LEARNING UNIT GOALS IN SKILLS

SkillSet / Skill / SubSkill	LearningUnit Goal
1.0 Information Technology Skills	
1.1 **Software Development**	
1.1.1 *Programming-principles, objects, algorithms, modules, testing*	
3	to introduce the concepts of problem solving within the context of information systems of limited complexity using standard knowledge work software packages
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.11	to introduce and develop the process of algorithm and structured code development
13.12	to introduce the purpose and develop ability to use a relational database software package
13.13	to introduce and develop ability to design and implement a graphical user interface facility
13.14	to present the prototype process, and to introduce and apply the concepts of evaluation and evolutionary refinement to personal application prototypes
18	to discuss how an information system is developed and managed within an organization
19	to present and discuss the relevance of the cognitive process and human interactions in information system design and implementation
42	to present the concept that data is a representation and measurement of real-world events
43	to show and explain the logical and physical structure of data to represent characters, records, files, and multimedia objects
44	to explain the concepts of classes, abstract data types (ADT), and objects
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
47	to develop skills in developing an algorithmic solution to a problem and be able to represent it with appropriate program and data objects
48	to present top-down implementation strategies
49	to present object implementation concepts
50	to present modular design, cohesion, and coupling concepts
51	to present a systems view of verification and validation
52	to present and expose students to a variety of programming environments, development tools and graphics development environments
53	to introduce the concepts and techniques used to represent and operate on data and file structures, with simple examples
54	to explain how to develop structures using abstract data types representing arrays, lists, trees, records and files, and demonstrate how they are applied as components of programs and applications
55	to present and use index file structures, including key organizations
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
57	to provide the foundations for applications of data structures and file processing techniques
58	to present and ensure problem solving involving files and database representations
59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
60	to continue the development of programming techniques, particularly in the design, testing and debugging of IS related programs of some complexity
61	to develop an awareness of the relative capabilities and limitations of most common programming languages
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
83	to develop quality metrics for assessment of software development and project control of software development
84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
86	to discuss the importance of finding synergistic solutions with team and clients
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment

SkillSet Skill SubSkill	LearningUnit Goal
101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
104	to understand the different programming environments available for business application development
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
1.1.2	*Application Development-requirements, specs, developing*
3	to introduce the concepts of problem solving within the context of information systems of limited complexity using standard knowledge work software packages
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.11	to introduce and develop the process of algorithm and structured code development
13.12	to introduce the purpose and develop ability to use a relational database software package
13.13	to introduce and develop ability to design and implement a graphical user interface facility
13.14	to present the prototype process, and to introduce and apply the concepts of evaluation and evolutionary refinement to personal application prototypes
18	to discuss how an information system is developed and managed within an organization
19	to present and discuss the relevance of the cognitive process and human interactions in information system design and implementation
42	to present the concept that data is a representation and measurement of real-world events
43	to show and explain the logical and physical structure of data to represent characters, records, files, and multimedia objects
44	to explain the concepts of classes, abstract data types (ADT), and objects
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
47	to develop skills in developing an algorithmic solution to a problem and be able to represent it with appropriate program and data objects
48	to present top-down implementation strategies
49	to present object implementation concepts
50	to present modular design, cohesion, and coupling concepts
51	to present a systems view of verification and validation
52	to present and expose students to a variety of programming environments, development tools and graphics development environments
53	to introduce the concepts and techniques used to represent and operate on data and file structures, with simple examples
54	to explain how to develop structures using abstract data types representing arrays, lists, trees, records and files, and demonstrate how they are applied as components of programs and applications
55	to present and use index file structures, including key organizations
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
57	to provide the foundations for applications of data structures and file processing techniques
58	to present and ensure problem solving involving files and database representations
59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
60	to continue the development of programming techniques, particularly in the design, testing and debugging of IS related programs of some complexity
61	to develop an awareness of the relative capabilities and limitations of most common programming languages
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
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83	to develop quality metrics for assessment of software development and project control of software development
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87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
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92	to develop skill with application and physical implementation of database systems, using a programming environment
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
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1.1.3	*Algorithmic Design, Data, Object and File Structures*
3	to introduce the concepts of problem solving within the context of information systems of limited complexity using standard knowledge work software packages
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
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50	to present modular design, cohesion, and coupling concepts
51	to present a systems view of verification and validation
52	to present and expose students to a variety of programming environments, development tools and graphics development environments
53	to introduce the concepts and techniques used to represent and operate on data and file structures, with simple examples
54	to explain how to develop structures using abstract data types representing arrays, lists, trees, records and files, and demonstrate how they are applied as components of programs and applications
55	to present and use index file structures, including key organizations
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
57	to provide the foundations for applications of data structures and file processing techniques
58	to present and ensure problem solving involving files and database representations
59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
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61	to develop an awareness of the relative capabilities and limitations of most common programming languages
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1.1.4	*Problem Solving-identify problems, systems concepts, creativity*
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13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
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49	to present object implementation concepts
50	to present modular design, cohesion, and coupling concepts
51	to present a systems view of verification and validation
52	to present and expose students to a variety of programming environments, development tools and graphics development environments
53	to introduce the concepts and techniques used to represent and operate on data and file structures, with simple examples
54	to explain how to develop structures using abstract data types representing arrays, lists, trees, records and files, and demonstrate how they are applied as components of programs and applications
55	to present and use index file structures, including key organizations
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
57	to provide the foundations for applications of data structures and file processing techniques
58	to present and ensure problem solving involving files and database representations
59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
60	to continue the development of programming techniques, particularly in the design, testing and debugging of IS related programs of some complexity
61	to develop an awareness of the relative capabilities and limitations of most common programming languages
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
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90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
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95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
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	104	to understand the different programming environments available for business application development
	110	to determine and analyze a significant problem using the systems approach to problem solving
	111	to develop requirements and specifications for a database requiring multi-user information system
1.1.5		*Client Server Software Development*
	3	to introduce the concepts of problem solving within the context of information systems of limited complexity using standard knowledge work software packages
	13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
	13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
	13.11	to introduce and develop the process of algorithm and structured code development
	13.12	to introduce the purpose and develop ability to use a relational database software package
	13.13	to introduce and develop ability to design and implement a graphical user interface facility
	13.14	to present the prototype process, and to introduce and apply the concepts of evaluation and evolutionary refinement to personal application prototypes
	18	to discuss how an information system is developed and managed within an organization
	19	to present and discuss the relevance of the cognitive process and human interactions in information system design and implementation
	42	to present the concept that data is a representation and measurement of real-world events
	43	to show and explain the logical and physical structure of data to represent characters, records, files, and multimedia objects
	44	to explain the concepts of classes, abstract data types (ADT), and objects
	45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
	46	to present a systems view of object representations and compare with data flow models
	47	to develop skills in developing an algorithmic solution to a problem and be able to represent it with appropriate program and data objects
	48	to present top-down implementation strategies
	49	to present object implementation concepts
	50	to present modular design, cohesion, and coupling concepts
	51	to present a systems view of verification and validation
	52	to present and expose students to a variety of programming environments, development tools and graphics development environments
	53	to introduce the concepts and techniques used to represent and operate on data and file structures, with simple examples
	54	to explain how to develop structures using abstract data types representing arrays, lists, trees, records and files, and demonstrate how they are applied as components of programs and applications
	55	to present and use index file structures, including key organizations
	56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
	57	to provide the foundations for applications of data structures and file processing techniques
	58	to present and ensure problem solving involving files and database representations
	59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
	60	to continue the development of programming techniques, particularly in the design, testing and debugging of IS related programs of some complexity
	61	to develop an awareness of the relative capabilities and limitations of most common programming languages
	68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
	78	to show students how to analyze organizational systems to determine how the systems might be improved
	80	to demonstrate and analyze small group dynamics as related to working with users
	81	to develop application skills for implementing databases and applications by operating and testing these databases
	82	to present and use complexity metrics to assess developed solutions
	83	to develop quality metrics for assessment of software development and project control of software development
	84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
	86	to discuss the importance of finding synergistic solutions with team and clients
	87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
	90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
	91	to develop skills with application and structuring of database management systems
	92	to develop skill with application and physical implementation of database systems, using a programming environment
	94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
	95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
	96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
	98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
	99	to show how to develop a physical work-flow plan with a client
	100	to develop skill in analysis, design, and development of application software using a programming environment

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101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
104	to understand the different programming environments available for business application development
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
1.2 **Web Development**	
1.2.1	*Web page Development-HTML, page editors, tools*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.15	to present foundation technologies and define importance in future information technology capabilities
18	to discuss how an information system is developed and managed within an organization
19	to present and discuss the relevance of the cognitive process and human interactions in information system design and implementation
24	to explain physical systems and work flow and how information systems relate to organizational systems
52	to present and expose students to a variety of programming environments, development tools and graphics development environments
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
58	to present and ensure problem solving involving files and database representations
59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
61	to develop an awareness of the relative capabilities and limitations of most common programming languages
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
78	to show students how to analyze organizational systems to determine how the systems might be improved
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
86	to discuss the importance of finding synergistic solutions with team and clients
90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
93	to develop skills with use of a combination of code generators and language facilities to implement multi-user departmental or simple enterprise level systems
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
104	to understand the different programming environments available for business application development
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
1.2.2	*Web programming-thin client, asp, ODBC, CGI, E-commerce*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.15	to present foundation technologies and define importance in future information technology capabilities
18	to discuss how an information system is developed and managed within an organization
19	to present and discuss the relevance of the cognitive process and human interactions in information system design and implementation
24	to explain physical systems and work flow and how information systems relate to organizational systems
52	to present and expose students to a variety of programming environments, development tools and graphics development environments
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
58	to present and ensure problem solving involving files and database representations
59	to present and develop useful structured file (database) editors, posting mechanisms, and reports (simple, control break)
61	to develop an awareness of the relative capabilities and limitations of most common programming languages
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
78	to show students how to analyze organizational systems to determine how the systems might be improved
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
86	to discuss the importance of finding synergistic solutions with team and clients
90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications

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91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
93	to develop skills with use of a combination of code generators and language facilities to implement multi-user departmental or simple enterprise level systems
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
104	to understand the different programming environments available for business application development
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
1.3 **Database**	
1.3.1	*Modeling and design, construction, schema tools, DB Systems*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.12	to introduce the purpose and develop ability to use a relational database software package
15	to present and apply strategies for accessing and using information resources
24	to explain physical systems and work flow and how information systems relate to organizational systems
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
42	to present the concept that data is a representation and measurement of real-world events
43	to show and explain the logical and physical structure of data to represent characters, records, files, and multimedia objects
55	to present and use index file structures, including key organizations
58	to present and ensure problem solving involving files and database representations
81	to develop application skills for implementing databases and applications by operating and testing these databases
88	to develop skill with data modeling which describe databases
89	to develop awareness of the syntactical and theoretical differences between database models
90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
100	to develop skill in analysis, design, and development of application software using a programming environment
101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
103	to be able to develop program tests and system tests
122	to examine the process for development of information systems policies, procedures and standards in the organization
123	to investigate issues relative to managing the information systems function
125	to discuss outsourcing and alternate implementations of the IS function
1.3.2	*Triggers, Stored Procedures, Audit Controls: Design/Development*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.12	to introduce the purpose and develop ability to use a relational database software package
15	to present and apply strategies for accessing and using information resources
24	to explain physical systems and work flow and how information systems relate to organizational systems
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
42	to present the concept that data is a representation and measurement of real-world events
43	to show and explain the logical and physical structure of data to represent characters, records, files, and multimedia objects
55	to present and use index file structures, including key organizations
58	to present and ensure problem solving involving files and database representations

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91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
100	to develop skill in analysis, design, and development of application software using a programming environment
101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
103	to be able to develop program tests and system tests
122	to examine the process for development of information systems policies, procedures and standards in the organization
123	to investigate issues relative to managing the information systems function
125	to discuss outsourcing and alternate implementations of the IS function
1.3.3	*Administration: security, safety, backup, repairs, replicating*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.12	to introduce the purpose and develop ability to use a relational database software package
15	to present and apply strategies for accessing and using information resources
24	to explain physical systems and work flow and how information systems relate to organizational systems
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
42	to present the concept that data is a representation and measurement of real-world events
43	to show and explain the logical and physical structure of data to represent characters, records, files, and multimedia objects
55	to present and use index file structures, including key organizations
58	to present and ensure problem solving involving files and database representations
81	to develop application skills for implementing databases and applications by operating and testing these databases
88	to develop skill with data modeling which describe databases
89	to develop awareness of the syntactical and theoretical differences between database models
90	to develop skill in application of database systems development and retrieval facilities needed to facilitate creation of information system applications
91	to develop skills with application and structuring of database management systems
92	to develop skill with application and physical implementation of database systems, using a programming environment
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
100	to develop skill in analysis, design, and development of application software using a programming environment
101	to identify differences between a structured, event-driven, and object-oriented application design and explain the implications of these approaches to the design and development process
103	to be able to develop program tests and system tests
122	to examine the process for development of information systems policies, procedures and standards in the organization
123	to investigate issues relative to managing the information systems function
125	to discuss outsourcing and alternate implementations of the IS function
1.4 **Systems Integration**	
1.4.1	*Computer Systems Hardware*
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
7	to present hardware, software and related information technology concepts
29	to discuss outsourcing and alternate implementations of the IS function
32	to develop awareness and associated terminology of the different objects, media and devices necessary for telecommunications, including local (LAN) and wide area (WAN) networks
33	to develop an awareness of how telecommunication systems are used to support organization communication infrastructure including information systems, teleconferencing, and telecomputer conferencing
34	to explore the issues related to the economics, design and management of computer networks
35	to familiarize the student with the telecommunication standards and with regulatory organizations and their standards
36	to discuss and explain underlying principles and issues of distributed versus centralized computer systems

SkillSet Skill SubSkill	LearningUnit Goal
37	to present architectures, topologies, and protocols of telecommunications
38	to present the hardware and software components of telecommunications systems and how they are organized to provide required services
39	to provide awareness of the responsibilities inherent in providing telecommunication services, including security, privacy, reliability and performance
40	to explain how to install equipment necessary to implement a telecommunication system, e.g. cable, modems, ethernet connections, gateways, routers
41	to explain how to design, install, configure and manage a LAN
62	to explain in systems terms the fundamental characteristics and components of computer and telecommunications hardware, and system software, and demonstrate how these components interact
63	to provide an overview of peripheral devices and their function
64	to introduce the concepts of computer hardware architectures
65	to introduce the concepts of system software components and interactions
67	to introduce the major concepts in operating systems, including process definition, concurrent processing, memory management, scheduling, interrupt processing, security, and file systems
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
69	to discuss, explain and install multimedia facilities
70	to introduce the requirements for interoperability and systems integration
71	to install, configure and operate a multi-user operating system
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
110	to determine and analyze a significant problem using the systems approach to problem solving
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
1.4.2	*Networking (Lan/Wan) and Telecommunications*
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
7	to present hardware, software and related information technology concepts
29	to discuss outsourcing and alternate implementations of the IS function
32	to develop awareness and associated terminology of the different objects, media and devices necessary for telecommunications, including local (LAN) and wide area (WAN) networks
33	to develop an awareness of how telecommunication systems are used to support organization communication infrastructure including information systems, teleconferencing, and telecomputer conferencing
34	to explore the issues related to the economics, design and management of computer networks
35	to familiarize the student with the telecommunication standards and with regulatory organizations and their standards
36	to discuss and explain underlying principles and issues of distributed versus centralized computer systems
37	to present architectures, topologies, and protocols of telecommunications
38	to present the hardware and software components of telecommunications systems and how they are organized to provide required services
39	to provide awareness of the responsibilities inherent in providing telecommunication services, including security, privacy, reliability and performance
40	to explain how to install equipment necessary to implement a telecommunication system, e.g. cable, modems, ethernet connections, gateways, routers
41	to explain how to design, install, configure and manage a LAN
62	to explain in systems terms the fundamental characteristics and components of computer and telecommunications hardware, and system software, and demonstrate how these components interact
63	to provide an overview of peripheral devices and their function
64	to introduce the concepts of computer hardware architectures
65	to introduce the concepts of system software components and interactions
67	to introduce the major concepts in operating systems, including process definition, concurrent processing, memory management, scheduling, interrupt processing, security, and file systems
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
69	to discuss, explain and install multimedia facilities
70	to introduce the requirements for interoperability and systems integration
71	to install, configure and operate a multi-user operating system
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
110	to determine and analyze a significant problem using the systems approach to problem solving
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
1.4.3	*Operating Systems Management-multi platforms/protocols, NT/Unix*

SkillSet Skill	SubSkill	LearningUnit Goal
	2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
	7	to present hardware, software and related information technology concepts
	29	to discuss outsourcing and alternate implementations of the IS function
	32	to develop awareness and associated terminology of the different objects, media and devices necessary for telecommunications, including local (LAN) and wide area (WAN) networks
	33	to develop an awareness of how telecommunication systems are used to support organization communication infrastructure including information systems, teleconferencing, and telecomputer conferencing
	34	to explore the issues related to the economics, design and management of computer networks
	35	to familiarize the student with the telecommunication standards and with regulatory organizations and their standards
	36	to discuss and explain underlying principles and issues of distributed versus centralized computer systems
	37	to present architectures, topologies, and protocols of telecommunications
	38	to present the hardware and software components of telecommunications systems and how they are organized to provide required services
	39	to provide awareness of the responsibilities inherent in providing telecommunication services, including security, privacy, reliability and performance
	40	to explain how to install equipment necessary to implement a telecommunication system, e.g. cable, modems, ethernet connections, gateways, routers
	41	to explain how to design, install, configure and manage a LAN
	62	to explain in systems terms the fundamental characteristics and components of computer and telecommunications hardware, and system software, and demonstrate how these components interact
	63	to provide an overview of peripheral devices and their function
	64	to introduce the concepts of computer hardware architectures
	65	to introduce the concepts of system software components and interactions
	67	to introduce the major concepts in operating systems, including process definition, concurrent processing, memory management, scheduling, interrupt processing, security, and file systems
	68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
	69	to discuss, explain and install multimedia facilities
	70	to introduce the requirements for interoperability and systems integration
	71	to install, configure and operate a multi-user operating system
	98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
	110	to determine and analyze a significant problem using the systems approach to problem solving
	116	to describe and explain life cycle concepts, and apply them to the course project
	122	to examine the process for development of information systems policies, procedures and standards in the organization
	124	to discuss issues pertinent to the management and transfer of emerging technologies
	125	to discuss outsourcing and alternate implementations of the IS function
1.4.4		*Computer Systems Software-OS fundamentals, resource mgt concepts*
	2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
	7	to present hardware, software and related information technology concepts
	29	to discuss outsourcing and alternate implementations of the IS function
	32	to develop awareness and associated terminology of the different objects, media and devices necessary for telecommunications, including local (LAN) and wide area (WAN) networks
	33	to develop an awareness of how telecommunication systems are used to support organization communication infrastructure including information systems, teleconferencing, and telecomputer conferencing
	34	to explore the issues related to the economics, design and management of computer networks
	35	to familiarize the student with the telecommunication standards and with regulatory organizations and their standards
	36	to discuss and explain underlying principles and issues of distributed versus centralized computer systems
	37	to present architectures, topologies, and protocols of telecommunications
	38	to present the hardware and software components of telecommunications systems and how they are organized to provide required services
	39	to provide awareness of the responsibilities inherent in providing telecommunication services, including security, privacy, reliability and performance
	40	to explain how to install equipment necessary to implement a telecommunication system, e.g. cable, modems, ethernet connections, gateways, routers
	41	to explain how to design, install, configure and manage a LAN
	62	to explain in systems terms the fundamental characteristics and components of computer and telecommunications hardware, and system software, and demonstrate how these components interact
	63	to provide an overview of peripheral devices and their function
	64	to introduce the concepts of computer hardware architectures
	65	to introduce the concepts of system software components and interactions
	67	to introduce the major concepts in operating systems, including process definition, concurrent processing, memory management, scheduling, interrupt processing, security, and file systems
	68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
	69	to discuss, explain and install multimedia facilities

SkillSet Skill SubSkill LearningUnit	Goal
70	to introduce the requirements for interoperability and systems integration
71	to install, configure and operate a multi-user operating system
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
110	to determine and analyze a significant problem using the systems approach to problem solving
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
1.4.5	*LAN/WAN Design and Management*
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
7	to present hardware, software and related information technology concepts
29	to discuss outsourcing and alternate implementations of the IS function
32	to develop awareness and associated terminology of the different objects, media and devices necessary for telecommunications, including local (LAN) and wide area (WAN) networks
33	to develop an awareness of how telecommunication systems are used to support organization communication infrastructure including information systems, teleconferencing, and telecomputer conferencing
34	to explore the issues related to the economics, design and management of computer networks
35	to familiarize the student with the telecommunication standards and with regulatory organizations and their standards
36	to discuss and explain underlying principles and issues of distributed versus centralized computer systems
37	to present architectures, topologies, and protocols of telecommunications
38	to present the hardware and software components of telecommunications systems and how they are organized to provide required services
39	to provide awareness of the responsibilities inherent in providing telecommunication services, including security, privacy, reliability and performance
40	to explain how to install equipment necessary to implement a telecommunication system, e.g. cable, modems, ethernet connections, gateways, routers
41	to explain how to design, install, configure and manage a LAN
62	to explain in systems terms the fundamental characteristics and components of computer and telecommunications hardware, and system software, and demonstrate how these components interact
63	to provide an overview of peripheral devices and their function
64	to introduce the concepts of computer hardware architectures
65	to introduce the concepts of system software components and interactions
67	to introduce the major concepts in operating systems, including process definition, concurrent processing, memory management, scheduling, interrupt processing, security, and file systems
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
69	to discuss, explain and install multimedia facilities
70	to introduce the requirements for interoperability and systems integration
71	to install, configure and operate a multi-user operating system
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
110	to determine and analyze a significant problem using the systems approach to problem solving
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
1.4.6	*Systems Configuration, Operation, Administration*
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
7	to present hardware, software and related information technology concepts
29	to discuss outsourcing and alternate implementations of the IS function
32	to develop awareness and associated terminology of the different objects, media and devices necessary for telecommunications, including local (LAN) and wide area (WAN) networks
33	to develop an awareness of how telecommunication systems are used to support organization communication infrastructure including information systems, teleconferencing, and telecomputer conferencing
34	to explore the issues related to the economics, design and management of computer networks
35	to familiarize the student with the telecommunication standards and with regulatory organizations and their standards
36	to discuss and explain underlying principles and issues of distributed versus centralized computer systems
37	to present architectures, topologies, and protocols of telecommunications
38	to present the hardware and software components of telecommunications systems and how they are organized to provide required services
39	to provide awareness of the responsibilities inherent in providing telecommunication services, including security, privacy, reliability and performance
40	to explain how to install equipment necessary to implement a telecommunication system, e.g. cable, modems, ethernet connections, gateways, routers

SkillSet Skill SubSkill	LearningUnit Goal
41	to explain how to design, install, configure and manage a LAN
62	to explain in systems terms the fundamental characteristics and components of computer and telecommunications hardware, and system software, and demonstrate how these components interact
63	to provide an overview of peripheral devices and their function
64	to introduce the concepts of computer hardware architectures
65	to introduce the concepts of system software components and interactions
67	to introduce the major concepts in operating systems, including process definition, concurrent processing, memory management, scheduling, interrupt processing, security, and file systems
68	to introduce a variety of operating environments (traditional, GUI, multimedia) and resource requirements
69	to discuss, explain and install multimedia facilities
70	to introduce the requirements for interoperability and systems integration
71	to install, configure and operate a multi-user operating system
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
110	to determine and analyze a significant problem using the systems approach to problem solving
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
2.0 Organizational and Professional Skills	
2.1 **Business Fundamentals**	
2.1.1	*Learning Business Process and Enviroment*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.15	to present foundation technologies and define importance in future information technology capabilities
13.16	to identify, investigate, analyze, design, and develop with packages (and/or high level languages) a single personal level information system applications to enhance individual productivity.
23	to discuss a systems based role for management, users and designers
27	to demonstrate specific classes of application systems including TPS and DSS
29	to discuss outsourcing and alternate implementations of the IS function
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
123	to investigate issues relative to managing the information systems function
125	to discuss outsourcing and alternate implementations of the IS function
2.1.2	*Accounting, Distribution, Finance, HR, Marketing, Production*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.15	to present foundation technologies and define importance in future information technology capabilities
13.16	to identify, investigate, analyze, design, and develop with packages (and/or high level languages) a single personal level information system applications to enhance individual productivity.
23	to discuss a systems based role for management, users and designers
27	to demonstrate specific classes of application systems including TPS and DSS
29	to discuss outsourcing and alternate implementations of the IS function
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks

SkillSet Skill SubSkill	LearningUnit Goal
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
123	to investigate issues relative to managing the information systems function
125	to discuss outsourcing and alternate implementations of the IS function
2.1.3	*Business Problems and Appropriate Technical Solutions*
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.15	to present foundation technologies and define importance in future information technology capabilities
13.16	to identify, investigate, analyze, design, and develop with packages (and/or high level languages) a single personal level information system applications to enhance individual productivity.
23	to discuss a systems based role for management, users and designers
27	to demonstrate specific classes of application systems including TPS and DSS
29	to discuss outsourcing and alternate implementations of the IS function
56	to explain a variety of fundamental structures that are building blocks for the development of programs and IS applications
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
123	to investigate issues relative to managing the information systems function
125	to discuss outsourcing and alternate implementations of the IS function
2.2	**Individual and Team Interpersonal Skill**
2.2.1	*Learning to learn*
10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
12	to present and discuss the professional and ethical responsibilities of the IS practitioner
20	to discuss how individuals make decisions and set and achieve goals
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
85	to explain the use of a professional code of ethics to evaluate specific IS actions
86	to discuss the importance of finding synergistic solutions with team and clients
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
99	to show how to develop a physical work-flow plan with a client
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
118	to discuss and apply the concept of life-long learning
119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
123	to investigate issues relative to managing the information systems function
124	to discuss issues pertinent to the management and transfer of emerging technologies
126	to discuss management of time and interpersonal relations
2.2.2	*Professionalism-self directed, leadership, time mgt*
10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
12	to present and discuss the professional and ethical responsibilities of the IS practitioner
20	to discuss how individuals make decisions and set and achieve goals

SkillSet Skill SubSkill	LearningUnit	Goal
	31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
	79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
	85	to explain the use of a professional code of ethics to evaluate specific IS actions
	86	to discuss the importance of finding synergistic solutions with team and clients
	94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
	99	to show how to develop a physical work-flow plan with a client
	106	to further develop and practice essential project management skills
	107	to develop skill in use of project management tools and methods within the context of an information systems project
	112	to develop a functional understanding of proactive principled behavior and time management
	113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
	114	to ensure goal setting and alignment of team activities with project obligations
	117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
	118	to discuss and apply the concept of life-long learning
	119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
	120	to present and explain project team conposition for development and opertion phases
	121	to present and explain the evolving leadership role of information management in organizations
	123	to investigate issues relative to managing the information systems function
	124	to discuss issues pertinent to the management and transfer of emerging technologies
	126	to discuss management of time and interpersonal relations
2.2.3		*Personal Skills-encouraging, listening, being organized*
	10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
	12	to present and discuss the professional and ethical responsibilities of the IS practitioner
	20	to discuss how individuals make decisions and set and achieve goals
	31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
	79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
	85	to explain the use of a professional code of ethics to evaluate specific IS actions
	86	to discuss the importance of finding synergistic solutions with team and clients
	94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
	99	to show how to develop a physical work-flow plan with a client
	106	to further develop and practice essential project management skills
	107	to develop skill in use of project management tools and methods within the context of an information systems project
	112	to develop a functional understanding of proactive principled behavior and time management
	113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
	114	to ensure goal setting and alignment of team activities with project obligations
	117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
	118	to discuss and apply the concept of life-long learning
	119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
	120	to present and explain project team conposition for development and opertion phases
	121	to present and explain the evolving leadership role of information management in organizations
	123	to investigate issues relative to managing the information systems function
	124	to discuss issues pertinent to the management and transfer of emerging technologies
	126	to discuss management of time and interpersonal relations
2.2.4		*Professionalism-committing to and completing work*
	10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
	12	to present and discuss the professional and ethical responsibilities of the IS practitioner
	20	to discuss how individuals make decisions and set and achieve goals
	31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
	79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
	85	to explain the use of a professional code of ethics to evaluate specific IS actions

SkillSet Skill SubSkill	LearningUnit Goal
86	to discuss the importance of finding synergistic solutions with team and clients
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
99	to show how to develop a physical work-flow plan with a client
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
118	to discuss and apply the concept of life-long learning
119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
123	to investigate issues relative to managing the information systems function
124	to discuss issues pertinent to the management and transfer of emerging technologies
126	to discuss management of time and interpersonal relations
2.2.5	*Teams-team building, vision/mission development, synergy*
10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
12	to present and discuss the professional and ethical responsibilities of the IS practitioner
20	to discuss how individuals make decisions and set and achieve goals
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
85	to explain the use of a professional code of ethics to evaluate specific IS actions
86	to discuss the importance of finding synergistic solutions with team and clients
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
99	to show how to develop a physical work-flow plan with a client
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
118	to discuss and apply the concept of life-long learning
119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
123	to investigate issues relative to managing the information systems function
124	to discuss issues pertinent to the management and transfer of emerging technologies
126	to discuss management of time and interpersonal relations
2.2.6	*Communication-oral, written, multimedia, empathetic listening*
10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
12	to present and discuss the professional and ethical responsibilities of the IS practitioner
20	to discuss how individuals make decisions and set and achieve goals
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
85	to explain the use of a professional code of ethics to evaluate specific IS actions
86	to discuss the importance of finding synergistic solutions with team and clients
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
99	to show how to develop a physical work-flow plan with a client
106	to further develop and practice essential project management skills

SkillSet Skill SubSkill	LearningUnit Goal
107	to develop skill in use of project management tools and methods within the context of an information systems project
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
118	to discuss and apply the concept of life-long learning
119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
123	to investigate issues relative to managing the information systems function
124	to discuss issues pertinent to the management and transfer of emerging technologies
126	to discuss management of time and interpersonal relations
2.2.7	*Ethics-theory/concepts,setting an ethical example*
10	to explain the concepts of individual decision making, goal setting, trustworthiness and empowerment
12	to present and discuss the professional and ethical responsibilities of the IS practitioner
20	to discuss how individuals make decisions and set and achieve goals
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
85	to explain the use of a professional code of ethics to evaluate specific IS actions
86	to discuss the importance of finding synergistic solutions with team and clients
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
99	to show how to develop a physical work-flow plan with a client
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
118	to discuss and apply the concept of life-long learning
119	to discuss and explain ethical and legal principles and issues; to discuss and explain ethical considerations of information systems development, planning, implementation, usage, sales, distribution, operation and maintenance
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
123	to investigate issues relative to managing the information systems function
124	to discuss issues pertinent to the management and transfer of emerging technologies
126	to discuss management of time and interpersonal relations
3.0 Strategic Organizational Systems Development with IS	
3.1 **Organizational Systems Development**	
3.1.1	*Strategic Utilization of Information Technology*
1	to introduce systems and information technology definitions and concepts to novice users
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
4	to introduce the relevance and application of information technology in society
5	to introduce systems and quality concepts
6	to provide an introduction to the organizational uses of information to improve overall quality
8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.15	to present foundation technologies and define importance in future information technology capabilities
16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
17	to show how an information system is a strategic and integral component of an organization
18	to discuss how an information system is developed and managed within an organization

SkillSet Skill SubSkill	LearningUnit Goal
21	to discuss the Simon Model of organizational decision making and its support by IS
22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
23	to discuss a systems based role for management, users and designers
24	to explain physical systems and work flow and how information systems relate to organizational systems
25	to present other organizational models and their relevance to IS
26	to discuss the relationship of IS planning to organizational planning
27	to demonstrate specific classes of application systems including TPS and DSS
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
29	to discuss outsourcing and alternate implementations of the IS function
30	to discuss performance evaluation consistent with quality management and continuous improvement
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
74	to show how to collect and structure information in the development of requirements and specifications
75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
77	to show how to assess risks and feasibility
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
85	to explain the use of a professional code of ethics to evaluate specific IS actions
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
3.1.2	*IS Planning*
1	to introduce systems and information technology definitions and concepts to novice users
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
4	to introduce the relevance and application of information technology in society
5	to introduce systems and quality concepts
6	to provide an introduction to the organizational uses of information to improve overall quality
8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.15	to present foundation technologies and define importance in future information technology capabilities
16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
17	to show how an information system is a strategic and integral component of an organization
18	to discuss how an information system is developed and managed within an organization
21	to discuss the Simon Model of organizational decision making and its support by IS
22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
23	to discuss a systems based role for management, users and designers

SkillSet Skill SubSkill	LearningUnit Goal
24	to explain physical systems and work flow and how information systems relate to organizational systems
25	to present other organizational models and their relevance to IS
26	to discuss the relationship of IS planning to organizational planning
27	to demonstrate specific classes of application systems including TPS and DSS
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
29	to discuss outsourcing and alternate implementations of the IS function
30	to discuss performance evaluation consistent with quality management and continuous improvement
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
74	to show how to collect and structure information in the development of requirements and specifications
75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
77	to show how to assess risks and feasibility
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
85	to explain the use of a professional code of ethics to evaluate specific IS actions
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
3.1.3	*IT and Organizational Systems*
1	to introduce systems and information technology definitions and concepts to novice users
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
4	to introduce the relevance and application of information technology in society
5	to introduce systems and quality concepts
6	to provide an introduction to the organizational uses of information to improve overall quality
8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.15	to present foundation technologies and define importance in future information technology capabilities
16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
17	to show how an information system is a strategic and integral component of an organization
18	to discuss how an information system is developed and managed within an organization
21	to discuss the Simon Model of organizational decision making and its support by IS
22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
23	to discuss a systems based role for management, users and designers
24	to explain physical systems and work flow and how information systems relate to organizational systems
25	to present other organizational models and their relevance to IS
26	to discuss the relationship of IS planning to organizational planning

SkillSet Skill	SubSkill	LearningUnit Goal
	27	to demonstrate specific classes of application systems including TPS and DSS
	28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
	29	to discuss outsourcing and alternate implementations of the IS function
	30	to discuss performance evaluation consistent with quality management and continuous improvement
	31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
	45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
	46	to present a systems view of object representations and compare with data flow models
	72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
	74	to show how to collect and structure information in the development of requirements and specifications
	75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
	76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
	77	to show how to assess risks and feasibility
	78	to show students how to analyze organizational systems to determine how the systems might be improved
	80	to demonstrate and analyze small group dynamics as related to working with users
	81	to develop application skills for implementing databases and applications by operating and testing these databases
	82	to present and use complexity metrics to assess developed solutions
	85	to explain the use of a professional code of ethics to evaluate specific IS actions
	87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
	95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
	97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
	99	to show how to develop a physical work-flow plan with a client
	100	to develop skill in analysis, design, and development of application software using a programming environment
	105	to ensure skills needed to design a project development and implementation plan
	106	to further develop and practice essential project management skills
	110	to determine and analyze a significant problem using the systems approach to problem solving
	111	to develop requirements and specifications for a database requiring multi-user information system
	115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
	116	to describe and explain life cycle concepts, and apply them to the course project
	122	to examine the process for development of information systems policies, procedures and standards in the organization
	124	to discuss issues pertinent to the management and transfer of emerging technologies
	125	to discuss outsourcing and alternate implementations of the IS function
3.1.4		*Information Systems Analysis and Design*
	1	to introduce systems and information technology definitions and concepts to novice users
	2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
	4	to introduce the relevance and application of information technology in society
	5	to introduce systems and quality concepts
	6	to provide an introduction to the organizational uses of information to improve overall quality
	8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
	9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
	13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
	13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
	13.15	to present foundation technologies and define importance in future information technology capabilities
	16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
	17	to show how an information system is a strategic and integral component of an organization
	18	to discuss how an information system is developed and managed within an organization
	21	to discuss the Simon Model of organizational decision making and its support by IS
	22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
	23	to discuss a systems based role for management, users and designers
	24	to explain physical systems and work flow and how information systems relate to organizational systems
	25	to present other organizational models and their relevance to IS
	26	to discuss the relationship of IS planning to organizational planning
	27	to demonstrate specific classes of application systems including TPS and DSS
	28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches

SkillSet Skill SubSkill	LearningUnit Goal
29	to discuss outsourcing and alternate implementations of the IS function
30	to discuss performance evaluation consistent with quality management and continuous improvement
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
74	to show how to collect and structure information in the development of requirements and specifications
75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
77	to show how to assess risks and feasibility
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
85	to explain the use of a professional code of ethics to evaluate specific IS actions
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
3.1.5	*Decision Making*
1	to introduce systems and information technology definitions and concepts to novice users
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
4	to introduce the relevance and application of information technology in society
5	to introduce systems and quality concepts
6	to provide an introduction to the organizational uses of information to improve overall quality
8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.15	to present foundation technologies and define importance in future information technology capabilities
16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
17	to show how an information system is a strategic and integral component of an organization
18	to discuss how an information system is developed and managed within an organization
21	to discuss the Simon Model of organizational decision making and its support by IS
22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
23	to discuss a systems based role for management, users and designers
24	to explain physical systems and work flow and how information systems relate to organizational systems
25	to present other organizational models and their relevance to IS
26	to discuss the relationship of IS planning to organizational planning
27	to demonstrate specific classes of application systems including TPS and DSS
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
29	to discuss outsourcing and alternate implementations of the IS function
30	to discuss performance evaluation consistent with quality management and continuous improvement

SkillSet Skill SubSkill	LearningUnit Goal
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
74	to show how to collect and structure information in the development of requirements and specifications
75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
77	to show how to assess risks and feasibility
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
85	to explain the use of a professional code of ethics to evaluate specific IS actions
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
3.1.6	*Systems Concepts, Use of IT, Customer Service*
1	to introduce systems and information technology definitions and concepts to novice users
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
4	to introduce the relevance and application of information technology in society
5	to introduce systems and quality concepts
6	to provide an introduction to the organizational uses of information to improve overall quality
8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.15	to present foundation technologies and define importance in future information technology capabilities
16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
17	to show how an information system is a strategic and integral component of an organization
18	to discuss how an information system is developed and managed within an organization
21	to discuss the Simon Model of organizational decision making and its support by IS
22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
23	to discuss a systems based role for management, users and designers
24	to explain physical systems and work flow and how information systems relate to organizational systems
25	to present other organizational models and their relevance to IS
26	to discuss the relationship of IS planning to organizational planning
27	to demonstrate specific classes of application systems including TPS and DSS
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
29	to discuss outsourcing and alternate implementations of the IS function
30	to discuss performance evaluation consistent with quality management and continuous improvement
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power

SkillSet Skill SubSkill LearningUnit	Goal
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
74	to show how to collect and structure information in the development of requirements and specifications
75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
77	to show how to assess risks and feasibility
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
85	to explain the use of a professional code of ethics to evaluate specific IS actions
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
3.1.7	*Systems Theory and Quality Concepts*
1	to introduce systems and information technology definitions and concepts to novice users
2	to develop skill to effectively use standard knowledge work software packages (operating system and user interface, word processing, spreadsheet, database, statistics and data management, presentation graphics, and communications)
4	to introduce the relevance and application of information technology in society
5	to introduce systems and quality concepts
6	to provide an introduction to the organizational uses of information to improve overall quality
8	to provide concepts and skills for the specification and design or the re-engineering of organizationally related systems of limited scope using information technology
9	to show how information technology can be used to design, facilitate and communicate organizational goals and objectives
13	to identify, investigate, analyze, design, develop with either with packages (and/or high level languages) and use personal level information systems to enhance individual productivity
13.1	to introduce and explore software development approaches, then explain the goals and strategies of procedural, event driven, and object oriented programming paradigms
13.15	to present foundation technologies and define importance in future information technology capabilities
16	to introduce, discuss and describe fundamental concepts of IS theory and it's importance to practitioners
17	to show how an information system is a strategic and integral component of an organization
18	to discuss how an information system is developed and managed within an organization
21	to discuss the Simon Model of organizational decision making and its support by IS
22	to introduce systems theory, quality, and organizational modeling and demonstrate their relevance to information systems
23	to discuss a systems based role for management, users and designers
24	to explain physical systems and work flow and how information systems relate to organizational systems
25	to present other organizational models and their relevance to IS
26	to discuss the relationship of IS planning to organizational planning
27	to demonstrate specific classes of application systems including TPS and DSS
28	to discuss and examine the process, standards and policies for development of information systems: development methodologies, life cycle, workflow, OOA, prototyping, spiral, end-user and other approaches
29	to discuss outsourcing and alternate implementations of the IS function
30	to discuss performance evaluation consistent with quality management and continuous improvement
31	to introduce the societal implications of IS and related ethical issues; to introduce and explore ethical concepts and issues relating to personal and professional behavior; to introduce, compare and contrast ethical models and approaches; to explore ethical and social analysis skills; to consider the nature and existence of power
45	to explain and illustrate with IS examples of formal synthetic and analytic problem solving
46	to present a systems view of object representations and compare with data flow models
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems

SkillSet Skill SubSkill	LearningUnit Goal
74	to show how to collect and structure information in the development of requirements and specifications
75	to show how to develop a logical design, and develop and analyze alternatives involving implementation using packages, tailoring of packages, constructing software, or CASE tools
76	to develop a functional understanding of rapid prototyping and other similar alternative mechanisms for rapid development of information systems
77	to show how to assess risks and feasibility
78	to show students how to analyze organizational systems to determine how the systems might be improved
80	to demonstrate and analyze small group dynamics as related to working with users
81	to develop application skills for implementing databases and applications by operating and testing these databases
82	to present and use complexity metrics to assess developed solutions
85	to explain the use of a professional code of ethics to evaluate specific IS actions
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
95	to show how to design a conceptual relational database model and logical data base model, convert the logical database designs to physical designs, develop the physical database, and generate test data
97	to show how to develop a conversion and installation plan, develop a hardware systems and environmental plan
99	to show how to develop a physical work-flow plan with a client
100	to develop skill in analysis, design, and development of application software using a programming environment
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
110	to determine and analyze a significant problem using the systems approach to problem solving
111	to develop requirements and specifications for a database requiring multi-user information system
115	to describe interactions with higher levels of management in selling project objectives and performing project management tasks
116	to describe and explain life cycle concepts, and apply them to the course project
122	to examine the process for development of information systems policies, procedures and standards in the organization
124	to discuss issues pertinent to the management and transfer of emerging technologies
125	to discuss outsourcing and alternate implementations of the IS function
3.2 **Project Management**	
3.2.1	*Team Leading, Project Goal Setting*
30	to discuss performance evaluation consistent with quality management and continuous improvement
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
80	to demonstrate and analyze small group dynamics as related to working with users
82	to present and use complexity metrics to assess developed solutions
83	to develop quality metrics for assessment of software development and project control of software development
84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
86	to discuss the importance of finding synergistic solutions with team and clients
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
108	to select the proper project management tools and demonstrate their use
109	to initiate, design, implement and discuss project close down
110	to determine and analyze a significant problem using the systems approach to problem solving
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
116	to describe and explain life cycle concepts, and apply them to the course project
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
126	to discuss management of time and interpersonal relations
127	to discuss performance evaluation consistent with quality management and continuous improvement
3.2.2	*Monitor and Direct Resources and Activities*
30	to discuss performance evaluation consistent with quality management and continuous improvement

SkillSet Skill SubSkill	LearningUnit Goal
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
80	to demonstrate and analyze small group dynamics as related to working with users
82	to present and use complexity metrics to assess developed solutions
83	to develop quality metrics for assessment of software development and project control of software development
84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
86	to discuss the importance of finding synergistic solutions with team and clients
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
108	to select the proper project management tools and demonstrate their use
109	to initiate, design, implement and discuss project close down
110	to determine and analyze a significant problem using the systems approach to problem solving
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
116	to describe and explain life cycle concepts, and apply them to the course project
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
126	to discuss management of time and interpersonal relations
127	to discuss performance evaluation consistent with quality management and continuous improvement
3.2.3	*Coordinate Life Cycle Scheduling and Planning*
30	to discuss performance evaluation consistent with quality management and continuous improvement
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
80	to demonstrate and analyze small group dynamics as related to working with users
82	to present and use complexity metrics to assess developed solutions
83	to develop quality metrics for assessment of software development and project control of software development
84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
86	to discuss the importance of finding synergistic solutions with team and clients
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
108	to select the proper project management tools and demonstrate their use
109	to initiate, design, implement and discuss project close down
110	to determine and analyze a significant problem using the systems approach to problem solving
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
116	to describe and explain life cycle concepts, and apply them to the course project
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
126	to discuss management of time and interpersonal relations
127	to discuss performance evaluation consistent with quality management and continuous improvement

SkillSet Skill SubSkill	LearningUnit Goal
3.2.4	*Apply concepts of continuous improvement*
30	to discuss performance evaluation consistent with quality management and continuous improvement
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
80	to demonstrate and analyze small group dynamics as related to working with users
82	to present and use complexity metrics to assess developed solutions
83	to develop quality metrics for assessment of software development and project control of software development
84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
86	to discuss the importance of finding synergistic solutions with team and clients
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
108	to select the proper project management tools and demonstrate their use
109	to initiate, design, implement and discuss project close down
110	to determine and analyze a significant problem using the systems approach to problem solving
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
116	to describe and explain life cycle concepts, and apply them to the course project
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
120	to present and explain project team conposition for development and opertion phases
121	to present and explain the evolving leadership role of information management in organizations
126	to discuss management of time and interpersonal relations
127	to discuss performance evaluation consistent with quality management and continuous improvement
3.2.5	*Project Scheduling and Tracking*
30	to discuss performance evaluation consistent with quality management and continuous improvement
72	to present necessary concepts to provide the skills necessary to do the analysis, modeling, and definition of information systems problems
79	to develop skills for effective interpersonal communication to develop consensus using classical techniques as well as computer facilitated groupware
80	to demonstrate and analyze small group dynamics as related to working with users
82	to present and use complexity metrics to assess developed solutions
83	to develop quality metrics for assessment of software development and project control of software development
84	to develop quality metrics for assessment of customer satisfaction at all phases of the life cycle
86	to discuss the importance of finding synergistic solutions with team and clients
87	to show how to develop agreements describing work to be done, and to commit, rigorously complete and self- evaluate agreed work
94	to provide an opportunity to develop and use project management, project standards, and a system implementation plan, and to implement a documentation plan
96	to provide opportunity to develop functional specifications for an information system, develop a detailed information system design, and develop information system application controls
98	to show how to develop detailed program specifications, develop programs, set up system test parameters, install and test the new system, implement the conversion plan, employ configuration management
105	to ensure skills needed to design a project development and implementation plan
106	to further develop and practice essential project management skills
107	to develop skill in use of project management tools and methods within the context of an information systems project
108	to select the proper project management tools and demonstrate their use
109	to initiate, design, implement and discuss project close down
110	to determine and analyze a significant problem using the systems approach to problem solving
112	to develop a functional understanding of proactive principled behavior and time management
113	to ensure attitudes necessary to successful team behavior including empathetic listening, consensus negotiation, conflict resolution, and synergistic solution finding, and to apply the concept of commitment and rigorous completion
114	to ensure goal setting and alignment of team activities with project obligations
116	to describe and explain life cycle concepts, and apply them to the course project
117	to show how to present a system design, test plan, implementation plan, and evaluation, in written and oral form
120	to present and explain project team conposition for development and opertion phases

SkillSet	Skill	SubSkill	LearningUnit Goal
		121	to present and explain the evolving leadership role of information management in organizations
		126	to discuss management of time and interpersonal relations
		127	to discuss performance evaluation consistent with quality management and continuous improvement