CURRICULUM COMMITTEE
February 3, 2012
Minutes

Present: Diane Brice, Carol Buse, Craig Clifton, Tamara Clunis, Matt Craig, Bill Crawford, Kim Davis, Shawn Fouts, Matthew Goodman, Judy Massie, Jerry Moller, Carol Moore, Jason Norman, John Robertson, Mark Usnick

Absent: Bob Austin, Kathy Wetzel, Henry Wyckoff

Others Present: Kim Crowley, Tamra Rocsko

CONTINUING EDUCATION
Massage Therapy

Kim Crowley submitted a request to pursue the development of a Continuing Education certificate in Massage Therapy.

Austin moved, seconded by Moller and supported by the committee to approve the proposal for Amarillo College to pursue a certificate in Massage Therapy. The motion carried.

ARTS & SCIENCES
ACGM Course Updates

A request was submitted to update the course descriptions and learning outcomes based on course changes in the ACGM for the following courses:

- GOVT 2305: Government of the United States
- GOVT 2306: Government of Texas
- ENGL 1301: Freshman Composition I
- ENGL 1302: Freshman Composition II
- ENGL 2311: Technical Writing
- ENGL 2327: American Literature: Beginnings to the Civil War
- ENGL 2328: American Literature: Civil War to the Present
- ENGL 2322: Masterworks of English
- ENGL 2323: Masterworks of English
- ENGL 2331: Literature of the Non-Western World
- ENGL 2332: Literature of the Western World
- ENGL 2333: Literature of the Western World
- HIST 1301: History of the United States I
- HIST 1302: History of the United States II
- HIST 2311: Western Civilization
- HIST 2322: Comparative World History Since 1500
- ECON 1301: Introduction to Economics
- ECON 2301: Principles of Economics I

- ECON 2302: Principles of Economics II
- MATH 1314: College Algebra
- MATH 2412: Precalculus
- MATH 1316: Trigonometry
- MATH 1342: Statistics
- MATH 2305: Discrete Mathematics
- MATH 2318: Linear Algebra
- MATH 2320: Differential Equations
- MATH 2413: Calculus I
- MATH 2414: Calculus II
- MATH 2415: Calculus III
- ENGR 1307: Surveying
- ENGR 2305: Electrical Circuits

Moller moved, seconded by Crawford to update the course descriptions and learning outcomes of the ACGM courses. Pre-requisites will be reviewed at a later time. The motion carried.

CTE
Computer Information Systems

Carol Buse submitted a request to delete the following courses from the course inventory:

- COSC 1300: Introduction to Computing
- ITNW 1280: Computer Systems Networking and Telecommunications
- ITSC 1402: Computer Control Language
- ITSC 1411: AS/400 Operating Systems I
- ITSC 2335: Application Software Problem Solving
- ITSE 1414: Introduction to RPG Programming
- ITSE 2386: Internship – Computer Programming
- CPMT 1305: IT Essentials: PC hardware and Software

Add the following courses to the AC course inventory:

- CPMT 1351: IT Essentials: PC hardware and Software
  Prerequisite: BCIS 1305 or instructor consent
  An introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology (ICT) professionals. The curriculum covers the fundamentals of PC technology, networking and security, and also provides an introduction to advanced concepts. Hands-on labs and Virtual Laptop and Virtual Desktop learning tools help students develop critical thinking and complex problem-solving skills. Cisco Packet Tracer simulation-based learning activities promote the exploration of network and networking security concepts and allow students to experiment with network behavior.

(3 sem hrs; 2 lec, 3 lab)
Outcomes:
Describe the internal components of a computer; assemble a computer system; install and operating system; and troubleshoot using system tools and diagnostic software.

- ITSC 2435: Application Software Problem Solving
  Prerequisite: BCIS 1305
  Utilization of appropriate application software to solve advanced problems and generate customized solutions.
  (4 sem hrs; 3 lec, 2 lab)
- ITSE 1391: Special Topics in Computer Programming
  Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.
  (3 sem hrs; 2 lec, 3 lab)
  Outcomes:
  Learning outcomes/objectives are determined by local occupational need and business and industry trends.
- ITSY 2341: Security Management Practices
  In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan.
  (3 sem hrs; 2 lec, 3 lab)
  Outcomes:
  Develop a security plan; establish suitable level of protection; determine legal issues; implement network security design; and revise risk analysis and security plan.

Update the course titles, descriptions and/or prerequisites for the following courses:

- CPMT 1443: Microcomputer Architecture
  Computer characteristics and subsystem operations, timing, control circuits and internal input/output controls.
  Outcomes:
  Identify and describe the operation of various systems architecture; install, configure and troubleshoot microcomputer systems.
- CPMT 2349: Advanced Computer Networking Technology
  Network technology emphasizing network operating systems, network connectivity, hardware and software. Includes implementation, troubleshooting and maintenance of LAN and/or WAN network environments.
  Outcomes:

Create a complex network with multilevel access and security; provide routine maintenance; implement troubleshooting and diagnostic procedures.

- ITCC 1401: Cisco Exploration I – Network Fundamentals
  A course introducing the architecture, structure, functions, components and models of the internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.
- ITNW 1316: Network Administration
  Prerequisite: CPMT 1351
  An introduction to the basic concepts of network administration.
- ITSC 1407: UNIX Operating System I
  Prerequisite: None
  Introduction to the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands and writing script files. Includes introductory system management concepts.
  Outcomes:
  Use basic UNIX commands; apply terminal emulation; use a system editor; and manage individual user accounts and files.
- ITSE 1418: Introduction to COBOL Programming
  Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation and documentation. Includes language syntax, data and file structures, input/output devices and files.
- ITSE 2347: Advanced Database Programming
  Prerequisite: ITSE 2309
- ITSY 1342: Information Technology Security
  Instruction in security for network hardware, software and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.
  Outcomes:
  Employ the physical security of network infrastructure components using National Institute of Standards and Technology (NIST) Guidelines and other best practices; develop backup procedures to provide for data security; use network operating system features to implement network security; identify computer and network threats and vulnerabilities and methods to prevent their effects; use tools to enhance network security; and use encryption techniques to protect network data.
- ITSY 1400: Fundamentals of Information Security
  Prerequisite: CPMT 1351

Craig moved, seconded by Goodwin to approve course changes. The motion carried.

A request was submitted to update the Electronic Systems Networking Technology AAS degree (CETT.AAS.NT) as follows due to the internal restructuring of the Electronics Networking department:

- Update the program title from Electronics Systems Networking Technology to Computer Networking/Cyber-Security
- Replace CPMT 1443:Microcomputer Architecture with CPMT 1351: IT Essentials: PC Hardware and Software
- Replace QCTC 1303: Quality Control with ITSC 1407: UNIX Operating Systems I
- Adding ITSY 2341: Security Management Practices
- Increase the total from 63 to 66 semester hours

Austin moved, seconded by Davis to approve changes to the Electronic Systems Networking Technology AAS degree. The motion carried.

A request was submitted to update the Electronics Systems Networking Technology Certificate (CETT.CERT.NETWORK) as follows due to the internal restructuring of the Electronics Networking department:

- Update the program title from Electronics Systems Networking Technology Certificate to Computer Cyber-Security Certificate
- Update the program description to read:
    - This certificate prepares students to design and implement corporate security strategies, monitor and maintain network security, customize and optimize software and handle routine software/hardware maintenance. Courses utilize hands-on labs and aid the student in preparing to take the following certification exams: A+, CompTIA Network+, CompTIA Security+, CAP, CISSP.
- Delete the following courses:
    - CPMT 1443: Microcomputer Architecture
    - ITCC 1404: Cisco Exploration 2: Routing Protocols and Concepts
    - ITCC 2359: Advanced Voice over Internet Protocol (VOIP)
    - ITCC 2408: Cisco Exploration 3 – LAN Switching and Wireless
    - ITCC 2410: Cisco Exploration 4 – Accessing the WAN
    - ITSY 1317: Wireless Foundations
    - LOTT 1301: Introduction to Fiber Optics
    - QCTC 1303: Quality Control
- Add the following courses:
    - CPMT 1351: IT Essentials: PC Hardware and Software
    - ITSY 2341: Security Management Practices
    - BCIS 1305: Business Computer Applications
- Reduce the total from 41 to 22 semester hours

Crawford moved, seconded by Massie to approve changes to the Electronics Systems Networking Technology Certificate. The motion carried.

General Studies

Jason Norman submitted a request to add the following course to the major course requirements in the General Studies (GENS.AS) degree:

- EDUC 1300: First Year Seminar – Learning Framework

And reduce the number of Recommended Electives from 18 to 15 semester hours.

Usnick moved, seconded by Goodman to approve the addition of EDUC 1300 to the General Studies degree. The motion carried.

Curriculum Revision Request

Division: Continuing Education

Department / Program: Continuing Healthcare Education

Prepared By: Kim Crowley

Request

a. Requesting permission to pursue a Massage Therapy certificate program through Continuing Education. See Attachment.

b.

c.

d.

Rationale / Justification: Skills Shortage: EMSI (Economic Modeling Specialists, Inc) Skills Shortage Analysis identified a need for skilled massage therapists, with potential growth in employment of 23% between 2008 and 2018. This program will lead the student to a state license and a marketable skills certificate from Amarillo College.

Effects of Revisions

A. Faculty & Staff Requirements:	New faculty will be trained as instructors through a 30 hour CE program provided by Amarillo College CE Division.
B. Equipment/Facility Requirements:	No change in facilities. New equipment will be purchased.
C. Location:	Amarillo College West Campus Building A Room 208
D. Income prejections:	40% income over expenses after recoupment of start up costs. The class will not be run at a loss.

Effective Date: 08/27/2012

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	1013	Anatomy & Physiology for Massage	Active	0	64	128

Course Level: Introductory

Course Description: In-depth coverage of the structure and function of the human body. Includes cell structure and function, tissues, body organization, and the integumentary, skeletal, muscular, nervous, and endocrine systems. Emphasizes homeostasis/wellness care. Meets the minimum 75-contact-hour requirement for Anatomy and Physiology for licensure.

End-of-Course Outcomes:

1. Identify the anatomical structure of the human body
2. Explain the relationship of the structure of the body to the practice of massage therapy
3. Describe the processes, mechanisms, and functions of whole body systems; and explain the effects of massage therapy on the physiological functions of the human body.

Lecture Hours 55 Lab Hours 20 76

Licensure/Certification Agency: Department of State Health Services

Cross Reference(s): MSSG 1313/1413: Anatomy & Physiology for Massage

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	1011	Massage Therapy Fundamentals I	Active	0	96	128

Course Level: Introductory

Course Description: Introduction to the theory and the application of skills necessary to perform Swedish massage to meet the minimum 125-contact-hour requirement for licensure.

End-of-Course Outcomes:

1. Demonstrate proficiency in the skills necessary to perform Swedish massage therapy within the rules and regulations set by the regulatory agency.

Lecture Hours 25 Lab Hours 100 125

Licensure/Certification Agency: Department of State Health Services

Cross Reference(s): MSSG1411: Massage Therapy Fundamentals I

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	2014	Pathology for Massage	Active	2	32	64

Suggested Prerequisite: MSSG 1013/1313/1413: Anatomy & Physiology

Course Level: Intermediate

Course Description: General discussion of pathologies as they relate to massage therapy. Includes universal precautions and their management in professional practice. Also covers etiology, signs, symptoms, and the physiological and psychological reactions to disease and injury. Meets the minimum 40-contact-hour requirement for licensure.

End-of-Course Outcomes:

1. Differentiate between normal and pathological conditions of the client as they relate to indications and contraindications for massage therapy
2. Identify therapeutic approaches used by other health professionals as they relate to indications and contraindications for massage therapy
3. Identify and describe implementation of standard safety precautions as they relate to pathologies.

Lecture Hours 30 Lab Hours 10

Licensure/Certification Agency: Texas Department of State Health Services

Cross Reference(s): MSSG 2014: Pathology for Massage

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	1009	Health and Hygiene	Active	1	16	48

Course Level: Introductory

Course Description: The study of safety and sanitation practices including universal precautions. The importance of proper body mechanics, maintaining a healthy lifestyle, maintaining the massage environment, and the advantage of therapeutic relationships is also included. Meets the minimum 20-contact-hour requirement for licensure.

End-of-Course Outcomes:

1. Explain the need for universal precautions
2. Develop a health and safety plan

3. Exhibit proper personal hygiene
4. Demonstrate therapeutic interaction in various practice settings.

Lab Recommended Lecture 15 Lab 5

Licensure/Certification Agency: Department of State Health Services

Cross Reference(s): MSSG 1009: Health and Hygiene

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	2011	Massage Therapy Fundamentals II	Active	0	64	128

Suggested Prerequisite: MSSG 1011/1411: Massage Therapy Fudamentals I

Course Level: Intermediate

Course Description: A continuation of Massage Therapy Fundamentals I. Emphasizes specialized techniques and assessment of client needs to identify a specific plan of care. Completes the requirements for Massage Techniques for licensure.

End-of-Course Outcomes:

1. Refine previously learned techniques
2. Investigate treatment protocols utilizing proven, outcome-based techniques
3. Perform thorough client assessments
4. Create treatment plans using carefully selected techniques for the given pathology
5. Implement supplementary care as prescribed by a licensed healthcare professional.

Lecture Hours 20 Lab Hours 55

Licensure/Certification Agency: Texas Department of State Health Services

Cross Reference(s): MSSG 2311: Massage Therapy Fundamentals II

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	1005	Hydrotherapy/Therapeutic Modalities	Active	0	16	48

Course Level: Introductory

Course Description: The use of accepted hydrotherapy and holistic healthcare modalities of external application of temperature for its reflexive effect. Meets the minimum 20-contact-hour requirement for licensure.

End-of-Course Outcomes:

1. Explain and demonstrate the proper use of hydrotherapy
2. Perform therapeutic modalities
3. Identify indications and contraindications
4. Apply appropriate safety precautions
5. Evaluate the effects of the application.

Lecture Hours 12 Lab Hours 8

Licensure/Certification Agency: Department of State Health Services

Cross Reference(s): MSSG 1105: Hydrotherapy/Therapeutic Modalities

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	2013	Kinesiology for Massage	Active	0	48	96

Suggested Prerequisite: MSSG 1013/1313/1413: Anatomy & Physiology

Course Level: Intermediate

Course Description: Applied study of human kinesiology. Muscle movements and dysfunctions will be discussed and palpated. Includes theory and practice of functional muscle testing. Meets the minimum 50-contact-hour requirement for licensure.

End-of-Course Outcomes:

1. Describe aspects of movement in relation to structural kinesiology
2. Palpate bony landmarks and major muscle attachments and describe their functions
3. Apply specific therapeutic approaches and assessment tools.

Lecture Hours 25 Lab Hours 25

Licensure/Certification Agency: Texas Department of State Health Services

Cross Reference(s): MSSG 2313/2413: Kinesiology for Massage

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	1007	Business Practices & Professional Ethics	Active	0	32	80

Course Level: Introductory

Course Description: The study of physical and financial office practices and marketing. Includes ethical practices for massage therapists as established by law or regulatory agency. Meets the minimum 45-contact-hour requirement for licensure.

End-of-Course Outcomes:

1. Identify laws and regulations directly related to the ethical and legal practice of massage therapy
2. Relate physical, financial, health, and business requirements to various practice settings.

Lecture Hours 40 Lab 5

Licensure/Certification Agency: Department of State Health Services

Cross Reference(s): MSSG 1207: Business Practices & Professional Ethics

CIP Code Description: 51.3501 (Massage Therapy/Therapeutic Massage)

Year: 2008

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
51.3501	MSSG	2086	Internship - Massage Therapy/Therapeutic Massage	Active	0	48	176

Course Level: Advanced

Course Description: A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and

the employer.

End-of-Course Outcomes:

1. Apply the theory, concepts, and skills involving specialized materials, tools, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, social, and legal systems associated with the occupation and the business/industry and will demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills, and appropriate written and verbal communication skills using the terminology of the occupation and the business/industry.

Lab Hours 50

Current	Proposed
GOVT 2305: Government of the United States Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills The foundation, organization, growth and development of the national government and its problems. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Define and describe federalism and Intergovernmental Relations,the basis for federalism in the Constitution, and its changing character and development as well as explain other ways of organizing government. 2. Identify and explain the three branches of government in the U.S. 3. Explain the Constitutional powers and limitations of political actors. 4. Identify and define the rights of U.S. citizens. 5. Explain the philosophical development-theoretical concepts of the state, government, limited government, democracy, and authoritarian government and demonstrate the strengths and weaknesses of each concept. 6. Explain the historical development of Constitutionalism as a basis for political society and the historical development of the U.S. Constitution and the political system that has developed under that Constitution. 7. Explain the concepts of limited Government, protection of the individual through the limitation of government power, and explain how American government is limited through through federalism, separation of powers, checks and balances, the Bill of Rights, and democracy.	**GOVT 2305: Federal Government (Federal Constitution and Topics)** Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights. **Learning Outcomes** Upon successful completion of this course, students will: 1. Explain the origin and development of constitutional democracy in the United States. 2. Demonstrate knowledge of the federal system. 3. Describe separation of powers and checks and balances in both theory and practice. 4. Demonstrate knowledge of the legislative, executive, and judicial branches of the federal government. 5. Evaluate the role of public opinion, interest groups, and political parties in the political system. 6. Analyze the election process. 7. Describe the rights and responsibilities of citizens 8. Analyze issues and policies in U.S. politics.
GOVT 2306: Government of Texas Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills A study of the background, organization and functions of the State of Texas. A survey of the politics of government. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Define and describe federalism and other ways of organizing government and know the status of the American states within the federal systems and the changing character and development of the Federal relationship. 2. List and describe the three branches of government in Texas. 3. Know the Constitutional powers and	**GOVT 2306: Texas Government (Texas Constitution and Topics)** Origin and development of the Texas Constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy and the political culture of Texas **Learning Outcomes** Upon successful completion of this course, students will: 1. Explain the origin and development of the Texas constitution. 2. Describe state and local political systems and their relationship with the federal government. 3. Describe separation of powers and checks and balances in both theory and practice in Texas. 4. Demonstrate knowledge of the legislative,

limitation of political actors in Texas. 4. Identify and define the rights of Texas Citizens. 5. Evaluate the public policies of the government of Texas in comparison to ideals. 6. Explain the protection of the individual through the limitations on government power through federalism, separation of powers, checks and balances, the Bill of Rights and democracy. 7. Explain state government policy making and execution as well as critique and analysis of past and present policies. The student will be able to evaluate and make independent judgments on current and past political problems faced by the State of Texas and conduct systematic inquiry through objective examination of the issues. 8. Explain the structures and functions of political participation including parties, interests groups and elections. 9. Explain the historical development of constitutionalism as a basis for political society and the historical development of the Texas Constitution and the Political system that has developed under the Constitution. 10. Explain local government structures, functions and organizations in Texas.	executive, and judicial branches of Texas government. 5. Evaluate the role of public opinion, interest groups, and political parties in Texas. 6. Analyze the state and local election process. 7. Describe the rights and responsibilities of citizens 8. Analyze issues, policies and political culture of Texas.
ENGL 1301 - Freshman Composition I Prerequisite: RDNG 0331 and ENGL 0302; minimum grade of C or scores on a state-approved test indicating college-level reading and writing skills Principles of effective writing, emphasizing organization of materials to produce a unified essay which supports convincingly a thesis statement. Review of conventional elements of writing and introduction to rhetorical analysis. (3 sem hrs; 3 lec, 1 lab) **Learning Outcomes:** 1. Understand basic rhetorical concepts: subject, audience, purpose, and appeals. 2. Apply rhetorical concepts in analyzing and evaluating text. 3. Use standard American English to write essays that are rhetorically effective: clear, organized, detailed, grammatically correct, and audience specific. 4. Use the library's online databases and other computer resources for research and word processing.	**ENGL 1301: Composition I** Intensive study of and practice in writing processes, from invention and researching to drafting, revising and editing, both individually and collaboratively. Emphasis on effective rhetorical choices, including audience, purpose, arrangement and style. Focus on writing the academic essay as a vehicle for learning, communicating and critical analysis. **Learning Outcomes:** Upon successful completion of this course, students will: 1. Demonstrate knowledge of individual and collaborative writing processes. 2. Develop ideas with appropriate support and attribution. 3. Write in a style appropriate to audience and purpose. 4. Read, reflect, and respond critically to a variety of texts. 5. Use Edited American English in academic essays.

5. Write a third person, argumentative research paper following the MLA format for citing sources.	
ENGL 1302: Freshman Composition II Prerequisite: ENGL 1301 Extends and refines the writing skills developed in ENGL 1301. Readings in fiction, poetry and drama. Focus on rhetorical patterns, literary analysis, research methods and documentation. (3 sem hrs; 3 lec, 1 lab) **Learning Outcomes** 1. Demonstrate an understanding of literary genres through reading a variety of literature representing different authors and time periods. 2. Reinforce and enhance writing skills learned in English 1301 by writing rhetorical and interpretive essays over works written in verse and prose. 3. Know the basic vocabulary of literary and rhetorical analysis. 4. Use the library, the computer resources in the English Writing Laboratory, or other resources in researching a topic. 5. Evaluate sources, selecting appropriate evidence for a literary analysis research paper or several shorter researched essays on works of literature. 6. Document primary and secondary sources in standard MLA form for citations and works cited; know the penalties for plagiarism.	**ENGL 1302: Composition II** Prerequisite: ENGL 1301 or its equivalent Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual and multimedia texts; systematic evaluation, synthesis and documentation of information sources; and critical thinking about evidence and conclusions. **Learning Outcomes** Upon successful completion of this course, students will: 1. Demonstrate knowledge of individual and collaborative research processes. 2. Develop ideas and synthesize primary and secondary sources within focused academic arguments, including one or more research-based essays. 3. Analyze, interpret, and evaluate a variety of texts for the ethical and logical uses of evidence. 4.Write in a style that clearly communicates meaning, builds credibility, and inspires belief or action. 5. Apply the conventions of style manuals for specific academic disciplines (e.g., APA, CMS, MLA, etc.)
ENGL 2311: Technical Writing Prerequisite: ENGL 1301 Introduction to the principles, techniques and skills needed for college level scientific, technical or business writing. Includes a service project, research, digital design, web publishing and collaborative writing in various genres. (3 sem hrs; 3 lec) **Learning Outcomes** • know the definition of, and reason for, technical communication as a discipline. • know the major genres of workplace writing and be able to write effectively for each of them. • understand the value of effective format and design in workplace writing and be able to incorporate the same in your own documents. • consider ethical implications of your workplace writing. • gain practice in collaborative writing.	**ENGL 2311: Technical and Business Writing** Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters and descriptions of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents. **Learning Outcomes** Upon successful completion of this course, students will: 1. Recognize, analyze, and accommodate diverse audiences. 2. Produce documents appropriate to audience, purpose, and genre. 3. Analyze the ethical responsibilities involved in technical communication. 4. Locate, evaluate, and incorporate pertinent information. 5. Develop verbal, visual, and multimedia materials as necessary, in individual and/or collaborative projects, as appropriate.

• gain practice in critical and analytical thinking.	6. Edit for appropriate style, including attention to word choice, sentence structure, punctuation, and spelling. 7. Design and test documents for easy reading and navigation.
ENGL 2327: American Literature: Beginnings to the Civil War Prerequisite: ENGL 1302-minimum grade of C or Department Chair consent Readings in the significant works of American literature before the Civil War, including essays, poetry, drama and short fiction. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Discuss and interpret works of literature presented in class using appropriate literary terms. 2. Write analyses of literary works using primary and secondary sources in correct MLA Stye. 3. Demonstrate skills in analytical reading, thinking, and writing.	**ENGL 2327: American Literature I** Prerequisite: ENGL 1301 A survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
ENGL 2328: American Literature: Civil War to the Present Prerequisite: ENGL 1302-minimum grade of C or Department Chair consent Readings in the significant works of American literature during and after the Civil War, including essays, poetry, drama and short fiction. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Discuss and interpret works of literature presented in class using appropriate literary terms. 2. Write analyses of literary works using primary and secondary sources in correct MLA Style. 3. Demonstrate skills in analytical reading, thinking, and writing.	**ENGL 2328: American Literature II** Prerequisite: ENGL 1301 A survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social,

	political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
ENGL 2322: Masterworks of English Prerequisite: ENGL 1302-minimum grade of C or Department Chair consent Principal works of major English writers from the beginnings through Johnson. (3 sem hrs; 3 lec **Learning Outcomes** 1. Discuss and interpret works of literature presented in class using appropriate literary terms. 2. Write analyses of literary works using primary and secondary sources in correct MLA Style. 3. Demonstrate skills in analytical reading, thinking, and writing.	**ENGL 2322: British Literature I** Prerequisite: ENGL 1301 A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama and fiction in relation to their historical, linguistic and cultural contexts. Texts will be selected from a diverse group of authors and traditions. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
ENGL 2323: Masterworks of English Prerequisite: ENGL 1302-minimum grade of C or Department Chair consent Principal works of major English writers from Blake through Auden. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Discuss and interpret works of literature presented in class using appropriate literary terms.	**ENGL 2323 : British Literature II** Prerequisite: ENGL 1301 A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and

2. Write analyses of literary works using primary and secondary sources in correct MLA Style. 3. Demonstrate skills in analytical reading, thinking, and writing.	works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
ENGL 2331: Literature of the Non-Western World Prerequisites: ENGL 1302-minimum grade of C or Department Chair consent Readings from a non-European tradition. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Discuss and interpret works of literature presented in class using appropriate literary terms. 2. Write analyses of literary works using primary and secondary sources in correct MLA style. 3. Demonstrate skills in analytical reading, thinking, and writing.	**ENGL 2331: World Literature** Prerequisite: ENGL 1301 A survey of world literature from the ancient world to the present. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
ENGL 2332: Literature of the Western World Prerequisite: ENGL 1302-minimum grade of C or Department Chair consent Classics of Western literature with emphasis on works from Ancient Greece and Europe. (3 sem hrs; 3 lec) **Learning Outcomes**	**ENGL 2332: World Literature I** Prerequisite: ENGL 1301 A survey of world literature from the ancient world through the sixteenth century. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

1. Discuss and interpret works of literature presented in class using appropriate literary terms. 2. Write analyses of literary works using primary and secondary sources in correct MLA style. 3. Demonstrate skills in analytical reading, thinking, and writing	**Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
ENGL 2333: Literature of the Western World Prerequisite: ENGL 1302-minimum grade of C or Department Chair consent Modern Classics of Western literature with emphasis on works from Europe and America. (3 sem hrs; 3 lec) **Learning Outcomes** No learning outcomes found in the online syllabus.	**ENGL 2333: World Literature II** Prerequisite: ENGL 1301 A survey of world literature from the seventeenth century to the present. Students will study works of prose, poetry, drama and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify key ideas, representative authors and works, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of different periods or regions. 2. Analyze literary works as expressions of individual or communal values within the social, political, cultural, or religious contexts of different literary periods. 3. Demonstrate knowledge of the development of characteristic forms or styles of expression during different historical periods or in different regions. 4. Articulate the aesthetic principles that guide the scope and variety of works in the arts and humanities. 5. Write research-based critical papers about the assigned readings in clear and grammatically correct prose, using various critical approaches to literature.
HIST 1301: History of the United States I Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills	**HIST 1301: United States History I** A survey of the social, political, economic, cultural and intellectual history of the United States from the pre-Columbian era to the Civil

A general survey of United States history from the European background to the present. The study includes political, economic, social and cultural aspects of life in this country and follows the development of the United States as a world power. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Trace the development of a stable, democratic political system flexible enough to address the wholesale changes that occurred since the founding of the nation. 2. Explain how this nation has been peopled from the first inhabitants to the many groups that arrived in slavery or servitude during the colonial period down to the voluntary immigrants of the Civil War era. 3. Evaluate economic and technological changes as they have affected daily life, work, family organization, leisure, the division of wealth, and community relations. 4. Delineate the role of religion in our nation prior 1877. 5. Recount how the recurring reform movements in U.S. history dealt with economic, political, and social problems in attempting to make their ideals congruent with reality. 6. Define the changes in our beliefs and values over time and describe how they have varied among different groups: women and men; non-whites and whites; and people of different regions, religions, and classes. 7. Describe the role of geographical factors in the history of the U.S. 8. Practice critical thinking and information retrieval skills.	War/Reconstruction period. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I include: American settlement and diversity, American culture, religion, civil and human rights, technological change, economic change, immigration and migration, and creation of the federal government. **Learning Outcomes** Upon successful completion of this course, students will: 1. Create an argument through the use of historical evidence. 2. Analyze and interpret primary and secondary sources. 3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of United States history.
HIST 1302: History of the United States II Prerequisite: RDNG 0331 minimum grade of C or a score on a state-approved test indicating college-level reading skills A general survey of United States history from the European background to the present. The study includes political, economic, social and cultural aspects of life in this country and follows the development of the United States as a world power. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Trace the development of a stable, democratic political system flexible enough to address the wholesale changes that occurred since the founding of the nation. 2. Explain how this nation has been peopled from the first inhabitants to the many groups that arrived in slavery or servitude during the colonial period	**HIST 1302: United States History II** A survey of the social, political, economic, cultural and intellectual history of the United States from the Civil War/Reconstruction era to the present. United States History II examines industrialization, immigration, world wars, the Great Depression, Cold War and post-Cold War eras. Themes that may be addressed in United States History II include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government and the study of U.S. foreign policy. **Learning Outcomes** Upon successful completion of this course, students will: 1. Create an argument through the use of historical evidence. 2. Analyze and interpret primary and secondary

down to the voluntary immigrants of the Civil War era. 3. Evaluate economic and technological changes as they have affected daily life, work, family organization, leisure, the division of wealth, and community relations. 4. Delineate the role of religion in our nation prior 1877. 5. Recount how the recurring reform movements in U.S. history dealt with economic, political, and social problems in attempting to make their ideals congruent with reality. 6. Define the changes in our beliefs and values over time and describe how they have varied among different groups: women and men; non-whites and whites; and people of different regions, religions, and classes. 7. Describe the role of geographical factors in the history of the U.S. 8. Practice critical thinking and information retrieval skills.	sources. 3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of United States history.
HIST 2311: Western Civilization Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills Chief political, social and intellectual developments of Western civilization from decline of the Roman empire to the present. (3 sem hrs; 3 lec) **Learning Outcomes** • Assess the extent to which certain features commonly imputed to Western Civilization (e.g. rationalism, capitalism, liberalism, technology) are indeed characteristic of the West. • Describe and explain the historical origins and development of the key features that are judged to be intrinsic to Western Civilization. • Explain the meaning of "modernity," and trace the major paths by which Western societies, politics, economics, and cultures became "modern." • Describe the internal contradictions that are also characteristic of modern Western Civilization (in politics, economics, society, and culture), and explain how they shaped major events and players of the "modern age." • Identify the features of the Enlightenment, explaining its impact on Human Civilization, the West in particular, and why it had such effects. • Explain what is meant by the "Age of	**HIST 2311: Western Civilization I** A survey of the social, political, economic, cultural, religious and intellectual history of Europe and the Mediterranean world from human origins to the 17th century. Themes that should be addressed in Western Civilization I include the cultural legacies of Mesopotamia, Egypt, Greece, Rome, Byzantium, Islamic civilizations and Europe through the Middle Ages, Renaissance and Reformations. **Learning Outcomes** Upon successful completion of this course, students will: 1. Create an argument through the use of historical evidence. 2. Analyze and interpret primary and secondary sources. 3. Analyze the effects of historical, social, political, economic, and cultural forces on this period of western history. this period of western history.

Revolution," describing its major components, and explaining the primary causes and effects upon the West. • Describe the development of Western political and economic control over peoples around the globe, explaining how and why such control changed over time. • Define nineteenth-century versions of ideology, liberalism and nationalism, and explain how they are related. • Identify the importance of science in the evolution of Western Civilization. • Explain the major causes of World War I, assessing the significance of that war on Western Civilization. • Assess the causes, goals, and achievements of the Russian Revolution, explaining its place in the history of the West. • Explain the reasons for the rise of totalitarianism after World War I. • Identify the causes and results of the "Great Depression" from the perspective of Western Civilization. • Explain the meaning of World War II for the West, its relationship to the Cold War, and especially its relationship to the post-WWII decolonization movements. • Identify the events that led to the current era of "globalization." • Develop questions regarding bias, perspective, authenticity, and the significance of primary and secondary sources of historical knowledge, paying special attention to the role of the "electronic age" in the availability of such primary sources to future generations of scholars. • Demonstrate critical thinking skills by successfully identifying the various causes of a major event in the history of Western Civilization, and analyzing the relative importance of the various causes. • Improve the ability to write analytical essays.	
HIST 2322: Comparative World History Since 1500 Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills Survey of global history from a balanced point of view, beginning with the age of Western expansion in the 16th century and ending with our contemporary world.	**HIST 2322: World Civilizations II** A survey of the social, political, economic, cultural, religious and intellectual history of the world from the 15th century to the present. The course examines major cultural regions of the world in Africa, the Americas, Asia, Europe and Oceania and their global interactions over time. Themes include maritime exploration and transoceanic empires, nation/state formation and

(3 sem hrs; 3 lec) **Learning Outcomes** • Discuss the impact of global interaction on human populations since 1500. • Define the ideologies and technological developments that have had the greatest impact on human societies since 1500. • Identify the most important developments in world history over the past five hundred years, and how many developments are interconnected. • The emergence of ideologies important to today's world • The development of modern political thought • The impact of imperialism and the colonial experience on the world • The impact of diplomacy and war • The importance of various technological developments on human society • Acquaint the student with the heritage of our past; • Develop an appreciation for question and historical controversy in World Civilization; • Build familiarity with the geography of the ancient Near East, Asia, Africa, and Europe; • Develop analytical and technical skill necessary for successful scholarship. • Assess the extent to which certain features commonly imputed to Western Societies (e.g. rationalism, capitalism, liberalism, technology) and whether they are indeed characteristic of the West. • Describe and explain the historical origins and development of the key features that are judged to be intrinsic to World History. • Explain the meaning of "modernity," and trace the major paths by which societies, politics, economics, and cultures became "modern." • Describe the internal contradictions that are also characteristic of modern civilizations (in politics, economics, society, and culture), and explain how they shaped major events and players of the "modern age." • Identify the features of the Enlightenment, explaining its impact on Human Civilization, the West in particular, and why it had such effects. • Explain what is meant by the "Age of Revolution," describing its major components, and explaining the primary	industrialization, imperialism, global conflicts and resolutions, and global economic integration. The course emphasizes the development, interaction and impact of global exchange. **Learning Outcomes** Upon successful completion of this course, students will: 1. Create an argument through the use of historical evidence. 2. Analyze and interpret primary and secondary sources. 3. Analyze the effects of historical, social, political, economic, cultural, and global forces on this period of world history.

causes and effects upon the World. • Describe the development of Western political and economic control over peoples around the globe, explaining how and why such control changed over time. • Define nineteenth-century versions of ideology, liberalism and nationalism, and explain how they are related. • Identify the importance of science in the evolution of World Civilization. • Explain the major causes of World War I, assessing the significance of that war on World Civilization. • Assess the causes, goals, and achievements of the Russian Revolution, explaining its place in the history of the World. • Explain the reasons for the rise of totalitarianism after World War I. • Identify the causes and results of the "Great Depression" from the perspective of World Civilization. • Explain the meaning of World War II for the World, its relationship to the Cold War, and especially its relationship to the post-WWII decolonization movements. • Identify the events that led to the current era of "globalization." • Develop questions regarding bias, perspective, authenticity, and the significance of primary and secondary sources of historical knowledge, paying special attention to the role of the "electronic age" in the availability of such primary sources to future generations of scholars. • Demonstrate critical thinking skills by successfully identifying the various causes of a major event in the history of World Civilization, and analyzing the relative importance of the various causes. • Improve the ability to write analytical essays.	
ECON 1301: Introduction to Economics A course for students who have active interest in fields other than business administration or economics. Emphasis in developing an understanding of man in relation to his economic environment; purpose, functions and results of a capitalistic system and understanding of current economic problems. (3 sem hrs; 3 lec) **Learning Outcomes**	**ECON 1301: Introduction to Economics** A survey of microeconomic and macroeconomic principles for non-business majors. Microeconomic topics will include supply and demand, consumer behavior, price and output decisions by firms under various market structures, factor markets, market failures, international trade and exchange rates. Macroeconomic topics will include national income, unemployment, inflation, business cycles, aggregate supply and demand, monetary and fiscal policy, and economic growth.

No syllabus on file.	**Learning Outcomes** Upon successful completion of this course, students will: 1. Explain the scarcity/choice problem existing throughout the world. 2. Describe the economic system of the United States. 3. Utilize the basic demand and supply model to predict the effects of different market forces on equilibrium price and quantity. 4. Identify the four market structures and their effects on firm behavior. 5. Explain the concept of market failure and the alternatives to market processes in resource allocations. 6. Define and calculate gross domestic product, inflation rate, and unemployment rate. 7. Use aggregate supply and aggregate demand to predict the effects of fiscal and monetary policy actions on output, unemployment, and inflation. 8. Explain the benefits and costs of international trade and the role of international trade in the U.S. economy.
ECON 2301 - Principles of Economics I Prerequisite: RDNG 0331 minimum grade of C or a score on a state-approved test indicating college-level reading skills Analysis of the economy as a whole, national income, money and banking, public finance, international trade and related current problems; macroeconomics. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Define economics, state the nature of the economic problem, and identify the five fundamental economics questions. 2. Construct a production possibility curve and describe how it illustrates basic economic questions. 3. List the economic functions of government. Identify three major kinds of taxes and also the major expenditures of federal, state, and local governments. 4. Identify the major elements of the national income accounting system and adjust GNP for changes in the price level. 5. Describe the phases of the business cycle, state the types and costs of inflation and unemployment. 6. Identify the classical and Keynesian theories of employment and these related models: leakages-injection model, the expenditures-output model, and the aggregate demand-aggregate supply	**ECON 2301: Principles of Macroeconomics** An analysis of the economy as a whole including measurement and determination of Aggregate Demand and Aggregate Supply, national income, inflation and unemployment. Other topics include international trade, economic growth, business cycles, and fiscal policy and monetary policy. **Learning Outcomes** Upon successful completion of this course, students will: 1. Explain the role of scarcity, specialization, opportunity cost and cost/benefit analysis in economic decision-making. 2. Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output. 3. Define and measure national income and rates of unemployment and inflation. 4. Identify the phases of the business cycle and the problems caused by cyclical fluctuations in the market economy. 5. Define money and the money supply; describe the process of money creation by the banking system and the role of the central bank. 6. Construct the aggregate demand and aggregate supply model of the macro economy and use it to illustrate

model. 7. Select appropriate discretionary fiscal and monetary policies to solve the problems of inflation and unemployment. Identify problems, criticisms, and complications associated with each policy. 8. Describe a Phillips curve, the effect of supply-side shocks on the curve, and two policy options for solving stagflation. 9. Identify the supply and demand for money, illustrate how banks create money, and describe the structure of the Federal Reserve System. 10. State the law of comparative advantage and the cases for free trade and protection. 11. Describe three international exchange rate systems, and the international balance of payments system, and the current U. S. balance of payments problem and possible policy solutions.	macroeconomic problems and potential monetary and fiscal policy solutions. 7. Explain the mechanics and institutions of international trade and their impact on the macro economy. 8. Define economic growth and identify sources of economic growth.
ECON 2302: Principles of Economics II Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills Composition and pricing of national output, distribution of income and related current economic problems; microeconomics. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Define economics, state the natue of the "economic problem", and identify the three basic questions that all economic systems must answer. 2. Construct a production possibility curve and explain how it illustrates concepts of opportunity costs, productive effeciency, and economic growth. 3. Use elasticity of supply and demand to determine relative changes in price and quantity and cite practical application of these concepts. 4. Describe the costs and revenues of production to include: fixed, average, variable, and marginal by use of graphs and mathematics. 5. Identify the four market structures of pure competition, monopolistic competition, oligopoly, and monopoly by characteristics, and calculate the profit maximization point of price and quantity in the output markets by use of marginal analysis. 6. Determine the profit maximization point of price and quantity of resourses of pure competition and monopsony in the input markets by use of marginal analysis. 7. Explain the advantages and disadvantage of government intervention in attempts of price floors and ceilings, public goods, inequality of information, and inequalities of income distribution. 8. Explain the causes of positive and negative externalities in market economies and possible solutions. 9. Demonstrate the advantages of free trade using	**ECON 2302:Principles of Microeconomics** Analysis of the behavior of individual economic agents, including consumer behavior and demand, producer behavior and supply, price and output decisions by firms under various market structures, factor markets, market failures and international trade. **Learning Outcomes** Upon successful completion of this course, students will: 1. Explain the role of scarcity, specialization, opportunity cost and cost/benefit analysis in economic decision-making. 2. Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output. 3. Summarize the law of diminishing marginal utility; describe the process of utility maximization. 4. Calculate supply and demand elasticities, identify the determinants of price elasticity of demand and supply, and demonstrate the relationship between elasticity and total revenue. 5. Describe the production function and the Law of Diminishing Marginal Productivity; calculate and graph short-run and long-run costs of production. 6. Identify the four market structures by characteristics; calculate and graph the profit maximizing price and quantity in the output markets by use of marginal analysis. 7. Determine the profit maximizing price and quantity of resources in factor markets under perfect and imperfect competition by use of marginal analysis. 8. Describe governmental efforts to address

the concept of comparative advantage. 10. Use marginal analysis to make better business and personal decisions.	market failure such as monopoly power, externalities, and public goods. 9. Identify the benefits of free trade using the concept of comparative advantage.
MATH 1314: College Algebra Prerequisite: MATH 0303 minimum grade of C, an Accuplacer score of 75, a THEA score of 270, an equivalent score on a state-approved test or Department Chair consent Study of quadratics; polynomial, rational, logarithmic and exponential functions; systems of equations; progressions, sequences and series; matrices and determinants. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Recognize, solve, and apply radical, absolute value, linear, quadratic, and rational equations. 2. Recognize, solve, and apply inequalities. 3. Recognize, solve, graph, and apply polynomial, rational, exponential, and logarithmic functions 4. Explore functions, graphing techniques, operations of functions, composition of functions, and inverse functions. 5. Evaluate all real roots of higher degrees of polynomial equations. 6. Recognize, solve, and apply systems of linear equations, including the use of matrices and matrix algebra. 7. Identify sequences and series, and calculate the sum of a sequence.	**MATH 1314: College Algebra** In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability and conics may be included. **Learning Outcomes** Upon successful completion of this course, students will: 1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses. 2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations. 3. Apply graphing techniques. 4. Evaluate all roots of higher degree polynomial and rational functions. 5. Recognize, solve and apply systems of linear equations using matrices.
MATH 2412: Precalculus Prerequisite: MATH 0303 minimum grade of A, an Accuplacer score of 75, a THEA score of 270, an equivalent score on a state-approved test or Department Chair consent Applications of algebra and trigonometry to the study of elementary functions and their graphs including polynomial, rational, exponential, logarithmic and trigonometric functions. May include topics from analytical geometry. (4 sem hrs; 4 lec) **Learning Outcomes** 1. Recognize, solve, and apply radical, absolute value, linear, quadratic, and rational equations 2. Recognize, solve, and apply inequalities 3. Recognize, solve, graph, and apply polynomial, rational, exponential, and logarithmic functions 4. Explore functions, graphing techniques, operations of functions, composition of functions, and inverse functions 5. Evaluate all real roots of higher degrees of	**MATH 2412: Pre-Calculus Math** In-depth combined study of algebra, trigonometry and other topics for calculus readiness. **Learning Outcomes** Upon successful completion of this course, students will: 1. Demonstrate and apply knowledge of properties of functions. 2. Recognize and apply algebraic and transcendental functions and solve related equations. 3. Apply graphing techniques to algebraic and transcendental functions. 4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians. 5. Prove trigonometric identities. 6. Solve right and oblique triangles.

polynomial equations 6. Recognize, solve, and apply systems of linear equations, including the use of matrices and matrix algebra 7. Solve problems requiring trigonometric functions and their applications.	
MATH 1316: Trigonometry Prerequisite: MATH 1314-minimum grade of C or Department Chair consent Trigonometric functions and graphs; triangle solutions; identities; equations; inverse functions; complex numbers and polar coordinates. (3 sem hrs; 3 lec) **Learning Outcomes** 1. Solving triangles 2. Definitions of the trigonometric functions 3. Graphing trigonometric functions and their inverses 4. Proving trigonometric identities 5. Writing the trigonometric forms of complex numbers 6. Graphing equations in polar coordinates	**MATH 1316: Plane Trigonometry** In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included. **Learning Outcomes** Upon successful completion of this course, students will: 1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians. 2. Graph trigonometric functions and their transformations. 3. Prove trigonometric identities. 4. Solve trigonometric equations. 5. Solve right and oblique triangles. 6. Use the concepts of trigonometry to solve applications.
MATH 1342: Statistics Prerequisite: MATH 1314 or MATH 1324-minimum grade of C or Department Chair consent Methods of data analysis; statistical concepts and models; estimation theory; tests of significance; analysis of variance, regression and correlation. (3 sem hrs; 3 lec, 1 lab) **Learning Outcomes** 1. Explain the use of statistics and sampling as tools to reach reasonable conclusions. 2. Recognize, examine, and interpret the basic principles of describing and presenting data. 3. Explain the role of probability in statistics. 4. Examine, analyze, and compare various sampling distributions (binomial, normal). 5. Describe and compute confidence intervals. 6. Solve linear regression and correlation problems. 7. Perform hypothesis testing using statistical methods. 8. Conduct parametric and non-parametric inferential statistical tests.	**MATH 1342: Elementary Statistical Methods** Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. **Learning Outcomes** Upon successful completion of this course, students will: 1. Explain the use of data collection and statistics as tools to reach reasonable conclusions. 2. Recognize, examine and interpret the basic principles of describing and presenting data. 3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics. 4. Explain the role of probability in statistics. 5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables. 6. Describe and compute confidence intervals. 7. Solve linear regression and correlation problems. 8. Perform hypothesis testing using statistical methods.

MATH 2305: Discrete Mathematics Prerequisite: MATH 2413 minimum grade of C Formal structures for describing data, algorithms and computing devices, theory and applications of sets, graphs and algebraic structures. (3 sem hrs; 3 lec) **Learning Outcomes** No syllabus on file.	**MATH 2305: Discrete Mathematics** Prerequisite: MATH 2313/2413/2513 - Calculus I A course designed to prepare math, computer science and engineering majors for a background in abstraction, notation and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques. **Learning Outcomes** Upon successful completion of this course, students will: 1.Construct mathematical arguments using logical connectives and quantifiers. 2.Verify the correctness of an argument using propositional and predicate logic and truth tables. 3.Demonstrate the ability to solve problems using counting techniques and combinatorics in the context of discrete probability. 4.Solve problems involving recurrence relations and generating functions. 5.Use graphs and trees as tools to visualize and simplify situations. 6.Perform operations on discrete structures such as sets, functions, relations, and sequences. 7.Construct proofs using direct proof, proof by contraposition, proof by contradiction, proof by cases, and mathematical induction. 8.Apply algorithms and use definitions to solve problems to prove statements in elementary number theory.
MATH 2318: Linear Algebra Prerequisite: MATH 2414 minimum grade of C Finite-dimensional vector spaces, linear transformations and matrices, eigenvectors, quadratic forms, complex number spaces. (3 sem hrs; 3 lec, 1 lab) **Learning Outcomes** No syllabus on file	**MATH 2318: Linear Algebra** Pre-requisite: MATH 2414 Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering. **Learning Outcomes** Upon successful completion of this course, students will: 1.Be able to solve systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion. 2.Be able to carry out matrix operations, including inverses and determinants.

	3.Demonstrate understanding of the concepts of vector space and subspace. 4.Demonstrate understanding of linear independence, span, and basis. 5. Be able to determine eigenvalues and eigenvectors and solve problems involving eigenvalues. 6.Apply principles of matrix algebra to linear transformations. Demonstrate application of inner products and associated norms.
MATH 2320: Differential Equations Prerequisite: MATH 2415-minimum grade of C Linear ordinary differential equations, series solutions, Laplace transforms, applications to science and engineering. (3 sem hrs; 3 lec, 1 lab) **Learning Outcomes** 1. Identify homogeneous equations, homogeneous equations with constant coefficients, and exact and linear differential equations. 2. Solve ordinary differential equations and systems of equations using: 3. Direct integration 4. Seperation of variables 5. Reduction of order 6. Methods of undetermined coefficients and variation of parameters 7. Series solutions 8. Operator methods for finding particular solutions 9. Laplace transform methods 10. Determine particular solutions to differential equations with given boundary conditions or initial conditions. 11. Analyze real-world problems in fields such as Biology, Chemistry, Economics, Engineering, and Physics, including problems related to population dynamics, mixtures, growth and decay, heating and cooling, electronic circuits, and Newtonian mechanics.	**MATH 2320: Differential Equations** Prerequisite: MATH 2414—Calculus II Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems. **Learning Outcomes** Upon successful completion of this course, students will: 1. Identify homogeneous equations, homogeneous equations with constant coefficients, and exact and linear differential equations. 2. Solve ordinary differential equations and systems of equations using: a) Direct integration b) Separation of variables c) Reduction of order d) Methods of undetermined coefficients and variation of parameters e) Series solutions f) Operator methods for finding particular solutions g) Laplace transform methods 3. Determine particular solutions to differential equations with given boundary conditions or initial conditions. 4. Analyze real-world problems in fields such as Biology, Chemistry, Economics, Engineering, and Physics, including problems related to population dynamics, mixtures, growth and decay, heating and cooling, electronic circuits, and Newtonian mechanics.
MATH 2413: Calculus I Prerequisite: MATH 2412 or MATH 1348-minimum grade of C, or MATH 1314 and MATH 1316-minimum grade of C, or Department Chair consent Limits and continuity; derivatives of algebraic and	**MATH 2413: Calculus I** Prerequisite: MATH 2412—Pre-Calculus Math or equivalent preparation Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function

trigonometric functions; applications of derivatives; indefinite and definite integrals; approximate integration; areas, volumes and arc length by integration. (4 sem hrs; 3 lec, 2 lab) **Learning Outcomes** 1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals. 2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point. 3. Determine whether a function is continuous and/or differentiable at a point using limits. 4. Use differentiation rules to differentiate algebraic and transcendental functions. 5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems. 6. Evaluate definite integrals using the Fundamental Theorem of Calculus. 7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.	and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. **Learning Outcomes** Upon successful completion of this course, students will: 1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals. 2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point. 3. Determine whether a function is continuous and/or differentiable at a point using limits. 4. Use differentiation rules to differentiate algebraic and transcendental functions. 5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems. 6. Evaluate definite integrals using the Fundamental Theorem of Calculus. 7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.
MATH 2414: Calculus II Prerequisite: MATH 2413-minimum grade of C Differentiation and integration of transcendental functions; methods of integration; improper integrals; polar and parametric coordinates; infinite sequences; infinite series. (4 sem hrs; 3 lec, 2 lab) **Learning Outcomes** 1. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications. 2. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals. 3. Define an improper integral. 4. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals. 5. Determine convergence or divergence of sequences and series. 6. Use Taylor and MacLaurin series to represent functions. 7. Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.	**MATH 2414: Calculus II** Prerequisite: MATH 2413 - Calculus I Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals. **Learning Outcomes** Upon successful completion of this course, students will: 1. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications. 2. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals. 3. Define an improper integral. 4. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals. 5. Determine convergence or divergence of sequences and series. 6. Use Taylor and MacLaurin series to represent functions. 7. Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.

8. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.	8. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.
MATH 2415: Calculus III Prerequisite: MATH 2414 minimum grade of C Vectors; lines and planes in space; functions of several variables; partial derivatives; multiple integrals; calculus of vector fields; line integrals; Green's theorem; Stokes' theorem. (4 sem hrs; 3 lec, 2 lab) **Learning Outcomes** 1. Vectors and operations on vectors including the dot product, cross product, and projections. 2. The definition and graphs of lines, planes, and surfaces in space. 3. The rectangular, polar, cylindrical, and spherical coordinate systems. 4. Finding the derivative and integral of vector valued functions. 5. Finding the tangent and normal vectors at a point on space curves. 6. Finding the partial derivatives and gradients for functions of several variables. 7. Finding equations of tangent planes and normal lines to surfaces. 8. Locating maxima and minima of functions of two and three variables. 9. Evaluating double and triple integrals in rectangular, cylindrical, and spherical coordinates. 10. Finding the area, surface area, and volume using integration.	**MATH 2415: Calculus III** Prerequisite: MATH 2414 – Calculus II Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem and Stokes' Theorem. **Learning Outcomes** Upon successful completion of this course, students will: 1. Perform calculus operations on vector-valued functions, including derivatives, integrals, curvature, displacement, velocity, acceleration, and torsion. 2. Perform calculus operations on functions of several variables, including partial derivatives, directional derivatives, and multiple integrals. 3. Find extrema and tangent planes. 4. Solve problems using the Fundamental Theorem of Line Integrals, Green's Theorem, the Divergence Theorem, and Stokes' Theorem. 5. Apply the computational and conceptual principles of calculus to the solutions of real-world problems.
ENGR 1307: Surveying Prerequisite: MATH 1316 Use of instruments; direct and tachometric linear measurement; elevation and angle measurement; determining directions; traverses, errors and adjustment; area and earthwork; calculations; observations for meridian; land surveying. (3 sem hrs; 2 lec, 3 lab) **Learning Outcomes** No syllabus on file	**ENGR 1307: Plane Surveying** Prerequisites: MATH 1316 - Plane Trigonometry or equivalent; ENGR 1304 - Engineering Graphics I Development of skills necessary to recognize and solve problems in surveying; introduction and use of various precision instruments used for surveying, including level, theodolites, electronic distance measuring equipment, and total stations for collecting field data; introduction of Global Positioning Systems (GPS) and Geographic Information Systems (GIS) and their use in surveying; and use of graphic design software, such as AutoCAD or Microstation, in surveying problems. **Learning Outcomes** Upon successful completion of this course, students will: 1. State the different classifications and types of surveys. 2. Apply principles of trigonometry to surveying

	problems. 3. Perform necessary unit conversions in surveying. 4. Demonstrate skills necessary for field work such as safety, note keeping, and instrument care. 5. Operate surveying equipment such as level, theodolite, total station, electronic distance measuring equipment, and surveying tape. 6. Determine the expected value and error bounds associated with measurements. 7 .Perform horizontal and vertical measurements using standard surveying equipment for distance, angles, and contours. 8. Perform traverse and area calculations, including traverse closure. 9. Perform field layout for typical civil engineering applications such as highway geometrics and land development. 10. Present surveying data in graphical form using engineering design software such as AutoCAD or Microstation. 11. Discuss the basic principles of GIS and GPS systems and their application to field surveying problems.
ENGR 2305: Electrical Circuits Prerequisites/Corequisites: MATH 2414-minimum grade of C and PHYS 2425 Linear circuit elements; circuit analysis; transient and steady state; network-theorems; laboratory measurement of circuit phenomena. (4 sem hrs; 3 lec, 3 lab) **Learning Outcomes** No syllabus on file	**ENGR 2305: Electrical Circuits I** Prerequisite or Co-requisite: MATH 2320 - Differential Equations Prerequisites: PHYS 2325 - University Physics I; PHYS 2125 - University Physics I Laboratory; MATH 2414 - Calculus II Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff 's laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems. **Learning Outcomes** Upon successful completion of this course, students will: 1.Explain basic electrical concepts, including electric charge, current, electrical potential, electrical power, and energy 2.Apply concepts of electric network topology: nodes, branches, and loops to solve circuit problems, including the use of computer simulation. 3.Analyze circuits with ideal, independent, and controlled voltage and current sources. 4.Apply Kirchhoff's voltage and current laws to the analysis of electric circuits.

	5.Explain the relationship of voltage and current in resistors, capacitors, inductors, and mutual inductors. 6.Derive and solve the governing differential equations for a time-domain first-order and second-order circuit, including singularity function source models. 7.Determine the Thevenin or Norton equivalent of a given network that may include passive devices, dependent sources, and independent sources in combination. 8.Analyze first and second order AC and DC circuits for steady-state and transient response in the time domain and frequency domain. 9.Derive relations for and calculate the gain and input impedance of a given operational amplifier circuit for both DC and frequency domain AC circuits using an ideal operational amplifier model. 10.Apply computer mathematical and simulation programs to solve circuit problems.
	ENGR 2105 Electrical Circuits I Laboratory Co-requisite: ENGR 2305 - Electrical Circuits I Laboratory experiments supporting theoretical principles presented in ENGR 2305 involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation. **Learning Outcomes** Upon successful completion of this course, students will: 1.Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner. 2.Conduct basic laboratory experiments involving electrical circuits using laboratory test equipment such as multimeters, power supplies, signal generators, and oscilloscopes. 3.Explain the concepts of Thévenin-equivalent circuits and linear superposition and apply them to laboratory measurements. 4.Predict and measure the transient and sinusoidal steady-state responses of simple RC and RLC circuits. 5.Predict the behavior and make measurements of simple operational-amplifier circuits. 6.Relate physical observations and measurements involving electrical circuits to theoretical principles. 7.Evaluate the accuracy of physical measurements and the potential sources of error in the measurements. **Note:** Electric Circuits I and Electric Circuits I Laboratory can be taught as a single 4-SCH course.
	Integrated Reading and Writing (New

	Developmental Education Course) This is a combined lecture/lab, performance-based course designed to develop students' critical reading and academic writing skills. The focus of the course will be on applying critical reading skills for organizing, analyzing and retaining material and developing written work appropriate to the audience, purpose, situation and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and writing. **Learning Outcomes** Upon successful completion of this course, students will: 1. Compose a variety of essays that demonstrate clear focus, the logical development of ideas in well-organized paragraph and essay formats, and the use of appropriate language that advances the author's purpose. 2. Locate explicit textual information, draw complex inferences, and analyze and evaluate the information within. 3. Define new vocabulary and concepts and use them accurately in reading, speaking, and writing. 4. Describe, analyze, and evaluate information across literary, expository, and persuasive readings. 5. Explain how literary and other texts evoke personal experience and reveal character in narrative and expository texts. 6. Edit and submit multiple drafts that reflect judicious use of self, peer, and instructor assessment. 7. Identify and evaluate source documentation

1. **Division:** Business
2. **Department/Program:** Computer Information Systems
3. **Prepared by:** Carol Buse
4. **Request:** Change the following courses:

A. Delete the following courses:

COSC 1300 Introduction to Computing
ITNW 1280 Computer Systems Networking and Telecommunications
ITSC 1401 Computer Control Language
ITSC 1411 AS/400 Operating Systems I
ITSE 1414 Introduction to RPG Programming
ITSE 2386 Internship – Computer Programming
CPMT 1305 IT Essentials I: PC Hardware and Software

B. Add the following courses:

(1) CPMT 1351 IT Essentials: PC Hardware and Software
Prerequisite: BCIS 1305 or instructor consent

Course Description: An introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology (ICT) professionals. The curriculum covers the fundamentals of PC technology, networking, and security, and also provides an introduction to advanced concepts. Hands-on labs and Virtual Laptop and Virtual Desktop learning tools help students develop critical thinking and complex problem-solving skills. Cisco Packet Tracer simulation-based learning activities promote the exploration of network and networking security concepts and allow students to experiment with network behavior.

Outcomes: Describe the internal components of a computer; assemble a computer system; install and operating system; and troubleshoot using system tools and diagnostic software.

Hours (3 sem hrs; 2 lec, 3 lab)

(2) ITSE 1391 Special Topics in Computer Programming

Course Description: Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Outcomes: Learning outcomes/objectives are determined by local occupational need and business and industry trends.

Hours (3 sem hrs; 2 lec, 3 lab)

Notes: Students may repeat this course for credit as topics vary.

(3) ITSY 2341 Security Management Practices

Course Description: In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan.

Outcomes: Develop a security plan; establish suitable level of protection; determine legal issues; implement network security design; and revise risk analysis and security plan.

Hours (3 sem hrs; 2 lec, 3 lab)

C. Update the course descriptions and titles of courses to match the WECM titles and courses (see attached)
D. Remove COSC 1415 as a prerequisite for ITSC 1407

Rationale/Justification:

A. Courses listed to be deleted are no longer in the CIS degree programs, they teach technology the CIS department no longer has access to, and/or they are scheduled to be archived in WECM or ACGM.
B. CPMT 1351 should replace the archived CPMT 1305
   ITSE 1391 provides flexibility to offer new and emerging technologies in a timely manner
   ITSY 2341 new course for cyber-security.
C. Updated courses reflect WECM updates
D. Prerequisite not needed by all students taking course.

5. **Effects of Revision:**
   a. **Faculty and Staff Requirements:** None
   b. **Equipment/Facility Requirements:** None
   c. **Location:** None
   d. **Income projections:** None

6. **Effective Date:** Fall 2012

~~**CPMT 1305**~~ ~~**IT Essentials I:**~~ ~~**PC Hardware and Software**~~ ~~**Prerequisites / Corequisite**~~ ~~Prerequisite: BCIS 1305 or instructor consent~~ ~~Provides comprehensive overview of computer hardware and software and an introduction to advanced concepts.~~ ~~Hours (3 sem hrs; 2 lec, 3 lab~~	
CPMT 1443 **Microcomputer Architecture** **Prerequisites / Corequisite** Prerequisite: ~~Computer characteristics and subsystem operations, timing, control circuits and internal input/output controls. Identify and describe the operation of various systems architecture, install and configure, and troubleshoot microcomputer systems.~~ Hours (4 sem hrs; 3 lec, 2 lab)	**CPMT 1443** **Microcomputer Architecture** **Prerequisites / Corequisite** Prerequisite: Computer characteristics and subsystem operations, timing, control circuits, and internal input/output controls. **End-of-Course Outcomes**: Identify and describe the operation of various systems architecture; install, configure, and troubleshoot microcomputer systems. Hours (4 sem hrs; 3 lec, 2 lab)
CPMT 2349 **Advanced Computer Networking Technology** **Prerequisites / Corequisite** Prerequisite: ~~An in-depth study of network technology with emphasis on network operating systems, network connectivity, hardware and software. Mastery of implementation, troubleshooting and maintenance of LAN and/or WAN network environments.~~ Hours (3 sem hrs; 2 lec, 2lab)	**CPMT 2349** **Advanced Computer Networking Technology** **Prerequisites / Corequisite** Prerequisite: Network technology emphasizing network operating systems, network connectivity, hardware, and software. Includes implementation, troubleshooting, and maintenance of LAN and/or WAN network environments. **End-of-Course Outcomes:** Create a complex network with multilevel access and security; provide routine maintenance; implement troubleshooting and diagnostic procedures. Hours (3 sem hrs; 2 lec, 2lab)

ITCC 1401 **Exploration – Network Fundamentals** **Prerequisites / Corequisite** A course introducing the architecture, structure, functions, components and models of the internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. Hours (4 sem hrs; 3 lec, 2 lab)	**ITCC 1401** **Cisco Exploration 1 – Network Fundamentals** **Prerequisites / Corequisite** A course introducing the architecture, structure, functions, components and models of the internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. Hours (4 sem hrs; 3 lec, 2 lab)
~~**ITNW 1280 - Computer Systems, Networking and Telecommunications**~~ ~~**Prerequisites / Corequisite**~~ ~~Prerequisite: Department chair consent~~ ~~Case problems involving networking. Projects will be developed using networking applications packages.~~ ~~Hours (2 sem hrs; 9 lab)~~	
ITNW 1316 **Network Administration** **Prerequisites / Corequisite** Prerequisite: CPMT 1305 An introduction to network administration including describing a network, explaining the role of directory services, setting up and managing users, using distributed print services, file services and directory services security. Hours (3 sem hrs; 2 lec, 3 lab)	**ITNW 1316** **Network Administration** **Prerequisites / Corequisite** Prerequisite: CPMT 1351 An introduction to the basic concepts of network administration~~, including describing a network, explaining the role of directory services, setting up and managing users, using distributed print services, file services and directory services security~~. Hours (3 sem hrs; 2 lec, 3 lab)

~~**ITSC 1402**~~ ~~**Computer Control Language**~~ ~~**Prerequisites / Corequisite**~~ ~~Prerequisites: ITSC 1411 and COSC 1415~~ ~~Use of system control language on mid-range/mainframe computers. Topics include command formats, file management, job scheduling, resource management, and utilities~~ ~~Hours (4 sem hrs; 3 lec, 2 lab)~~	
ITSC 1407 **UNIX Operating System I** **Prerequisites / Corequisite** Prerequisites: ~~COSC 1415~~ ~~A study of the UNIX(Linux) Operating System including multi-user concepts, terminal emulation, use of system editor, basic UNIX(Linux) commands and writing script files. Topics include introductory systems management concepts. The course is designed to provide the student with an in-depth experience in the use of UNIX (Linux) operating systems. Readings, class discussions and assignments will focus on the effective use of various operating system facilities. Design and implementation of various scripts that will be useful not only in a UNIX (Linux) environment but also in equivalent or interactive web-based facilities.~~ Hours (4 sem hrs; 3 lec, 2 lab)	**ITSC 1407** **UNIX Operating System I** **Prerequisites / Corequisite** Prerequisites: Introduction to the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Includes introductory system management concepts. ~~Use basic UNIX commands; apply terminal emulation; use a system editor; and manage individual user accounts and files.~~ **End-of-Course Outcomes:** Use basic UNIX commands; apply terminal emulation; use a system editor; and manage individual user accounts and files. Hours (4 sem hrs; 3 lec, 2 lab)
~~**ITSC 1411**~~ ~~**AS/400 Operating Systems I**~~ ~~**Prerequisites / Corequisite**~~ ~~Prerequisite: COSC 1415~~ ~~A study of the AS/400 operating system including multi-user concepts, terminal emulation, use of system editor, basic AS/400 menus, commands and help screens. Topics include introductory system management concepts and file management.~~ ~~Hours (4 sem hrs; 3 lec, 2 lab)~~	

ITSC 2335 **Application Software Problem Solving** **Prerequisites / Corequisite** Prerequisite: ~~Department chair consent~~ Utilization of appropriate application software to solve advanced problems and generate customized solutions. Hours (~~3 sem hrs; 7 lab~~)	**ITSC 2435** **Application Software Problem Solving** **Prerequisites / Corequisite** Prerequisite: BCIS 1305 Utilization of appropriate application software to solve advanced problems and generate customized solutions. Hours (4 sem hrs, 3 lec, 2 lab)
~~**ITSE 1414**~~ ~~**Introduction to RPG Programming**~~ ~~**Prerequisites / Corequisite**~~ ~~Prerequisites: ITSC 1411 and COSC 1415~~ ~~Introduction to computer programming using RPG. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.~~ ~~Hours (4 sem hrs; 3 lec, 2 lab)~~	
ITSE 1418 **Introduction to Cobol Programming** **Prerequisites / Corequisite** Prerequisite: COSC 1415 Introduction to computer programming using Cobol. Emphasis on the fundamentals of structured design, development, testing, implementation and documentation. Includes language syntax, data and file structures and use of table processing techniques. Hours (4 sem hrs; 3 lec, 2 lab)	**ITSE 1418** **Introduction to COBOL Programming** **Prerequisites / Corequisite** Prerequisite: COSC 1415 Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation and documentation. Includes language syntax, data and file structures and use of table processing techniques. Hours (4 sem hrs; 3 lec, 2 lab)

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ITSE 2347 **Advanced Database Programming** **Prerequisites / Corequisite** Prerequisite: ~~ITSE 2409~~ Database development using complex database programming techniques emphasizing multiple interrelated files, menu design, security implementation, and multiple access. Hours (3 sem hrs; 2 lec, 3 lab)	**ITSE 2347** **Advanced Database Programming** **Prerequisites / Corequisite** Prerequisite: ITSE 2309 Database development using complex database programming techniques emphasizing multiple interrelated files, menu design, security implementation, and multiple access. Hours (3 sem hrs; 2 lec, 3 lab)
~~**ITSE 2386**~~ ~~**Internship - Computer Programming**~~ ~~**Prerequisites / Corequisite**~~ ~~Prerequisite: Department chair consent~~ ~~A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.~~ ~~Hours (3 sem hrs; 9 hrs work/week)~~	
ITSY 1342 **Information Technology Security** **Prerequisites / Corequisite** Prerequisite: ~~Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement and monitor a network security plan. Examine security incident postmortem reporting and ongoing networking security activities.~~ Hours (3 sem hrs; 3 lec, 1 lab)	**ITSY 1342** **Information Technology Security** **Prerequisites / Corequisite** Prerequisite: Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses **End-of-Course Outcomes**: Employ the physical security of network infrastructure components using National Institute of Standards and Technology (NIST) Guidelines and other best practices; develop backup procedures to provide for data security; use network operating system features to implement network security; identify computer and network threats and vulnerabilities and methods to prevent their effects; use tools to enhance network security; and use encryption techniques to protect network data. Hours (3 sem hrs; 3 lec, 1 lab)

ITSY 1400 **Fundamentals of Information Security** **Prerequisites / Corequisite** Prerequisite: CPMT 1305 An introduction to information security including vocabulary and terminology, ethics, the legal environment and risk management. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning, policies and controls is also discussed. Hours (4 sem hrs; 3 lec, 2 lab)	**ITSY 1400** **Fundamentals of Information Security** **Prerequisites / Corequisite** Prerequisite: CPMT 1351 An introduction to information security including vocabulary and terminology, ethics, the legal environment and risk management. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning, policies and controls is also discussed. Hours (4 sem hrs; 3 lec, 2 lab)
~~**COSC 1300**~~ ~~**Introduction to Computing**~~ ~~Prerequisite: RDNG 0321 minimum grade of C or a score on a state approved test indicating readiness for RDNG 0331~~ ~~The student will develop the ability to use computer based technology in communicating, acquiring information and solving problems. Additionally, the student will evaluate the effects and implications of information technology on various aspects of society.~~ ~~Hours (3 sem hrs; 2 lec, 3 lab)~~ ~~**Notes**~~ ~~COSC 1300 may not be applied towards a computer science major or minor.~~ ~~Texas Common Course Number: COSC 1300~~	

Courses to Add:	**CPMT 1351** **IT Essentials:** **PC Hardware and Software** **Prerequisites / Corequisite** Prerequisite: BCIS 1305 or instructor consent An introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology (ICT) professionals. The curriculum covers the fundamentals of PC technology, networking, and security, and also provides an introduction to advanced concepts. Hands-on labs and Virtual Laptop and Virtual Desktop learning tools help students develop critical thinking and complex problem-solving skills. Cisco Packet Tracer simulation-based learning activities promote the exploration of network and networking security concepts and allow students to experiment with network behavior. **End-of-Course Outcomes**: Describe the internal components of a computer; assemble a computer system; install and operating system; and troubleshoot using system tools and diagnostic software. Hours (3 sem hrs; 2 lec, 3 lab)
	ITSE 1391 **Special Topics in Computer Programming** **Prerequisites / Corequisite** Prerequisite: Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. **End-of-Course Outcomes**: Learning outcomes/objectives are determined by local occupational need and business and industry trends. Hours (3 sem hrs; 2 lec, 3 lab) **Notes** Students may repeat this course for credit as topics vary.

	ITSY 2341 **Security Management Practices** **Prerequisites / Corequisite** Prerequisite: In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan. **End-of-Course Outcomes**: Develop a security plan; establish suitable level of protection; determine legal issues; implement network security design; and revise risk analysis and security plan. Hours (3 sem hrs; 2 lec, 3 lab)

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1. **Division:** Business
2. **Department/Program:** Computer Information Systems
3. **Prepared by:** Carol Buse
4. **Request:**

A. Rename Electronics Systems Networking Technology to
Computer Networking/Cyber-Security

B. Change the Major Requirements of the AAS as follows:

Replace CPMT 1443 Microcomputer Architecture with
CPMT 1351 IT Essentials PC Hardware and Software

Replace QCTC 1303 Quality Control with
ITSC 1407 UNIX Operating Systems I

Add ITSY 2341 Security Management Practices

Major Requirements: (Current)		**Major Requirements: (Proposed)**	
BCIS 1305 Business Computer Applications		BCIS 1305 Business Computer Applications	
CETT 1409 DC-AC Circuits		CETT 1409 DC-AC Circuits	
~~CPMT 1443 Microcomputer Architecture~~		CPMT 1351 IT Essentials PC Hardware and Software	
CPMT 2349 Advanced Computer Networking Technologies		CPMT 2349 Advanced Computer Networking Technologies	
LOTT 1301 Introduction to Fiber Optics		LOTT 1301 Introduction to Fiber Optics	
~~QCTC 1303 Quality Control~~		ITSC 1407 UNIX Operating Systems I	
ITCC 1401 – Cisco Exploration 1 – Network Fundamentals		ITCC 1401 – Cisco Exploration 1 – Network Fundamentals	
ITCC 1404 – Cisco Exploration 2 – Routing Protocols and Concepts		ITCC 1404 – Cisco Exploration 2 – Routing Protocols and Concepts	
ITCC 2359 – Advanced Voice Over Internet Protocol (VOIP)		ITCC 2359 – Advanced Voice Over Internet Protocol (VOIP)	
ITCC 2408 – Cisco Exploration 3 – LAN Switching and Wireless		ITCC 2408 – Cisco Exploration 3 – LAN Switching and Wireless	
ITCC 2410 – Cisco Exploration 4 – Accessing the WAN		ITCC 2410 – Cisco Exploration 4 – Accessing the WAN	
~~ITSY 1317 – Wireless Foundations~~		ITSY 2317 – Wireless Security Development	
ITSY 1342 – Information Technology Security		ITSY 1342 – Information Technology Security	
ITSY 2300 – Operating System Security		ITSY 2300 – Operating System Security	
		ITSY 2341 – Security Management Practices	
Total	**48 hours**	**Total**	**51 hours**
Total Degree	**63 hours**	**Total Degree**	**66 hours**

Rationale/Justification:

A. The new name reflects the focus of the Networking program:
Networking program combining with CIS
All cyber-security classes are integrated into the degree

B. These changes facilitate the integration of the Networking program into CIS. Duplication of content is reduced and courses merged. The UNIX class provides the student knowledge of a common operating system and the Security Management Practices class provides more in-depth knowledge of security practices.

5. **Effects of Revision:**
   a. **Faculty and Staff Requirements:** None
   b. **Equipment/Facility Requirements:** None
   c. **Location:** None
   d. **Income projections:** Increased enrollment due to interest in cyber-security. The US Dept of Labor predicts an increase of 34.5% job growth in Panhandle over next 10 year.
6. **Effective Date:** Fall 2012

1. **Division:** Business
2. **Department/Program:** Computer Information Systems
3. **Prepared by:** Carol Buse
4. **Request:** Rename Electronics Systems Networking Technology Certificate
   To Computer Cyber-Security Certificate and change description/courses

Current	Proposed
~~Networking Specialist provides on-site administrative support for networking users in a variety of work environments. Typical jobs tasks include automating access to the network, implementing corporate security strategies, customizing and optimizing the software, and handing routine software/hardware maintenance.~~	Description: This certificate prepares students to design and implement corporate security strategies, monitor and maintain network security, customize and optimize software, and handle routine software/hardware maintenance. Courses utilize hands-on labs and aid the student in preparing to take the following certification exams: A+, CompTIA Network+, CompTIA Security+, CAP, CISSP.
~~CPMT 1443 Microcomputer Architecture~~	CPMT 1351 IT Essentials PC Hardware and Software
CPMT 2349 Advanced Computer Networking Technology	CPMT 2349 Advanced Computer Networking Technology
ITCC 1401 Exploration – Network Fundamentals	ITCC 1401 Exploration – Network Fundamentals
~~ITCC 1404 Cisco Exploration 2 – Routing Protocols and Concepts~~	
~~ITCC 2359 Advanced Voice Over Internet Protocol (VOIP)~~	
~~ITCC 2408 Cisco Exploration 3 – LAN Switching and Wireless~~	
~~ITCC 2410 Cisco Exploration 4 – Accessing the WAN~~	
~~ITSY 1317 Wireless Foundations~~	
ITSY 1342 Information Technology Security	ITSY 1342 Information Technology Security
ITSY 2300 Operating Systems Security	ITSY 2300 Operating Systems Security
	ITSY 2341 Security Management Practices
~~LOTT 1301 Introduction to Fiber Optics~~	
~~QCTC 1303 Quality Control~~	
	BCIS 1305 Business Computer Applications
Total 41 Semester Hours	**Total 22 Semester Hours**

Rationale/Justification:

Cyber-security is becoming more important as more of our lives are dependent upon technology and as more of our world is interconnected. It is predicted that cyber-security is one of the fastest growing occupations in the United States, with an increase of 34.5% job growth in the Texas Panhandle over the next 10 years.

The certificate feeds into the Network/Cyber-Security AAS degree. It also provides preparation for 5 industry certifications. Students with a background in computers or students in a related degree field, may take this short certificate to prepare to become a cyber-security professional in a short amount of time.

5. **Effects of Revision:**

   a. **Faculty and Staff Requirements:** None
   b. **Equipment/Facility Requirements:** None
   c. **Location:** None
   d. **Income projections:** Increased enrollment due to interest in cyber-security. The US Dept of Labor predicts an increase of 34.5% job growth in Panhandle over next 10 year. FBI reports that cybercrime is bigger threat to US than terrorism (*Good Morning America*, Feb, 1, 2012).

6. **Effective Date:** Fall 2012

Curriculum Revision Request Form

1. **Division**: General Studies Department

2. **Program**: General Studies GENS.AS

3. **Prepared By**: Jason Norman, Director of Advising
   Sammie Artho , Associate Director of Advising

4. **Request :**

   a. Add EDUC 1300: First-Year Seminar - Learning Frameworks under the 18 hr. Electives course section as a required course.

   EDUC 1300: First-Year Seminar - Learning Frameworks: A study of the: research and theory in the psychology of learning, cognition and motivation; factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. Hours (3 sem hrs; 3 lec) Texas Common Course Number: EDUC 1300.

   Course Learning Outcomes:
   1. Increase self-awareness.
   2. Take charge of your life.
   3. Identify and interact with your communities.
   4. Manage your money.
   5. Communicate effectively using a variety of formats.
   6. Demonstrate information literacy skills.
   7. Demonstrate effective study skills.
   8. Demonstrate creative and critical thinking skills.
   9. Develop an integrated educational and career pathway.

5. **Rationale / Justification**: Increase student success and support the No Excuses/Achieving the Dream initiatives.

6. **Effects of Revisions**:

   a. **Faculty & Staff Requirements**: Existing faculty and adjunct will teach the course.

   b. **Equipment/Facility Requirements**: No change in facilities is required.

   c. **Location**:

   d. **Income Projections**: Unknown

7. **Effective Date**: Fall 2012

Current

Associate in Science
Major Code – GENS.AS
General Studies major provides flexibility to create a customize degree plan for which no other major at Amarillo College meets academic, occupational, or personal development needs. The General Studies degree can be individually designed to enhance workplace skills, to meet specific transfer requirements of senior institutions, and/or to provide a broad spectrum of educational experiences for those who are undecided about a major field of study. Students should consult with an advisor in the Advising Center for course advisement.

General Education Requirements (42 Semester Hours)
Communication – 9 Hours
Speech*
ENGL 1301 – Freshman Composition I
ENGL 1302 – Freshman Composition II
Social/Behavioral Sciences – 15 Hours
Social/Behavioral Science*
GOVT 2305 – Government of the United States
GOVT 2306 – Government of Texas
HIST 1301 – History of the United States I
HIST 1302 – History of the United States II
Humanities* - 3 Hours
Fine Arts* - 3 Hours
Mathematics* - 3 Hours
Natural Sciences* - 8 Hours
Lifetime Fitness* - 1 Hour
Electives (18 Semester Hours)
It is suggested that these electives be 1) chosen to meet individual needs, or 2) chosen from the specific major of the college or university to which a student may transfer. It is recommended that students work closely with an advisor to determine appropriate classes.

Total: (60 Semester Hours)

Proposed

Associate in Science
Major Code – GENS.AS
The General Studies major provides flexibility to create a customize degree plan for which no other major at Amarillo College meets academic, occupational, or personal development needs. The General Studies degree can be individually designed to enhance workplace skills, to meet specific transfer requirements of senior institutions, and/or to provide a broad spectrum of educational experiences for those who are undecided about a major field of study. Students should consult with an advisor in the Advising Center for course advisement.

General Education Requirements (42 Semester Hours)
Communication – 9 Hours
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Social/Behavioral Sciences – 15 Hours
Social/Behavioral Science*
GOVT 2305 – Government of the United States
GOVT 2306 – Government of Texas
HIST 1301 – History of the United States I
HIST 1302 – History of the United States II
Humanities* - 3 Hours
Fine Arts* - 3 Hours
Mathematics* - 3 Hours
Natural Sciences* - 8 Hours
Lifetime Fitness* - 1 Hour
Major Course Requirements: (3 hrs)
EDUC 1300 – First-Year Seminar (Learning Frameworks)
Electives (15 Semester Hours)
It is suggested that these electives be 1) chosen to meet individual needs, or 2) chosen from the specific major of the college or university to which a student may transfer. It is recommended that students work closely with an advisor to determine appropriate classes.

Total: (60 Semester Hours)