

## *Career Studies Certificates:*

**PURPOSE:** The IST Program consists of a number of career studies options that focus on a specific career field in information technology (IT). These programs are appropriate for students earning the IST degree as a means of satisfying the IT electives to obtain a specialized, focus area of expertise.

The career studies certificates listed here provide students with opportunities to gain skills in designing, building, testing and maintaining Web pages, links and interfaces to Web-enabled applications; designing, implementing, troubleshooting and maintaining databases; and/or designing, installing, administering and repairing computer networks; explore the various aspects of cyber security; and to develop and enhance their software development skills.

Before entering a career studies program, students should have a strong foundation in using computer applications (ITE 115 course description in the back of this catalog). Students should also have a strong foundation in computer concepts to include database fundamentals, Internet and networking fundamentals, operating systems, software design and computer hardware troubleshooting prior to beginning the program. The "Information Technology Foundations" career studies certificate is designed to provide this fundamental background. Students that already have prior experience or coursework in the related IT field should consult with an academic advisor for possible wavier or advanced placement.

Courses in a career studies certificate program that are not already required in the IST degree can be applied as "Approved IT Electives" in the degree program in consultation with your advisor.

To satisfy the IST degree requirements, students are encouraged to select courses within the career studies certificate. Students must also formally complete an "Application for Graduation" for both the Career Studies Certificates and the degree upon completion of the courses required for the CSC and the degree upon graduation.

The courses in the Career Studies Certificate programs are directly related to the IST degree. Students should refer to semester in which a particular course is offered in the degree curriculum for guidance as to when courses are generally offered. Courses appearing in either the first or third semester are typically offered in the fall semester. Courses appearing in either the second or fourth semesters are typically offered in the spring semester.

### **AREA: Computer Science 221-246-01**

CSC	110	Introduction to Computing	3
CSC	201	Computer Science I	4
CSC	205	Computer Organization	3
CSC	202	Computer Science II	4
ITP	220	Java Programming II	4
<b>Total</b>			<b>18</b>

### **AREA: Cyber Security 221-732-09**

ITN	100	Introduction to Telecommunications	3
ITN	260	Network Security Basics	3
ITN	261	Network Attacks, Computer Crime, and Hacking	3
ITN	262	Security Communication, Security, and Authentication	3
ITN	263	Internet/Intranet Firewalls and E-Commerce Security	3
ITN	266	Network Security Layers	3
ITN	267	Legal Topics in Network Security	3
<b>Total</b>			<b>21</b>

### **AREA: Database Administration Specialist 221-299-11**

ITD	130	Database Fundamentals <sup>1</sup>	3
ITD	132	Structured Query Language <sup>1</sup>	3
ITD	134	PL/SQL Programming <sup>2</sup>	3
ITD	250	Database Architecture and Administration	3
ITP	100	Software Design	3
SDV	101	Orientation to IT Professions	1
<b>Total</b>			<b>16</b>

<sup>1</sup>ITD 130 and ITD 132 may be taken concurrently, both generally Offered in the fall semester.

<sup>2</sup>ITD 134 and ITD 150 may be taken concurrently, both generally offered in the spring semester. ITD 130 and ITD 132 to be completed prior to taking ITD 134/250 concurrently. Additionally, ITP 100 is a pre-requisite for ITD 134.

### **AREA: Information Technology Foundations 221-299-08**

ITE	120	Principles of Information Systems	3
ITP	100	Software Design	3
ITD	130	Database Fundamentals	3
ITN	100	Introduction to Telecommunications	3
ITD	110	Web Page Design I	3
ITN	107	Personal Computer Hardware and Troubleshooting	3
SDV	101	Orientation to the IT Professions	1
<b>Total</b>			<b>19</b>

### **AREA: Networking Specialist 221-732-04**

ITN	100	Introduction to Telecommunications	3
ITN	107	Personal Computer Hardware and Troubleshooting	3
ITN	124	Wireless Administration	3
ITN	170	Linux Operating System	3
ITN	200	Administration of Network Resources	3
ITN	260	Network Security Basics	3
<b>Total</b>			<b>18</b>