop application development, multi-user application development using ASP.NET, ADO.NET, XML, and Web Services.

*Prerequisites: CSC160 Developing for the Windows Platform and PRO160 Windows Platform Lab.*

*Corequisite: PRO260 Dynamic Web Lab*

**CSC280 DEVELOPING SCALABLE WEB APPLICATIONS WITH JAVA EE** (4 CREDITS)

Students build upon the knowledge gained from CSC180 and begin learning the Java Enterprise Edition (Java EE) platform. Java EE technologies are introduced with an emphasis on Java Web technologies such as Servlets, Java Server Pages (JSP), the Web container, and the role of enterprise application servers. Design patterns applicable to the presentation tier will be discussed. Students learn how to put persistence strategies into practice. Applicable open-source frameworks and tools may also be introduced.

*Prerequisites: CSC180 Introduction to Java Development and PRO180 Java Lab; MOA140 Information Modeling I*

*Corequisites: PRO280 Scaleable Web Applications Lab*

**CSC316 WEBSITE DESIGN** (4 CREDITS)

This course focuses on graphic design for websites. Students will learn basic interaction conventions, visual hierarchy, user-centered design philosophy, navigation systems, design layout approaches wire framing techniques, specifications, annotation, prototyping, and delivery to developers.

**CSC325 HUMAN COMPUTER INTERFACE DESIGN** (4 CREDITS)

Principles and best practices are explored in areas such as navigation and flow, single page/screen layout, colors, GUI elements, multimedia presentation, response times, and usability analysis. Students will evaluate the effect that different technologies have on the design of a system's user interface and useful practices to neutralize deficiencies and take advantage of benefits.

## DATABASE TECHNOLOGY

**DBT260 BUSINESS DATABASE SYSTEMS** (4 CREDITS)

Business Database Systems prepares you with the knowledge to analyze, design and implement effective, robust, and successful databases. The course focuses on both the development of databases and the eventual management and administration of the system. Students will explore topics ranging from the database system development lifecycle to emerging trends and legal issues in the field.

## FINE ARTS AND COMMUNICATION

**FAC101 ART APPRECIATION** (2 CREDITS)

Students gain a basic understanding of the visual arts. Classic and electronic images are analyzed as well as structure and cultural frameworks.

**FAC105 LEADERSHIP AND PROBLEM-SOLVING** (4 CREDITS)

This course introduces students to basics of leadership, business, communication, and decision-making. Students will work collaboratively to develop an understanding of unique solutions. Students will learn to understand many elements of a problem, research the problem and potential solutions, and critically think through potential solutions.

**FAC120 SPOKEN COMMUNICATIONS** (3 CREDITS)

Students strengthen their oral presentation skills by exploring and applying appropriate techniques for preparing and delivering speeches. Students learn speech, composition, and delivery methods needed to give effective presentations for technical and non-technical audiences alike. Students gain a basic understanding of effective and ethical public speaking, as well as develop poise and confidence in delivering public presentations to a variety of audiences.

**FAC125 COLLABORATIVE AND INTERPERSONAL COMMUNICATIONS I** (3 CREDITS)

Students actively develop and apply necessary collaborative skills for successful interpersonal interactions and group work. Students learn and use principles related to interpersonal communications, group dynamics, leadership, and the collaborative group life-cycle. Students are not just exposed to knowledge in these domains, but they develop practical skills that can be directly applied during their project work at Neumont University.

*Prerequisites: SSC250 Human Relations and Personality Development*

**FAC140 ELEMENTS OF DESIGN THEORY** (4 CREDITS)

This course will help students understand the basic principles of good design. Students will learn about elements of composition including line, form, texture, value, color, and shape. They will discuss and work to see how these elements interact with the principles of design: balance, movement, rhythm, emphasis, simplicity, contrast, proportion, space, and unity. Students will explore their creativity through these basic elements and principles.

**FAC299 PRINCIPLES OF COMMUNICATION** (2 CREDITS)

Students will learn about and put into practice various topics related to effective personal communication. Major course topics are effective writing including memos, emails, resumes and cover letters, effective verbal communication including conversation, interviewing techniques and negotiation, and other relevant aspects of communication.

*Prerequisites: Instructor Permission*

## HUMANITIES

**HUM100 FOUNDATIONAL ENGLISH FOR TECHNICAL PROFESSIONS** (1 CREDIT)

This course is designed to give students a foundational understanding of English grammar and composition. Students will focus on the fundamentals of reading comprehension and composition, including vocabulary, grammar, mechanics, sentence structure, and paragraphing. The importance of professional writing will be addressed.

**HUM105 THE ART AND SCIENCE OF SUCCESS** (2 CREDITS)

Helps students develop and refine necessary skills for success. Students will learn effective time management, communication, and research skills. Students will also discuss the importance of ethics, professionalism, and integrity throughout their life.

**HUM121 ENGLISH COMPOSITION** (3 CREDITS)

Students develop necessary writing skills to prepare them for college-level writing and to establish a solid foundation for business and technical communications. Students focus on key rhetorical concepts in-

cluding purpose, audience, and contexts for writing, as well as a range of genres used in college and workplace writing. Students explore effective writing processes, build awareness of writing conventions, and expand critical thinking, reading, and writing abilities.

**HUM150 LOGIC (4 CREDITS)**

This course provides an introduction to propositional logic, including truth tables, truth trees, and natural deduction, with an emphasis on the application of logic to the evaluation of arguments expressed in natural language. This course will also cover full first-order predicate logic, with an emphasis on logical evaluation of arguments expressed in natural language. First-order logic topics include translation, truth trees, deduction trees, sorted logic, identity, and modal operators.

**HUM221 INTERMEDIATE ENGLISH COMPOSITION (2 CREDITS)**

This course builds on the writing skills and knowledge gained in English Composition. Persuasive writing, rhetorical analysis and strategy, style and an understanding of formal argumentation, and critical thinking and analysis will be emphasized. Collaborative project management skills will be taught and used.

*Prerequisites: HUM121 English Composition*

## MATH

**MAT100 FOUNDATIONAL MATH FOR TECHNICAL PROFESSIONS (1 CREDIT)**

This course is designed to help students improve their understanding of foundational math skills such as algebraic rules, number sets, fractions, decimals, order of operations, and functions. The course will increase the students' knowledge and competency in geometry concepts, basic graphing, and in solving linear equations.

**MAT110 SETS, PROBABILITY, AND NUMBER SYSTEMS (3 CREDITS)**

Students are introduced to a variety of mathematical topics including basic set theory, practical applications in probability, and representation of numbers in floating point, binary, and other numeric representations.

**MAT150 TRIGONOMETRY (3 CREDITS)**

This introductory Trigonometry course explores functions and equations, polar coordinates, angles and triangles, similar triangles, inverse trigonometric functions, and laws of sines and cosines.

**MAT250 CALCULUS (3 CREDITS)**

This course examines several Calculus techniques including differentiation and integration.

*Prerequisites: MAT150 Trigonometry*

## MULTIMEDIA

**MTM160 GRAPHIC DESIGN TOOLS (3 CREDITS)**

An introduction to the Adobe Creative Suite graphic design applications: Photoshop, Illustrator, Fireworks, Flash, After Effects, InDesign, and other similar programs. Students will get their feet wet by designing projects such as website mockups, photo illustrations, Bezier drawings, and printed materials.

*Requires: Adobe Creative Suite Software (or lab)*

**MTM165 GRAPHIC DESIGN PROJECTS (3 CREDITS)**

Students will explore a variety of typical graphic design problems such as corporate identity, photo illustrations and manipulation, photography, ads, animations, information graphics, page layout, and typography.

*Requires: Adobe Creative Suite Software (or lab)*

*Prerequisites: MTM160 Graphic Design Tools.*

**MTM260 MEDIA DESIGN TOOLS (3 CREDITS)**

This course introduces students to the tools for acquiring and editing audio and video assets. The students will also be introduced to pre-production, production, and post-production tools and processes as well as related topics such as character animation, titles, motion graphics, compositing, keying, color grading, storyboarding, asset management, logging, and editing.

**MTM265 MEDIA DESIGN PROJECTS (3 CREDITS)**

Using the tools and techniques learned in MTM260, students will create narrative pieces such as short films, corporate sales presentations, motion graphics, software demos, cartoons, and how-to's.

*Prerequisites: MTM260 Media Design Tools.*

**MTM282 INTERACTIVE WEB DEVELOPMENT (4 CREDITS)**

This course focuses on current industry languages and standards for front-end interactive web development. Students will learn some of the languages, libraries, and frameworks available for creating rich internet applications using web services and DOM manipulation.

**MTM316 RICH INTERNET APPLICATIONS (4 CREDITS)**

Students learn fundamentals of developing complete rich internet applications utilizing frameworks that augment the functionality of the browser. Custom drawing, specialized animations, and handling large data sets are a few of the concepts discussed in class.

**MTM350 EXPERIENCE DESIGN (2 CREDITS)**

This course will use the latest media technologies to create synthetic exploratory digital experiences that re-create reality and alternate realities. Students will learn techniques that will produce rich, compelling web experiences.

*Prerequisites: MTM160 Graphic Design Tools and MTM260 Media Design Tools*

**MTM370 FRONT-END IMPLEMENTATION (4 CREDITS)**

This course will explore the latest techniques in converting static visual designs into high-fidelity, clean, accurate HTML/CSS standards-compliant websites. Concepts such as graceful degradation and progressive enhancement will be explored across different desktop and mobile browser platforms. Media slicing/optimization and Search Engine Optimization (SEO) will also be explored. Students will learn about the relationship between front-end coders and graphic designers and the common potential pitfalls in these relationships.

**MTM450 WEB GAME DESIGN (3 CREDITS)**

This course provides an introduction to basic web game design principles and in-browser gaming experiences. Students will design, animate, and develop typical online games.

### **MTM470 BACK-END IMPLEMENTATION (4 CREDITS)**

Students will select a project from previous courses and implement a website from start to finish that includes a designed and implemented template system, SEO, analytics, and content management system (with customized admin user interface), media elements, ties to external web services, and interactive widgets. This course will give students time to perfect and polish projects for their design portfolio.

## **PHYSICAL AND BIOLOGICAL SCIENCE**

### **PSC220 INTRODUCTION TO PHYSICS (3 CREDITS)**

This course provides an introduction to basic physics concepts. Students will examine such principles as kinematics in one and two dimensions, forces, dynamics of uniform circular motion, waves and sound, and the principle of linear superposition.

## **PROJECTS**

### **PRO160 WINDOWS PLATFORM LAB (2 CREDITS)**

Students work in teams on software development projects. The projects provide experience with various phases of software development, give students opportunities to perform a variety of roles on software development teams, strengthen and integrate students' existing skills, and provide motivation for the acquisition of new skills. The project role and learning goals for each student are individualized in line with their knowledge base and growth focus. Projects may include interaction and/or collaboration with external clients and other stakeholders.

*Prerequisite: CSC160 Developing for the Windows Platform*

### **PRO180 JAVA LAB (2 CREDITS)**

Students work in teams on software development projects. The projects provide experience with various phases of software development, give students opportunities to perform a variety of roles on software development teams, strengthen and integrate students' existing skills, and provide motivation for the acquisition of new skills. The project role and learning goals for each student are individualized in line with their knowledge base and growth focus. Projects may include interaction and/or collaboration with external clients and other stakeholders.

*Prerequisites: CSC180 Introduction to Java Development*

### **PRO240 BUSINESS WEB DEVELOPMENT PROJECT (2 CREDITS)**

Students work in teams on web development projects. The projects provide experience with various phases of web development, give students opportunities to perform a variety of roles on project teams, strengthen and integrate students' existing skills, and provide motivation for the acquisition of new skills. The project role and learning goals for each student are individualized in line with their knowledge base and growth focus. Projects may include interaction and/or collaboration with external clients and other stakeholders.

*Prerequisites: CSC240 Business Web Development.*

### **PRO260 DYNAMIC WEB LAB (2 CREDITS)**

Students work in teams on software development projects. The projects provide experience with various phases of software development, give students opportunities to perform a variety of roles on software development teams, strengthen and integrate students' existing skills, and provide motivation for the acquisition of new skills. The project

role and learning goals for each student are individualized in line with their knowledge base and growth focus. Projects may include interaction and/or collaboration with external clients and other stakeholders.

*Prerequisites: CSC260 Introduction to Dynamic Web Programming*

### **PRO280 SCALABLE WEB APPLICATIONS LAB (2 CREDITS)**

Students work in teams on software development projects. The projects provide experience with various phases of software development, give students opportunities to perform a variety of roles on software development teams, strengthen and integrate students' existing skills, and provide motivation for the acquisition of new skills. The project role and learning goals for each student are individualized in line with their knowledge base and growth focus. Projects may include interaction and/or collaboration with external clients and other stakeholders.

*Prerequisites: CSC280 Developing Scalable Web Applications with Java EE*

### **PRO393 WEB CAPSTONE PROJECT (5 CREDITS)**

Students work either in teams or individually on a project which demonstrates the overall attainment of the learning objectives of a student's academic program. The project must be approved by the instructor. Students may choose to complete a project in an interest area or career direction of their own choosing or a project can be assigned to them by the instructor. The projects provide experience unique to the end of the program and give students opportunities to perform and develop each of their skill sets in a chosen discipline. These projects strengthen and integrate students' existing skills and provide motivation for the acquisition of new skills. The project role and learning goals for each student are individualized in line with his/her knowledge base and growth focus. Projects may include interaction and/or collaboration with external clients and other stakeholders.

*Prerequisites: PRO160 Windows Platform Lab, PRO180 Java Lab, PRO260 Dynamic Web Lab, and PRO280 Scalable Web Applications Lab*

### **PRO490 ENTERPRISE PROJECTS I (6.5 CREDITS)**

Students spend 20 hours per week working as part of a team to provide solutions to real clients. Enterprise projects are designed to give students experience working on projects similar to ones they may encounter upon graduation. Placement on some projects may be competitive and may require mastery of a set of competencies.

*Prerequisites: Instructor Permission*

### **PRO491 ENTERPRISE PROJECTS II (6.5 CREDITS)**

Students spend 20 hours per week working as part of a team to provide solutions to real clients. Enterprise projects are designed to give students experience working on projects similar to ones they may encounter upon graduation. Placement on some projects may be competitive and may require mastery of a set of competencies.

*Prerequisites: PRO490 Enterprise Projects I*

## **SOCIAL SCIENCE**

### **SSC250 HUMAN RELATIONS AND PERSONALITY DEVELOPMENT (3 CREDITS)**

Students examine themselves across four dimensions of the self: their personality, the physical self, the mental self and the emotional self. Students evaluate their future expectations to strengthen their attitudes toward achievement and success and seek ways to improve how they take responsibility for what is expected of them. Students learn

practical skills based on four internal components: self-awareness, motivation, self-regulation and adeptness in relationships. Students learn how respecting others creates a positive work environment. Students develop a strategy for positively dealing with change and associated stresses.

**SSC271 AMERICAN GOVERNMENT (3 CREDITS)**

This course will introduce students to the American governmental system. Students should develop a working understanding of government institutions, political processes, and political behavior. This course will delve into the workings of the three branches of the national government and the role it plays in American society. This class will also discuss civil liberties and civil rights.

**SSC350 INTELLECTUAL PROPERTY (2 CREDITS)**

This course provides an overview of the intellectual property laws of the United States. The purpose of the course is to give students an understanding of copyright, patent, trademark, and trade secret law, and how those laws fit into their vocational field.