

EDISON STATE COLLEGE
CURRICULUM COMMITTEE
CHANGE OF COURSE PROPOSAL FORM

TO: CURRICULUM COMMITTEE
FROM: Theo Koupelis
PRESENTER: JoAnn Lewin
DATE: 4/17/09

TYPE OF COURSE CHANGE: Check all that apply.

<input type="checkbox"/>	Change to course number
<input type="checkbox"/>	Change to course title
<input type="checkbox"/>	Change to course description
<input type="checkbox"/>	Change to course co-requisites
<input type="checkbox"/>	Change to course prerequisites
<input checked="" type="checkbox"/>	Change to course learning outcomes**
<input type="checkbox"/>	Change to course transfer designation
<input type="checkbox"/>	Change to course credits
<input type="checkbox"/>	Other (specify)

Course Name, including prefix and number: **MAC 1105: College Algebra, MGF 1107: Mathematics for Liberal Arts II, and MAC 1114: Trigonometry**

Class credits: from to

Lab credits: from to

Combined lab & class credits: from to

From AA/AP to AS/PSV From AS/PSV to AA/AP

From AS to BS

From degree core requirement to elective OR

From elective to degree core requirement

From part of general education program to not part of general education program

OR From not part of general education program to part of general education program

Change in prerequisites from to

Change in co-requisite from to

Is there a Major Restriction? yes no (meaning only declared majors may take the course)

Course fee change from _____ to _____ (Attach course fee worksheet, if applicable)

JUSTIFICATION FOR CURRICULUM ACTION, OTHER EXPLANATORY INFORMATION:

As part of the curriculum review project, every aspect of these three courses was reviewed. This proposal covers changes in the description of the learning outcomes.

TERM IN WHICH PROPOSED ACTION WILL TAKE EFFECT: Fall 2009

(For any term other than fall of the academic year following submission, approval of the Vice President of Academic and Student Affairs is required.)

(Signature of Vice President of Academic and Student Affairs)

FACULTY ENDORSEMENTS:

This proposal has the support of the entire math faculty and of the Learning Outcomes Associate.

LEARNING OUTCOMES ASSOCIATE: _____ **DATE:** _____

DEPARTMENT CHAIR ENDORSEMENT: _____ **DATE:** _____

ACADEMIC DEAN'S ENDORSEMENT: _____ **DATE:** _____

After review and signing of the proposal, the DEPARTMENT CHAIR will forward the proposal to the DISTRICT DEAN for a final signature and the DISTRICT DEAN will return the signed form back to the DEPARTMENT CHAIR.

DISTRICT DEAN ENDORSEMENT: _____ **DATE:** _____

The DEPARTMENT CHAIR will process the proposal into a continuous document with any other proposals from his/her department being submitted for review by the Curriculum Committee and forward the document to the CURRICULUM COMMITTEE CHAIRPERSON by the Friday before the next scheduled Curriculum Committee meeting.

EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor: _____ **Office Location:** _____
E-mail: _____ **Phone Number:** _____
Office Hours: _____ **Semester:** _____

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MAC 1105: College Algebra – AA **3 Credits**

Topics include linear, quadratic, rational, radical, exponential, and logarithmic functions. Graphing and applications are emphasized. A graphing calculator is required. If completed with a grade of “C” or better, this course serves to demonstrate competence for the general education mathematics requirement.

II. PREREQUISITES FOR THE COURSE:

MAT 1033 with a minimum grade of “C,” or appropriate CLM score

III. GENERAL COURSE INFORMATION: Topic Outline

- Functions and functional notation
- Domains and ranges of functions
- Graphs of functions and relations
- Operations on functions
- Inverse functions
- Linear, quadratic, and rational functions
- Absolute value and radical functions
- Exponential and logarithmic properties, functions, and equations
- Systems of equations and inequalities
- Applications (such as curve fitting, modeling, optimization, exponential and logarithmic growth and decay)
- Use of a graphing calculator

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Express the domain and range of a function (defined algebraically or graphically) using both set-builder and interval notation.	Homework and/or quizzes and/or tests and/or group assignments and/or projects.	QR,CT
Evaluate functions, including piecewise-defined functions.		QR,CT
Perform operations on functions, including compositions and difference quotients.		QR,CT
Evaluate and interpret the slope of a line, both analytically and graphically.		QR,CT
Interpret slope as a rate of change.		QR,CT
Construct the equation of a line using a point and the slope or two points.		QR,CT
Determine the distance between two points.		QR
Apply the Pythagorean Theorem to real world examples.		QR,CT,COM
Graph relations and functions.		QR,CT,TIM
Use transformation techniques (on known or given functions) to construct the graphs of related functions.		QR, CT, TIM
Determine and defend whether a function is one-to-one, and if so, find its inverse algebraically and/or graphically.		QR,CT,COM,TIM

Graph by identifying distinguishing characteristics, and differentiating among: linear, quadratic, rational, radical, absolute value, exponential, and logarithmic functions.		QR,CT,COM,TIM
Determine the optimum value of a quadratic function.		QR,CT,TIM
Evaluate logarithmic and exponential expressions.		QR,CT,TIM
Manipulate and solve exponential and logarithmic equations by applying the properties of logarithms and exponents.		QR,CT,TIM
Select and apply which of the techniques, elimination, substitution, or graphing would be most efficient to solve systems of linear and non-linear equations.		QR,CT,TIM
Graph the solution to systems of inequalities.		QR,TIM
Read, interpret, and solve application problems through the use of a variety of techniques.		QR,CT,COM,TIM

V. DISTRICT-WIDE POLICIES:

Programs for Students with Disabilities

Edison State College, in accordance with the Americans with Disabilities Act and the College's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students who need to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability, should contact the Office of Adaptive Services at the nearest campus.

Lee Campus	Taeni Hall S-116A	(239) 489-9427
Charlotte Campus	Student Services SS-101	(941) 637-5626
Collier Campus	Admin. Bldg. A-116	(239) 732-3918
Hendry/Glades Ctr.	LaBelle H.S.	(863) 674-0408

VI. REQUIREMENTS FOR THE STUDENTS: List specific course assessments, such as class participation, tests, homework assignments, make-up procedures, etc.

VII. ATTENDANCE POLICY: The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

VIII. GRADING POLICY: Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 – 100	=	A
80 – 89	=	B
79 – 70	=	C
60 – 69	=	D
Below 60	=	F

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete” grades.)

IX. REQUIRED COURSE MATERIALS:

X. RESERVED MATERIALS FOR THE COURSE: Other special learning resources.

XI. CLAST COMPETENCIES INVOLVED IN THE COURSE:

XII. CLASS SCHEDULE: This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XIII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES: which would be useful to the students in the class.

EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor:

Office Location:

E-mail:

Phone Number:

Office Hours:

Semester:

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MGF 1107: Mathematics for Liberal Arts II – AA

3 Credits

This course is intended to present topics which demonstrate the beauty and utility of mathematics to the general student population. Topics include management science, linear and exponential growth, numbers and number systems, history of mathematics, elementary number theory, voting techniques and graph theory. This course is designed for those students whose majors do not require the technical mathematics sequence. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement.

II. PREREQUISITES FOR THE COURSE:

MAT 1033 with minimum grade of "C" or Testing

III. GENERAL COURSE INFORMATION: Topic Outline

- Management science
- Linear and Exponential Growth
- Numbers and Number Systems
- History of Mathematics
- Elementary Number Theory
- Voting Techniques
- Graph Theory

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Change numerals and perform basic arithmetic operations in bases other than ten.	Homework and/or quizzes and/or tests and/or group assignments and/or projects	QR, CT
Translate between Hindu-Arabic and Roman and other numeration systems.		QR, CT
Write the prime factorization of a composite number.		QR, CT
Determine the greatest common divisor of two numbers.		QR, CT
Perform operations with integers and square roots using the order of operations.		QR, CT
Transform rational numbers and fractions from ratio form to decimal form and solve application problems involving rational numbers, percents, proportions, and direct/inverse variation..		QR, CT, TIM
Define and identify irrational numbers.		QR, CT
Recognize subsets and properties of the real numbers.		QR, CT
Construct and evaluate a model for arithmetic and a geometric sequence.		QR, CT, TIM
Evaluate and construct models of linear and exponential growth.		QR, CT, TIM, COM
Express decimals and fractions as percents.		QR, CT
Calculate simple interest, compound		QR, CT, TIM

interest, present value and effective yield.		
Determine the amount financed, installment price, finance charge, payoff amount and interest charged on fixed loans and credit card purchases.		QR, CT, TIM
Identify mortgage options and expenses.		QR, CT, COM
Calculate disbursements of a mortgage payment to principal and interest by constructing an amortization table.		QR, CT, TIM
Distinguish among and utilize various voting methods to determine an election's winner.		QR, CT, COM
Distinguish among and utilize various methods for solving the apportionment problem.		QR, CT, COM
Discuss potential flaws with the various voting and apportionment methods.		QR, CT, COM
Create models to represent various relationships through the use of graph theory paths, circuits, trees and graphs.		QR, CT, COM

V. DISTRICT-WIDE POLICIES:

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VI. REQUIREMENTS FOR THE STUDENTS: List specific course assessments, such as class participation, tests, homework assignments, make-up procedures, etc.

VII. ATTENDANCE POLICY: The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

VIII. GRADING POLICY: Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 – 100	=	A
80 – 89	=	B
79 – 70	=	C
60 – 69	=	D
Below 60	=	F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete" grades.)

IX. REQUIRED COURSE MATERIALS:

X. RESERVED MATERIALS FOR THE COURSE: Other special learning resources.

XI. CLAST COMPETENCIES INVOLVED IN THE COURSE:

XII. CLASS SCHEDULE: This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XIII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES: which would be useful to the students in the class.

EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor: _____ **Office Location:** _____
E-mail: _____ **Phone Number:** _____
Office Hours: _____ **Semester:** _____

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MAC 1114: Trigonometry – AA **3 Credits**

Topics in this class include the real number system, circular functions, trigonometric functions, inverse relations and functions, trigonometric graphs, solutions of triangles and trigonometric equations, polar coordinates, and complex numbers. The course contains all of the features of trigonometry found in MAC 1147, with additional emphasis on applications. A graphing calculator is required. This course may be taken concurrently with MAC 1140. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement.

II. PREREQUISITES FOR THE COURSE:

{MAC 1105 or MAC1106} with a minimum grade of "C," **or** appropriate CLM Score

III. GENERAL COURSE INFORMATION: Topic Outline

- The trigonometric functions, their properties and graphs
- Inverse trigonometric functions, their properties and graphs
- Trigonometric identities
- Conditional trigonometric equations
- Solutions of triangles
- Vector algebra
- Parametric equations
- Polar coordinates
- Applications

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Convert angle measures between degrees and radians.	Homework and/or Quizzes and/or Tests and/or Projects and/or Group Assignments	CT
Apply appropriate right triangle and/or unit circle trigonometric function definitions to determine the values of a variety of trigonometric functions.		CT, QR
Identify properties such as domain and range for each trigonometric function.		CT, QR
Evaluate trigonometric functions for special angles.		CT, QR
Use a graphing calculator to evaluate trigonometric functions of any angle.		QR, TIM
Select and apply appropriate fundamental trigonometric identities.		CT, QR
Select and apply an appropriate double angle, half-angle, or sum or difference identity or identities.		CT, QR
Solve right triangles using definitions of the trigonometric functions, and oblique triangles using the Law of Sines and the Law of Cosines.		CT, QR, TIM
Analyze trigonometric functions and identify such properties as amplitude, period, phase shift, and vertical shifts, when appropriate.		CT, QR

Graph trigonometric functions both analytically and by using a graphing utility.		CT, QR, TIM
Evaluate inverse trigonometric functions involving numeric values and algebraic expressions.		CT, QR, TIM
Solve application problems using trigonometry.		CT, QR, TIM, COM
Prove trigonometric identities.		CT, QR
Solve trigonometric equations.		CT, QR
Perform basic vector operations including dot product.		CT, QR
Sketch a curve that is represented by a set of parametric equations both analytically and by using a graphing utility.		CT, QR, TIM
Graph polar equations both analytically and by using a graphing utility.		CT, QR, TIM
Convert points and equations from polar form to rectangular form and vice versa		CT, QR

V. DISTRICT-WIDE POLICIES:

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VII. ATTENDANCE POLICY: The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

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Below 60	=	F

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IX. REQUIRED COURSE MATERIALS:

X. RESERVED MATERIALS FOR THE COURSE: Other special learning resources.

XI. CLAST COMPETENCIES INVOLVED IN THE COURSE:

XII. CLASS SCHEDULE: This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XIII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES: which would be useful to the students in the class.

EDISON STATE COLLEGE
CURRICULUM COMMITTEE
CHANGE OF COURSE PROPOSAL FORM

TO: CURRICULUM COMMITTEE
FROM: Theo Koupelis
PRESENTER: JoAnn Lewin
DATE: 4/17/09

TYPE OF COURSE CHANGE: Check all that apply.

<input type="checkbox"/>	Change to course number
<input type="checkbox"/>	Change to course title
<input type="checkbox"/>	Change to course description
<input type="checkbox"/>	Change to course co-requisites
<input checked="" type="checkbox"/>	Change to course prerequisites
<input type="checkbox"/>	Change to course learning outcomes**
<input type="checkbox"/>	Change to course transfer designation
<input type="checkbox"/>	Change to course credits
<input type="checkbox"/>	Other (specify)

Course Name, including prefix and number: **MAC 1106: Combined College Algebra/Pre-Calculus** and **MAC 1147: Pre-Calculus Algebra/Trigonometry**

Class credits: from to

Lab credits: from to

Combined lab & class credits: from to

From AA/AP to AS/PSV From AS/PSV to AA/AP

From AS to BS

From degree core requirement to elective OR

From elective to degree core requirement

From part of general education program to not part of general education program

OR From not part of general education program to part of general education program

For MAC 1106: Change in prerequisites from **MAT 1033 with a minimum grade of "B" or testing** to **MAT 1033 with a minimum grade of "B" or appropriate CLM score**

For MAC 1147: Change in prerequisites from **MAC 1105 with a minimum grade of “B” or appropriate CLM score** to **MAC 1105 with a minimum grade of “B,” or appropriate CLM score and high school trigonometry**

Change in co-requisite from _____ to _____

Is there a Major Restriction? yes no (meaning only declared majors may take the course)

Course fee change from _____ to _____ (Attach course fee worksheet, if applicable)

JUSTIFICATION FOR CURRICULUM ACTION, OTHER EXPLANATORY INFORMATION:

For MAC 1106, the change corresponds mostly to a more accurate description of the prerequisite, since students have to take the CLM test.

For MAC 1147, the addition of “and high school trigonometry” is meant to better inform students about the necessary background knowledge they need to have to succeed in this class.

TERM IN WHICH PROPOSED ACTION WILL TAKE EFFECT: Fall 2009

(For any term other than fall of the academic year following submission, approval of the Vice President of Academic and Student Affairs is required.)

(Signature of Vice President of Academic and Student Affairs)

FACULTY ENDORSEMENTS:

This proposal has the support of the entire math faculty.

LEARNING OUTCOMES ASSOCIATE: _____ **DATE:** _____

DEPARTMENT CHAIR ENDORSEMENT: _____ **DATE:** _____

ACADEMIC DEAN’S ENDORSEMENT: _____ **DATE:** _____

After review and signing of the proposal, the DEPARTMENT CHAIR will forward the proposal to the DISTRICT DEAN for a final signature and the DISTRICT DEAN will return the signed form back to the DEPARTMENT CHAIR.

DISTRICT DEAN ENDORSEMENT: _____ **DATE:** _____

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EDISON STATE COLLEGE
CURRICULUM COMMITTEE
CHANGE OF COURSE PROPOSAL FORM

TO: CURRICULUM COMMITTEE
FROM: Theo Koupelis
PRESENTER: JoAnn Lewin
DATE: 4/17/09

TYPE OF COURSE CHANGE: Check all that apply.

<input type="checkbox"/>	Change to course number
<input type="checkbox"/>	Change to course title
<input checked="" type="checkbox"/>	Change to course description
<input type="checkbox"/>	Change to course co-requisites
<input type="checkbox"/>	Change to course prerequisites
<input checked="" type="checkbox"/>	Change to course learning outcomes**
<input type="checkbox"/>	Change to course transfer designation
<input type="checkbox"/>	Change to course credits
<input type="checkbox"/>	Other (specify)

Course Name, including prefix and number: **MAC 1106: Combined College Algebra/Pre-Calculus** and **MAC 1147: Pre-Calculus Algebra/Trigonometry**

Class credits: from to

Lab credits: from to

Combined lab & class credits: from to

From AA/AP to AS/PSV From AS/PSV to AA/AP

From AS to BS

From degree core requirement to elective OR

From elective to degree core requirement

From part of general education program to not part of general education program

OR From not part of general education program to part of general education program

Change in prerequisites from to

Change in co-requisite from to

Is there a Major Restriction? yes no (meaning only declared majors may take the course)

Course fee change from _____ to _____ (Attach course fee worksheet, if applicable)

JUSTIFICATION FOR CURRICULUM ACTION, OTHER EXPLANATORY INFORMATION:

For both courses a clarification was added to the course description about credits.

For MAC 1106 the clarification reads: "Credit is not given for both MAC 1106 and MAC 1105, or for both MAC 1106 and MAC 1140."

For MAC 1147 the clarification reads: "Credit is not given for both MAC 1147 and MAC 1114, or for both MAC 1147 and MAC 1140."

TERM IN WHICH PROPOSED ACTION WILL TAKE EFFECT: Fall 2009

(For any term other than fall of the academic year following submission, approval of the Vice President of Academic and Student Affairs is required.)

(Signature of Vice President of Academic and Student Affairs)

FACULTY ENDORSEMENTS:

This proposal has the support of the entire math faculty and of the Learning Outcomes Associate.

LEARNING OUTCOMES ASSOCIATE: _____ DATE: _____

DEPARTMENT CHAIR ENDORSEMENT: _____ DATE: _____

ACADEMIC DEAN'S ENDORSEMENT: _____ DATE: _____

After review and signing of the proposal, the DEPARTMENT CHAIR will forward the proposal to the DISTRICT DEAN for a final signature and the DISTRICT DEAN will return the signed form back to the DEPARTMENT CHAIR.

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EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor:

Office Location:

E-mail:

Phone Number:

Office Hours:

Semester:

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MAC 1106: Combined College Algebra/Pre-Calculus – AA

5 Credits

Major topics of this course include: functions and relations including domain and range, operations on functions, and inverse functions, polynomial, rational and other algebraic functions, their properties and graphs; polynomial, absolute value, rational equations and inequalities; exponential and logarithmic functions, their properties and graphs; solving systems of equations and inequalities, matrices, determinants; piecewise-defined functions; conic sections; sequences and series; applications such as curve fitting, modeling, optimization, and exponential and logarithmic growth and decay; mathematical induction; binomial theorem and applications. A graphing calculator is required. Credit is not given for both MAC 1106 and MAC 1105, or for both MAC1106 and MAC 1140. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement.

II. PREREQUISITES FOR THE COURSE:

MAT 1033 with a minimum grade of "B," or appropriate CLM score

III. GENERAL COURSE INFORMATION: Topic Outline

- Functions and relations including domain and range, operations on functions and inverse functions
- Polynomial, rational and other algebraic functions, their properties and graphs
- Polynomial, absolute value and rational equations and inequalities
- Exponential and logarithmic functions, their properties and graphs
- Solving systems of equations and inequalities
- Matrices and determinants
- Piecewise-defined functions
- Conic sections
- Sequences and series
- Applications such as curve fitting, modeling, optimization, and exponential growth and decay
- Mathematical induction
- The binomial theorem
- Use of a graphing calculator

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Express the domain and range of a function (defined algebraically or graphically) using both set-builder and interval notation.	Homework and/or quizzes and/or tests and/or group assignments and/or projects.	QR,CT
Evaluate and apply appropriate mathematical properties to graph functions, including piecewise-defined functions, and perform operations on functions, including compositions and difference quotients.		QR,CT
Evaluate and interpret the slope of a line, both analytically and graphically, including interpreting slope as a rate of change.		QR,CT
Construct the equation of a line using a point and the slope or two points.		QR,CT
Determine the distance between two		QR

points.		
Apply the Pythagorean Theorem to real world examples.		QR,CT,COM
Use transformation techniques (on known or given functions) to construct the graphs of related functions.		QR, CT, TIM
Determine and defend whether a function is one-to-one, and if so, find its inverse algebraically and/or graphically.		QR,CT,COM,TIM
Graph by identifying distinguishing characteristics, and differentiating among: linear, quadratic, polynomial of degree greater than two, rational, radical, absolute value, exponential, and logarithmic functions.		QR,CT,COM,TIM
Determine the optimum value of a quadratic function graphically using the graphing calculator and algebraically.		QR,CT,TIM
Apply properties of exponentials to evaluate exponential expressions and to solve exponential equations and interpret the solutions.		QR,CT,TIM, COM, GSR
Apply properties of logarithms to evaluate or simplify logarithmic expressions and to solve logarithmic equations and interpret the solutions.		QR,CT,TIM
Use multiple approaches to solve systems of linear and non-linear equations and compare and contrast those approaches.		QR,CT,TIM, COM
Construct the graph of the solution to systems of inequalities.		QR,TIM
Read, interpret, and solve application problems through the use of a variety of techniques.		QR,CT,COM,TIM
Determine the linear factorization of a given polynomial.		QR, CT,TIM
Determine the complex zeros and the real zeros of a polynomial.		QR, CT,TIM
Determine the equation of a conic section when given its graph or characteristics of its graph. Graph the conic section, given its equation.		QR, CT
Analyze sequences and series using patterning, formulas, and/or technology.		QR, CT,TIM
Apply the principles of mathematical induction.		QR, CT,COM
Apply the binomial theorem.		QR, CT
Perform matrix operations and find and use inverses and determinants.		QR, CT

Use a graphing utility to determine a curve of best fit for given data.		QR, CT, TIM
Solve polynomial and rational inequalities graphically and algebraically.		QR, CT, TIM

IV. DISTRICT-WIDE POLICIES:

Programs for Students with Disabilities

Edison State College, in accordance with the Americans with Disabilities Act and the College's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students who need to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability, should contact the Office of Adaptive Services at the nearest campus.

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Collier Campus	Admin. Bldg. A-116	(239) 732-3918
Hendry/Glades Ctr.	LaBelle H.S.	(863) 674-0408

VI. REQUIREMENTS FOR THE STUDENTS: List specific course assessments, such as class participation, tests, homework assignments, make-up procedures, etc.

VII. ATTENDANCE POLICY: The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

VIII. GRADING POLICY: Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 – 100	=	A
80 – 89	=	B
79 – 70	=	C
60 – 69	=	D
Below 60	=	F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete" grades.)

IX. REQUIRED COURSE MATERIALS:

X. RESERVED MATERIALS FOR THE COURSE: Other special learning resources.

XI. CLAST COMPETENCIES INVOLVED IN THE COURSE:

XII. CLASS SCHEDULE: This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XIII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES: which would be useful to the students in the class.

Revised 04/09

EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor:

Office Location:

E-mail:

Phone Number:

Office Hours:

Semester:

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MAC 1147: Pre-Calculus Algebra/Trigonometry – AA

5 Credits

The course is designed for students with strong mathematical backgrounds who need a refresher course before beginning the Calculus sequence. Topics covered are a combination of topics from MAC 1140 and MAC 1114. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement. Credit is not be given for both MAC1147 and MAC1114, or for both MAC1147 and MAC1140.

II. PREREQUISITES FOR THE COURSE:

MAC 1105 with a minimum grade of "B," or appropriate CLM Score and high school trigonometry

III. GENERAL COURSE INFORMATION: Topic Outline

- Polynomial, rational and other algebraic functions, their properties and graphs
- Polynomial and rational inequalities
- Exponential and logarithmic functions, their properties and graphs
- Piece-wise defined functions
- Conic sections
- Matrices and determinants
- Sequences and series
- Mathematical induction
- The binomial theorem
- Trigonometric functions, their properties and graphs
- Inverse trigonometric functions, their properties and graphs
- Trigonometric identities
- Conditional trigonometric equations
- Solutions of triangles
- Vector algebra
- Parametric equations
- Polar coordinates
- Applications

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Apply properties expressions to solve exponential and logarithmic equations and interpret the solutions.	Quizzes and/or Homework and/or Tests and/ or Project and/or Group Assignments	CT, TIM, COM, GSR
Sketch and analyze the graphs of exponential, logarithmic, polynomial, and rational functions.		CT, COM, QR
Determine the linear factorization of a given polynomial, including complex zeros and real zeros.		QR, CT, TIM,
Determine the complex zeros and the real zeros of a polynomial.		QR, CT, TIM
Determine any asymptotes, intercepts and other critical values of a function both algebraically and using technology.		QR, CT, TIM
Determine the equation of a conic section when given its graph or characteristics of its graph.		QR, CT
Graph the conic section, given its equation.		

Analyze sequences and series using patterning, formulas, and/or technology.	QR, CT, TIM
Apply the principles of mathematical induction.	QR, CT, COM
Apply the binomial theorem.	QR, CT
Use multiple approaches to solve systems of linear and non-linear equations and compare and contrast those approaches.	QR, CT, TIM, COM
Perform matrix operations and find and use inverses and determinants.	QR, CT
Use a graphing utility to determine a curve of best fit for given data.	QR, CT, TIM
Solve polynomial and rational inequalities graphically and algebraically.	QR, CT, TIM
Apply appropriate mathematical properties to graph and interpret continuous and piece-wise functions.	CT
Convert angle measures between degrees and radians.	CT
Apply appropriate right triangle and/or unit circle trigonometric function definitions to determine the values of a variety of trigonometric functions.	CT, QR
Identify the domain and range for each trigonometric function.	CT, QR
Evaluate trigonometric functions of special angles exactly and of other angles using a graphing utility.	QR, TIM
Select and apply appropriate fundamental trigonometric identities, double angle identities, half-angle identities, or sum or difference identities.	CT, QR
Solve right triangles using definitions of the trigonometric functions, and oblique triangles using the Law of Sines and the Law of Cosines.	CT, QR, TIM
Analyze trigonometric functions and identify such properties as amplitude, period, phase shift, and vertical shifts, when appropriate.	CT, QR
Graph trigonometric functions and polar equations both analytically and by using a graphing utility.	CT, QR, TIM
Evaluate inverse trigonometric functions involving numeric values and algebraic expressions.	CT, QR, TIM
Solve application problems using trigonometry.	CT, QR, TIM, COM
Prove trigonometric identities.	CT, QR
Solve trigonometric equations.	CT, QR
Perform basic vector operations including dot product.	CT, QR
Sketch a curve that is represented by a set of	CT, QR, TIM

parametric equations both analytically and by using a graphing utility.		
Convert points and equations from polar form to rectangular form and vice versa		CT, QR

V. DISTRICT-WIDE POLICIES:

Programs for Students with Disabilities

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Hendry/Glades Ctr.	LaBelle H.S.	(863) 674-0408

VI. REQUIREMENTS FOR THE STUDENTS: List specific course assessments, such as class participation, tests, homework assignments, make-up procedures, etc.

VII. ATTENDANCE POLICY: The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

VIII. GRADING POLICY: Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 – 100	=	A
80 – 89	=	B
79 – 70	=	C
60 – 69	=	D
Below 60	=	F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete" grades.)

IX. REQUIRED COURSE MATERIALS:

X. RESERVED MATERIALS FOR THE COURSE: Other special learning resources.

XI. CLAST COMPETENCIES INVOLVED IN THE COURSE:

XII. CLASS SCHEDULE: This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XIII. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:** which would be useful to the students in the class..

Revised 04/09

**EDISON STATE COLLEGE
CURRICULUM COMMITTEE
CHANGE OF COURSE PROPOSAL FORM**

TO: CURRICULUM COMMITTEE
 FROM: Theo Koupelis
 PRESENTER: JoAnn Lewin
 DATE: 4/17/09

TYPE OF COURSE CHANGE: Check all that apply.

<input type="checkbox"/>	Change to course number
<input checked="" type="checkbox"/>	Change to course title
<input type="checkbox"/>	Change to course description
<input type="checkbox"/>	Change to course co-requisites
<input type="checkbox"/>	Change to course prerequisites
<input checked="" type="checkbox"/>	Change to course learning outcomes**
<input type="checkbox"/>	Change to course transfer designation
<input type="checkbox"/>	Change to course credits
<input type="checkbox"/>	Other (specify)

Course Name, including prefix and number: **MAC 2233: Calculus for Business and Social Sciences I** and **MAP 2302: Differential Equations I**

Class credits: from to

Lab credits: from to

Combined lab & class credits: from to

From AA/AP to AS/PSV From AS/PSV to AA/AP

From AS to BS

From degree core requirement to elective OR

From elective to degree core requirement

From part of general education program to not part of general education program

OR From not part of general education program to part of general education program

Change in prerequisites from to

Change in co-requisite from to

Is there a Major Restriction? yes no (meaning only declared majors may take the course)

Course fee change from _____ to _____ (Attach course fee worksheet, if applicable)

JUSTIFICATION FOR CURRICULUM ACTION, OTHER EXPLANATORY INFORMATION:

The numeral "I" was added to both courses in accordance to state norms.

TERM IN WHICH PROPOSED ACTION WILL TAKE EFFECT: Fall 2009

(For any term other than fall of the academic year following submission, approval of the Vice President of Academic and Student Affairs is required.)

(Signature of Vice President of Academic and Student Affairs)

FACULTY ENDORSEMENTS:

This proposal has the support of the entire math faculty and of the Learning Outcomes Associate.

LEARNING OUTCOMES ASSOCIATE: _____ **DATE:** _____

DEPARTMENT CHAIR ENDORSEMENT: _____ **DATE:** _____

ACADEMIC DEAN'S ENDORSEMENT: _____ **DATE:** _____

After review and signing of the proposal, the DEPARTMENT CHAIR will forward the proposal to the DISTRICT DEAN for a final signature and the DISTRICT DEAN will return the signed form back to the DEPARTMENT CHAIR.

DISTRICT DEAN ENDORSEMENT: _____ **DATE:** _____

The DEPARTMENT CHAIR will process the proposal into a continuous document with any other proposals from his/her department being submitted for review by the Curriculum Committee and forward the document to the CURRICULUM COMMITTEE CHAIRPERSON by the Friday before the next scheduled Curriculum Committee meeting.

EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor: _____ **Office Location:** _____

E-mail: _____ **Phone Number:** _____

Office Hours: _____ **Semester:** _____

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MAC 2233: Calculus for Business and Social Sciences I – AA 4 Credits

This course is designed for students in business and related studies who need calculus but not trigonometry. Included is a review of equations and inequalities and their applications, functions and graphs, exponential and logarithmic functions. Major topics include mathematics of finance limits and continuity, differentiation and integration and applications of these. A graphing calculator is required. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement.

II. PREREQUISITES FOR THE COURSE:

{MAC 1105 or MAC 1106 or MAC 1140} with a minimum grade of "C," or appropriate CLM score

III. GENERAL COURSE INFORMATION: Topic Outline

- Limits
- Differentiation of algebraic, logarithmic, and exponential functions
- Introduction to integration with applications
- Applications to business and the social sciences

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Determine the limit of a function when given its equation or graph.	Successful completion of one or more of the following assessment techniques:	TIM, QR
Identify continuous functions, and determine the point(s) of discontinuity for a discontinuous function.		QR
Apply the definition of a derivative to find the derivative of a function.		QR
Use an appropriate derivative to find an instantaneous rate of change and interpret the results.	Written Assignments Presentations Homework Labs Group assignments Projects Quizzes Tests Final examination	QR, COM
Create mathematical models for cost, revenue, profit, and price functions.		QR
Find and interpret the marginal revenue, marginal cost, and marginal profit functions.		QR, COM
Apply appropriate rules of differentiation to find a derivative.		QR
Solve problems in mathematics, business, and the social and life sciences using a derivative.		QR, CT
Determine intervals on which a given function increases or decreases.		QR
Determine critical numbers, and relative and absolute extrema of a given function.		QR
Apply the First Derivative Test for locating relative extrema.		QR
Determine the inflection point(s) and the intervals on which the graph of a given function is concave up and/or concave down.		QR, TIM

Apply the Second Derivative Test to determine relative extrema.	QR
Find and interpret the point of diminishing returns	QR, COM, CT
Solve optimization problems.	QR, CT
Compute the price elasticity of demand and interpret the results.	QR, COM
Use limits and derivatives to help determine the graph of a function.	QR, CT, TIM
Apply the formulas for compound interest.	QR, TIM
Determine the derivative of natural exponential and logarithmic functions.	QR
Find and interpret relative rate of change.	QR, COM
Use exponential growth and decay to model real life situations.	QR
Find an antiderivative by applying basic integration rules and techniques.	QR
Find the particular solution that satisfies a given differential equation and initial condition.	QR
Solve real life problems by using antiderivatives.	QR, CT
Use the Fundamental Theorem of Calculus to evaluate a definite integral by hand and by using a graphing utility.	QR, TIM
Calculate the area of a bounded region (including the area between two curves, and consumer and producer surplus) by using an integral.	QR, TIM, CT
Find the average value of a function over a closed interval by using an integral.	QR, TIM

V. DISTRICT-WIDE POLICIES:

Programs for Students with Disabilities

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VI. REQUIREMENTS FOR THE STUDENTS: List specific course assessments, such as

class participation, tests, homework assignments, make-up procedures, etc.

VII. ATTENDANCE POLICY: The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

VIII. GRADING POLICY: Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

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(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete" grades.)

IX. REQUIRED COURSE MATERIALS:

X. RESERVED MATERIALS FOR THE COURSE: Other special learning resources.

XI. CLAST COMPETENCIES INVOLVED IN THE COURSE:

XII. CLASS SCHEDULE: This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XIII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES: which would be useful to the students in the class.

EDISON STATE COLLEGE
Division of Arts and Sciences

COMMON COURSE SYLLABUS

Professor: _____ **Office Location:** _____
E-mail: _____ **Phone Number:** _____
Office Hours: _____ **Semester:** _____

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDIT HOURS:

MAP 2302: Differential Equations I – AA **4 Credits**

This course presents methods for finding solutions of first order equations and some higher-order equations, the use of Laplace transforms, and finding non-linear solutions. A graphing calculator is required. If completed with a grade of "C" or better, this course serves to demonstrate competence for the general education mathematics requirement.

II. PREREQUISITES FOR THE COURSE:

MAC 2312 with a minimum grade of "C"

III. GENERAL COURSE INFORMATION: Topic Outline

- Identification of dependent, independent, linear, and non-linear equations
- Separation of variables
- Substitution techniques
- Exact differential equations
- Integrating factors
- Higher order differential equations, including series solutions
- Undetermined coefficients
- Laplace transforms
- Inverse transforms
- Application of differential equations
- Shifting theorems
- Derivatives and integrals of Laplace transforms

IV. LEARNING OUTCOMES AND ASSESSMENT:

General Education Competencies:

General education courses must meet at least four of the following outcomes. All other courses will meet one or more of these outcomes.

At the conclusion of this course, students will be able to demonstrate the following competencies:

Communication (COM): To communicate (read, write, speak, listen) effectively using standard English and apply effective techniques to create working relationships with others to achieve common goals.

Critical Thinking (CT): To demonstrate skills necessary for analysis, synthesis, and evaluation.

Technology/Information Management (TIM): To demonstrate the skills and use the technology necessary to collect, verify, document, and organize information from a variety of sources.

Global Socio-cultural Responsibility (GSR): To identify, describe, and apply responsibilities, core civic beliefs, and values present in a diverse society.

Scientific and Quantitative Reasoning (QR): To identify and apply mathematical and scientific principles and methods.

Additional Course Competencies:

At the conclusion of this course, students will be able to demonstrate the following additional competencies:

Learning Outcomes	Assessments	Gen. Ed. Competencies
Classify differential equations by order and linearity.	Quizzes and/or Homework and/or Tests and/or Projects and/or Group Assignments	CT, COM
Analyze differential equations using separation of variables.		CT, TIM, COM, QR
Solve exact differential equations		CT, TIM, QR
Solve differential equations using integrating factors.		CT, TIM, QR
Compare and solve higher order differential equations using reduction of order, one or more methods for working with undetermined coefficients, and variation of parameters.		CT, TIM, COM, QR
Evaluate and model applications involving population, circuits, predator-prey, and boundary value problems.		CT, TIM, COM, QR, GSR
Design Laplace transforms and inverse Laplace transforms to solve appropriate differential equations.		CT, TIM, COM, QR
Design Laplace transforms and inverse Laplace transforms to solve differential equations using the shifting theorems.		CT, TIM, COM
Construct and graph the unit step function.		CT, TIM

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Hendry/Glades Ctr.	LaBelle H.S.	(863) 674-0408

- VI. **REQUIREMENTS FOR THE STUDENTS:** List specific course assessments, such as class participation, tests, homework assignments, make-up procedures, etc.
- VII. **ATTENDANCE POLICY:** The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)
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(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete" grades.)

- IX. **REQUIRED COURSE MATERIALS:**
- X. **RESERVED MATERIALS FOR THE COURSE:** Other special learning resources.
- XI. **CLAST COMPETENCIES INVOLVED IN THE COURSE:**
- XII. **CLASS SCHEDULE:** This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.
- XIII. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:** which would be useful to the students in the class.

