I. Roll
( ) Sandy Pence (FS) ( ) Carrie King (COH, Chair) ( ) Casey Rudkin (KPC)
( ) Utpal Dutta (FS) ( ) Yvonne Chase (COH) ( ) Luke Grabarek (Mat-su)
( ) Cheryl Smith (FS) ( ) Vacant (COE) ( ) Kathrynn Hollis-Buchanan (Kod)
( ) Alberta Harder (CAS) ( ) Vacant (CTC) ( ) DB Palmer (PWSC)
( ) Barbara Harville (CAS) ( ) Vacant (COENG) ( ) Christina Stuive (ADV)
( ) Grant Cochrane (CAS) ( ) Robin Hanson (LIB) ( ) Ian Minnock (USUAA)
( ) Vacant (CBPP)

Ex-Officio Members
( ) Susan Kalina
( ) Lora Volden
( ) Scheduling and Publications

II. Approval of the Agenda (pg. 1-2)

III. Approval of Meeting Summary (pg. 3-4)

IV. Administrative Report
A. Vice Provost for Undergraduate Academic Affairs Susan Kalina
B. University Registrar Lora Volden

V. Chair's Report
A. UAB Chair, Carrie King
B. GERC Chair, Sandy Pence

VI. Program/Course Action Request- Second Readings

VII. Program/Course Action Request- First Readings
Chg CS A320 Operating Systems
Chg CS A342 Networks
Chg CS A413 Computer and Data Security
Chg CS A448 Computer Architecture
Chg BAEL-BA: Bachelor of Arts in Elementary Education (with Teacher Certification)
Deact CSTD-MNR: Minor in Canadian Studies
Chg DNCE-MNR: Minor in Dance
Deact JRPC-MNR: Minor in Journalism and Public Communications
Chg OTHR-ORHERUG CAS Requirements
VIII. Old Business
   A. Review UAB Joint Values Statement
   B. Graduate Council Catalog Update Request – Incomplete Clarification (pg. 32)
   C. UAA Catalog Description of Baccalaureate Degrees (pg. 33)

IX. New Business
   A.

X. Informational Items and Adjournment:
   A. ENGR A494I Automotive Engineering CAR (pg. 34-43)
I. Roll
(P) Sandy Pence (FS) (P) Carrie King (COH, Chair) (T) Casey Rudkin (KPC)
(P) Utpal Dutta (FS) (P) Yvonne Chase (COH) (P) Luke Grabarek (Mat-su)
(E) Cheryl Smith (FS) (E) Robin Hanson (LIB) (E) Christina Stuive (ADV)
(T) Barbara Harder (CAS) (T) Kathryn Hollis-Buchanan (Kod)
(P) Alberta Harder (CAS) (P) Grant Cochran (CAS) (K) DB Palmer (PWSC)
() Vacant (COE) () Vacant (CTC) () Vacant (COENG)
() Vacant (CBPP) () Vacant (COENG) () Vacant (USUAA)

Ex-Officio Members
(P) Susan Kalina
(P) Lora Volden
(P) Scheduling and Publications

II. Approval of the Agenda (pg. 1-2)
Approved

III. Approval of Meeting Summary (pg. 3-4)
Approved

IV. Administrative Report
A. Vice Provost for Undergraduate Academic Affairs Susan Kalina
B. University Registrar Lora Volden

V. Chair’s Report
A. UAB Chair, Carrie King
B. GERC Chair, Sandy Pence

VI. Program/Course Action Request- Second Readings

VII. Program/Course Action Request- First Readings
Chg EDEL A205 Becoming an Elementary Teacher
Chg EDFN A210 Assessment-Based Online Tutoring
Chg EDFN A302 Foundations of Educational Technology
Chg AKNS A201 Alaska Native Perspectives
Chg AKNS A313 Tribes, Nations and Peoples
Chg BA A166 Entrepreneurship and Small Business Management
Add MEDT A306 Advanced Immunology and Blood Banking
Chg MEDT A495 Medical Laboratory Science Practicum
Chg  MUS A152 Voice Class
Chg  PS A313 Tribes, Nations and Peoples
Deact BIOS-MNR: Minor in Biological Sciences
Chg  CIVL-BS: Bachelor of Science in Civil Engineering
Deact GEOG-MINOR: Minor in Geography
Chg  HDTE-AAS: Associate of Applied Science in Diesel Power Technology
Chg  MECH-BS: Bachelor of Science in Mechanical Engineering
Chg  MLSC-BS: Bachelor of Science in Medical Laboratory Science

Approved at first read, forward to Faculty Senate

VIII. Old Business
   A. Purge List
      Approved at second read, forward to Faculty Senate

   B. Review UAB Joint Values Statement

IX. New Business
   A. Graduate Council Catalog Update Request – Incomplete Clarification (pg. 5)
      Accepted for first read

   B. UAA Catalog Description of Prerequisites (pg. 6)
      Approved at first read, forward to Faculty Senate

   C. UAA Catalog Description of Baccalaureate Degrees (pg. 7-9)
      Accepted for first read

X. Informational Items and Adjournment:
**Course Action Request**

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
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<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
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<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEUs</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
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<tr>
<td>MATH</td>
<td>A054</td>
<td></td>
<td>3 cr.</td>
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6. Complete Course Title

**Prelgebra**

Abbreviated Title for Transcript (30 character)

7. Type of Course

- [ ] Academic
- [x] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

8. Type of Action:

- [ ] Add
- [x] Change
- [ ] Delete

If a change, mark appropriate boxes:

- [ ] Prefix
- [ ] Credits
- [x] Title
- [x] Grading Basis
- [ ] Course Description
- [ ] Test Score Prerequisites
- [ ] Automatic Restrictions
- [x] Other CCG and Catalog Copy (please specify)

9. Repeat Status No

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</table>

10. Grading Basis

- [x] A-F
- [ ] P/NP
- [ ] NG

11. Implementation Date

From: Fall/2015  To: /9999

12. Cross Listed with

- [ ] Stacked with

Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

<table>
<thead>
<tr>
<th>Impacted Program/Course</th>
<th>Date of Coordination</th>
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<td>ATP A100</td>
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<td>CICS A116</td>
<td>1/21/15</td>
<td>Darlene Gill</td>
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<td></td>
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Initiator Name (typed): Thomas Harman  Initiator Signed Initials: _________  Date:

13b. Coordination Email

Date: 1/21/15  submitted to Faculty Listserve: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison

Date: 1/21/15

14. General Education Requirement

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

15. Course Description (suggested length 20 to 50 words)

Topics include operations and applications of whole numbers, integers, fractions, decimals, ratios and proportions, percents, geometry and measures, evaluation of algebraic expressions and applications.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

- [x] College
- [ ] Major
- [ ] Class
- [ ] Level

16d. Registration Restriction(s) (non-codable)

An approved UAA placement test is required.

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action

BOR resolution to unify course descriptions for developmental courses.

Initiator (faculty only)

Thomas Harman

Initiator (TYPE NAME)

[ ] Approved  [ ] Disapproved

Date

Dean/Director of School/College

[ ] Approved  [ ] Disapproved

Date

Undergraduate/Graduate Academic

[ ] Approved  [ ] Disapproved

Date

Board Chair

[ ] Approved  [ ] Disapproved

Date

Provost or Designee

[ ] Approved  [ ] Disapproved

Date
I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences
B. Course Prefix: MATH
C. Course Number: A054
D. Number of Credits: 3
E. Contact Hours: 3+0 (135 hours of total student engagement)
F. Course Title: Prealgebra
G. Grading Basis: A-F
H. Implementation Date: Fall 2015
I. Cross-listed/Stacked: N/A
J. Course Description: Topics include operations and applications of whole numbers, integers, fractions, decimals, ratios and proportions, percents, geometry and measures, evaluation of algebraic expressions and applications.
K. Course Prerequisites: N/A
L. Course Co-requisites: N/A
M. Other Restrictions: N/A
N. Registration Restrictions: An approved UAA placement test is required.
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Explain how to manipulate whole numbers, integers, fractions and decimals.
   2. Define exponents and radicals.
   3. Introduce tables, pictographs, bar graphs and line graphs, means, medians and modes.
   4. Demonstrate how to compute ratios, proportions and percentages, and solve simple interest problems.
   5. Demonstrate elementary geometry concepts (area, perimeter and volume calculations), the Pythagorean Theorem, and similar triangles.
   6. Introduce algebraic expressions and equations
B. Student Learning Outcomes. Students will be able to:
   1. Understand and manipulate integers, decimals and fractions
   2. Understand and apply graphical and proportional data
   3. Calculate perimeters, areas and volumes of basic geometric shapes
   4. Simplify and evaluate basic algebraic expressions and equations

IV. Guidelines for evaluation
Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
The course prepares students for Beginning Algebra and improves basic quantitative skills.

VI. Topical Course Outline

1.0 Basic Arithmetic
   1.1 Arithmetic on Whole Numbers
   1.2 Arithmetic on Integers
   1.3 Order of Operations
   1.4 Factors and Multiples
   1.5 Simplifying Fractions
   1.6 Multiplying and Dividing Fractions
   1.7 Adding and Subtracting Fractions
   1.8 Converting Mixed Numbers to Fractions
   1.9 Converting Between Fractions and Decimals
   1.10 Decimal Arithmetic
   1.11 Order of Real Numbers and the Number Line
   1.12 Rounding and Estimation

2.0 Exponents and Radicals
   2.1 Integer Exponents
   2.2 Scientific Notation
   2.3 Radicals
   2.4 Compound Interest (optional)

3.0 Data
   3.1 Reading and Constructing Tables
   3.2 Pictographs, Bar Graphs, and Line Graphs
   3.3 Measures of Central Tendency

4.0 Arithmetic Applications
   4.1 Ratios
   4.2 Rates and Unit Prices
   4.3 Proportions
   4.4 Unit Conversions
   4.5 Percent
   4.6 Application of Percent
   4.7 Simple Interest

5.0 Geometry Applications
   5.1 Calculating Perimeter
   5.2 Calculating Area
   5.3 Calculating Volume
   5.4 The Pythagorean Theorem
   5.5 Similar Triangles

6.0 Algebraic Concepts
   6.1 Algebraic Expressions
6.2 Arithmetic on Polynomials
6.3 Solving Algebraic Equations with Integers
6.4 Solving Algebraic Equations with Decimals
6.5 Solving Algebraic Equations with Fractions
6.6 Graphing Algebraic Equations

VI. Suggested Texts


VII. Bibliography


<table>
<thead>
<tr>
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<th>1c. Department</th>
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6. Complete Course Title

**Prealgebra A**

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8. Type of Action: Add or Change or Delete

If a change, mark appropriate boxes:

- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other CCG and Catalog Copy (please specify)
- Course Number
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Course Prerequisites
- Registration Restrictions
- General Education Requirement

9. Repeat Status No: # of Repeats: Max Credits

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13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

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Initiator Name (typed): Thomas Harman

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Mark appropriate box:

15. Course Description (suggested length 20 to 50 words)

Topics include operations and applications of whole numbers, integers, fractions, decimals, ratios and proportions, and percents. The topic of math anxiety is dealt with throughout the course. Special Note: MATH A054A, A054B, A054C combined are equivalent to MATH A054.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

- College
- Major
- Class
- Level

- registration restriction(s) (non-codable)

An approved UAA placement test is required.

17. Mark if course has fees

18. Mark if course is a selected topic course

19. Justification for Action

BOR resolution to unify course descriptions for developmental courses.

Initiator (faculty only)

**Thomas Harman**

Initiator (TYPE NAME)

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Undergraduate/Graduate Academic Board Chair

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Provost or Designee

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College/School Curriculum Committee Chair

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I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences
B. Course Prefix: MATH
C. Course Number: A054A
D. Number of Credits: 1
E. Contact Hours: 1+0 (45 hours of total student engagement)
F. Course Title: Prealgebra A
G. Grading Basis: A-F
H. Implementation Date: Fall 2015
I. Cross-listed/Stacked: N/A
J. Course Description: Topics include operations and applications of whole numbers, integers, fractions, decimals, ratios and proportions, and percents. The topic of math anxiety is dealt with throughout the course.

Special Note: MATH A054A, A054B, A054C combined are equivalent to MATH A054.
K. Course Prerequisites: N/A
L. Course Co-requisites: N/A
M. Other Restrictions: N/A
N. Registration Restrictions: An approved UAA placement test is required.
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Explain how to manipulate whole numbers, integers, fractions and decimals.

B. Student Learning Outcomes. Students will be able to:
   1. Understand and manipulate integers, decimals and fractions

IV. Guidelines for evaluation
Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
The course prepares students for Beginning Algebra and improves basic quantitative skills.
VI. Topical Course Outline

1.0 Math Anxiety

2.0 Basic Arithmetic
   2.1 Notation of Whole Numbers
   2.2 Arithmetic on Whole Numbers
   2.3 Arithmetic on Integers
   2.4 Order of Operations
   2.5 Factors and Multiples
   2.6 Simplifying Fractions
   2.7 Multiplying and Dividing Fractions
   2.8 Adding and Subtracting Fractions
   2.9 Converting Mixed Numbers to Fractions
   2.10 Converting Between Fractions and Decimals
   2.11 Decimal Arithmetic
   2.12 Order of Real Numbers and the Number Line
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VI. Suggested Texts


VII. Bibliography


Course Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

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6. Complete Course Title  
Prealgebra B  
Abbreviated Title for Transcript (30 character)

7. Type of Course  
[ ] Academic  [x] Preparatory/Development  [ ] Non-credit  [ ] CEU  [ ] Professional Development

8. Type of Action:  
[ ] Add  [x] Change  [ ] Delete

If a change, mark appropriate boxes:

- [ ] Prefix
- [x] Course Number
- [ ] Credits
- [x] Contact Hours
- [ ] Grade
- [x] Repeat Status
- [ ] Grading Basis
- [x] Cross-Listed/Stacked
- [ ] Course Description
- [ ] Course Prerequisites
- [ ] Test Score Prerequisites
- [ ] Co-requisites
- [ ] Automatic Restrictions
- [x] Registration Restrictions
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [x] General Education Requirement
- [ ] Other CCG and Catalog Copy (please specify)

9. Repeat Status No  
[ ] # of Repeats  
Max Credits

10. Grading Basis  
[ ] A-F  [ ] P/NP  [ ] NG

11. Implementation Date  
From: Fall/2015  
To: /9999

12. [ ] Cross Listed with  
[ ] Stacked with  
Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course. Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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Initiator Name (typed): Thomas Harman  
Initiator Signed Initials:  
Date:

13b. Coordination Email  
Date: 1/21/15  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison  
Date: 1/21/15

14. General Education Requirement  
Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
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- [ ] Integrative Capstone

15. Course Description (suggested length 20 to 50 words)
Topics include operations and applications of integers, fractions, decimals, ratios and proportions, percents, exponents and radicals. Special Note: MATH A054A, A054B, A054C combined are equivalent to MATH A054.

16a. Course Prerequisite(s) (list prefix and number or test code and score) MATH A054A with a minimum grade of C

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

- [ ] College
- [ ] Major
- [ ] Class
- [ ] Level

17. [x] Mark if course has fees

18. [ ] Mark if course is a selected topic course

19. Justification for Action  
BOR resolution to unify course descriptions for developmental courses.

Initiator (faculty only)  
Thomas Harman  
Initiator (TYPE NAME)  
[ ] Approved  
[ ] Disapproved

Initiator (TYPE NAME)  
[ ] Approved  
[ ] Disapproved

Department Chair  
Date

[ ] Approved  
[ ] Disapproved

[ ] Approved  
[ ] Disapproved

Provost or Designee  
Date

Dean/Director of School/College  
Date

Undergraduate/Graduate Academic  
Date

Board Chair  
Date
University of Alaska Anchorage  
College of Arts and Sciences  
Course Content Guide

I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences  
B. Course Prefix: MATH  
C. Course Number: A054B  
D. Number of Credits: 1  
E. Contact Hours: 1+0 (45 hours of total student engagement)  
F. Course Title: Prealgebra B  
G. Grading Basis: A-F  
H. Implementation Date: Fall 2015  
I. Cross-listed/Stacked: N/A  
J. Course Description: Topics include operations and applications of integers, fractions, decimals, ratios and proportions, percents, exponents and radicals  
Special Note: MATH A054A, A054B, A054C combined are equivalent to MATH A054.  
K. Course Prerequisites: MATH A054A with a minimum grade of C  
L. Course Co-requisites: N/A  
M. Other Restrictions: N/A  
N. Registration Restrictions: N/A  
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:  
   1. Define exponents and radicals  
   2. Demonstrate how to compute ratio, proportions and percentages, and solve simple interest problems.  
B. Student Learning Outcomes. Students will be able to:  
   1. Understand and manipulate integers, decimals and fractions  
   2. Understand and apply graphical and proportional data

IV. Guidelines for evaluation
Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
The course prepares students for Beginning Algebra and improves basic quantitative skills.
VI. **Topical Course Outline**

1.0 Exponents and Radicals  
   1.1 Integer Exponents  
   1.2 Scientific Notation  
   1.3 Radicals  
   1.4 Compound Interest (optional)

2.0 Arithmetic Applications  
   2.1 Decimal Arithmetic  
   2.2 Order of Real Numbers and the Number Line  
   2.3 Rounding and Estimation  
   2.4 Ratios  
   2.5 Rates and Unit Prices  
   2.6 Proportions  
   2.7 Unit Conversions  
   2.8 Percent  
   2.9 Applications of Percent  
   2.10 Simple Interest

VI. **Suggested Texts**


VII. **Bibliography**


**Course Action Request**  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course

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**6. Complete Course Title**  
Prealgebra C

**Abbreviated Title for Transcript (30 character)**

**7. Type of Course**  
- [X] Academic  
- [ ] Preparatory/Development  
- [ ] Non-credit  
- [ ] CEU  
- [ ] Professional Development

**8. Type of Action:**  
- [ ] Add  
- [ ] Change  
- [ ] Delete

**If a change, mark appropriate boxes:**  
- [ ] Prefix  
- [ ] Credits  
- [ ] Title  
- [ ] Grading Basis  
- [ ] Course Description  
- [ ] Test Score Prerequisites  
- [ ] Automatic Restrictions  
- [ ] Other CCG and Catalog Copy (please specify)

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**10. Grading Basis**  
- [X] A-F  
- [ ] P/NP  
- [ ] NG

**11. Implementation Date**  
- Semester/year: Fall/2015  
- To: /9999

**12. Cross Listed with**  
- [ ] Stacked with: ____________________

**13a. Impacted Courses or Programs:** List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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Initiator Name (typed): Thomas Harman  
Initiator Signed Initials: _________  
Date: __________

**13b. Coordination Email**  
Date: 1/21/15  
submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

**13c. Coordination with Library Liaison**  
Date: 1/21/15

**14. General Education Requirement**  
Mark appropriate box:  
- [ ] Oral Communication  
- [ ] Written Communication  
- [ ] Quantitative Skills  
- [ ] Humanities  
- [ ] Fine Arts  
- [ ] Social Sciences  
- [ ] Natural Sciences  
- [ ] Integrative Capstone

**15. Course Description (suggested length 20 to 50 words)**

Topics include evaluation of algebraic expressions with applications, geometry and measures. Special Note: MATH A054A, A054B, A054C combined are equivalent to MATH A054.

**16a. Course Prerequisite(s) (list prefix and number or test code and score)**  
MATH A054B with a minimum grade of C

**16b. Co-requisite(s) (concurrent enrollment required)**

**16c. Automatic Restriction(s)**  
- [ ] College  
- [ ] Major  
- [ ] Class  
- [ ] Level

**16d. Registration Restriction(s) (non-codable)**

**17. Mark if course has fees**

**18. Mark if course is a selected topic course**

**19. Justification for Action**

BOR resolution to unify course descriptions for developmental courses.

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**Initiator (TYPE NAME): Thomas Harman**  
Initiator Signed Initials: _________  
Date: __________
I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences
B. Course Prefix: MATH
C. Course Number: A054C
D. Number of Credits: 1
E. Contact Hours: 1+0 (45 hours of total student engagement)
F. Course Title: Prealgebra C
G. Grading Basis: A-F
H. Implementation Date: Fall 2015
I. Cross-listed/Stacked: N/A
J. Course Description: Topics include evaluation of algebraic expressions with applications, geometry and measures. Special Note: MATH A054A, A054B, A054C combined are equivalent to MATH A054.
K. Course Prerequisites: MATH A054B with a minimum grade of C
L. Course Co-requisites: N/A
M. Other Restrictions: N/A
N. Registration Restrictions: N/A
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Introduce algebraic expressions and polynomials

B. Student Learning Outcomes. Students will be able to:
   1. Simplify and evaluate basic algebraic expressions and equations

IV. Guidelines for evaluation
Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
The course prepares students for Beginning Algebra and improves basic quantitative skills.

VI. Topical Course Outline
1.0 Data
   1.1 Reading and Constructing Tables
   1.2 Pictographs, Bar Graphs, and Line Graphs
   1.3 Measures of Central Tendency
2.0 Geometry and Applications
   2.1 Calculating Perimeter
   2.2 Calculating Area
   2.3 Calculating Volume
   2.4 Pythagorean Theorem
   2.5 Similar Triangles

3.0 Algebraic Concepts
   3.1 Algebraic Expressions
   3.2 Arithmetic on Polynomials
   3.3 Solving Algebraic Equations with Integers
   3.4 Solving Algebraic Equations with Decimals
   3.5 Solving Algebraic Equations with Fractions
   3.6 Graphing Algebraic Equations

VI. Suggested Texts


VII. Bibliography


# Course Action Request

## University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<td>List any programs or college requirements that require this course.</td>
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Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at [www.uaa.alaska.edu/governance](http://www.uaa.alaska.edu/governance).

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| 17. ☑ Mark if course has fees |

| 18. ☐ Mark if course is a selected topic course |

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Initiator (faculty only) | Date |
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☐ Approved | ☐ Disapproved | Dean/Director of School/College | Date |
|           |             |                             |      |

☐ Approved | ☐ Disapproved | Undergraduate/Graduate Academic | Date |
|           |             |                             |      |

☐ Approved | ☐ Disapproved | Board Chair | Date |
|           |             |              |      |

☐ Approved | ☐ Disapproved | Provost or Designee | Date |
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University of Alaska Anchorage  
College of Arts and Sciences  
Course Content Guide

I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences
B. Course Prefix: MATH
C. Course Number: A055
D. Number of Credits: 3
E. Contact Hours: 3+0 (135 hours of total student engagement)
F. Course Title: Elementary Algebra
G. Grading Basis: A-F
H. Implementation Date: Fall 2015
I. Cross-listed/Stacked: N/A
J. Course Description: Topics include evaluating and simplifying algebraic expressions, polynomials, factoring, integer exponents, rational expressions, solutions of linear equations and inequalities, quadratic equations and graphs of lines.
K. Course Prerequisites: MATH A054 with a minimum grade of C
L. Course Co-requisites: N/A
M. Other Restrictions: N/A
N. Registration Restrictions: If the prerequisite is not satisfied, an approved UAA placement test is required.
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:
   1. Define polynomial and rational expressions and demonstrate the basic operations on each
   2. Introduce the concept of a linear equation
   3. Demonstrate how to solve linear, quadratic and rational equations, and how to apply them to simple models
   4. Define exponents and radicals

B. Student Learning Outcomes. Students will be able to:
   1. Evaluate, factor and simplify algebraic, rational and absolute value expressions
   2. Solve, graph and interpret linear equations and inequalities
   3. Solve and interpret quadratic and rational equations
   4. Solve applications of linear, quadratic and rational equations

IV. Guidelines for evaluation
   Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
   The course is a prerequisite for General Education Quantitative Skills courses at UAA.
VI. Topical Course Outline

1.0 Real Numbers and their Basic Properties
   1.1 Basic Definitions
   1.2 Operations on Real Numbers
   1.3 Properties of Real Numbers
   1.4 Powers of Real Numbers

2.0 Equations and Inequalities
   2.1 Solving Equations
   2.2 Simplifying Expressions to Solve Equations
   2.3 Application Problems
   2.4 Formulas for Solving Application Problems
   2.5 Solving Inequalities

3.0 Graphing and Solving Systems of Equations and Inequalities
   3.1 The Rectangular Coordinate System
   3.2 Graphing Linear Equations
   3.3 Slope and Applications
   3.4 Solving Systems of Linear Equations by Graphing
   3.5 Solving Systems of Linear Equations by Substitution
   3.6 Solving Systems of Equations by Elimination/Addition
   3.7 Applications of Systems of Equations
   3.8 Systems of Linear Inequalities (optional)

4.0 Polynomials
   4.1 Exponents and their Properties
   4.2 Negative Exponents and Scientific Notation
   4.3 Introduction to Polynomials
   4.4 Adding and Subtracting Polynomials
   4.5 Multiplying Polynomials
   4.6 Dividing Polynomials

5.0 Factoring Polynomials
   5.1 Factoring Out the Greatest Common Factor; Factoring by Grouping
   5.2 Factoring the Difference of Two Squares
   5.3 Factoring Trinomials with Lead Coefficients of 1
   5.4 Factoring General Trinomials
   5.5 Factoring the Sum and Difference of Two Cubes
   5.6 Factoring: A General Strategy
   5.7 Solving Equations by Factoring
   5.8 Solving Applications

6.0 Proportion and Rational Expressions
   6.1 Ratios
   6.2 Proportions and Similar Triangles
   6.3 Simplifying Rational Expressions
6.4 Multiplying and Dividing Rational Expressions
6.5 Adding and Subtracting Rational Expressions
6.6 Complex Rational Expressions
6.7 Solving Rational Equations
6.8 Applications of Equations that Contain Rational Expressions

VI. Suggested Texts


VII. Bibliography

### Course Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course

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<th>Registration Restrictions</th>
<th>Class</th>
<th>Level</th>
<th>College</th>
<th>Major</th>
<th>General Education Requirement</th>
<th>Repeat Status</th>
<th>Repeat Status</th>
<th># of Repeats</th>
<th>Max Credits</th>
<th>Grading Basis</th>
<th>Implementation Date</th>
<th>Contact Hours</th>
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10. Grading Basis: □ A-F  □ P/NP  □ NG

11. Implementation Date: semester/year
   From: Fall/2015  To: /9999

12. □ Cross Listed with  □ Stacked with
   Cross-Listed Coordination Signature

13a. Impacted Courses or Programs: List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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</table>

Initiator Name (typed): Thomas Harman  Initiator Signed Initials: __________ Date: __________

13b. Coordination Email: 1/21/15
   submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

13c. Coordination with Library Liaison: Date: 1/21/15

14. General Education Requirement

Mark appropriate box:

| □ Oral Communication | □ Written Communication | □ Quantitative Skills | □ Humanities |
| □ Fine Arts          | □ Social Sciences       | □ Natural Sciences    | □ Integrative Capstone |

15. Course Description (suggested length 20 to 50 words)

Topics include solutions of linear equations and graphs of lines.

Special Note: MATH A055A, A055B, A055C combined are equivalent to MATH A055.

16a. Course Prerequisite(s) (list prefix and number or test code and score)

MATH A054 with an A minimum grade of C

16b. Co-requisite(s) (concurrent enrollment required)

16c. Automatic Restriction(s)

| □ College | □ Major | □ Class | □ Level |

16d. Registration Restriction(s) (non-codable)

If the prerequisite is not satisfied, an approved UAA placement test is required.

17. □ Mark if course has fees

18. □ Mark if course is a selected topic course

19. Justification for Action

BOR resolution to unify course descriptions for developmental courses.

Initiator (faculty only)

Initiator (TYPE NAME)

Authorized Signature: __________ Date: __________

Approved

Disapproved

Dean/Director of School/College

Date

Approved

Disapproved

Undergraduate/Graduate Academic

Date

Approved

Disapproved

Board Chair

Date

Approved

Disapproved

Provost or Designee

Date
University of Alaska Anchorage  
College of Arts and Sciences  
Course Content Guide

I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences  
B. Course Prefix: MATH  
C. Course Number: A055A  
D. Number of Credits: 1  
E. Contact Hours: 1+0 (45 hours of total student engagement)  
F. Course Title: Elementary Algebra A  
G. Grading Basis: A-F  
H. Implementation Date: Fall 2015  
I. Cross-listed/Stacked: N/A  
J. Course Description: Topics include solutions of linear equations and graphs of lines.  
Special Note: MATH A055A, A055B, A055C combined are equivalent to MATH A055.  
K. Course Prerequisites: MATH A054 with a minimum grade of C  
L. Course Co-requisites: N/A  
M. Other Restrictions: N/A  
N. Registration Restrictions: If the prerequisite is not satisfied, an approved UAA placement test is required.  
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:  
1. Introduce the concept of a linear equation  
2. Demonstrate how to solve linear equations, and how to apply them to simple models  

B. Student Learning Outcomes. Students will be able to:  
1. Solve, graph and interpret linear equations  
2. Solve applications of linear equations

IV. Guidelines for evaluation
Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
The course is a prerequisite for General Education Quantitative Skills courses at UAA.
VI. Topical Course Outline

1.0 Real Numbers and their Basic Properties
   1.1 Basic Definitions
   1.2 Operations on Real Numbers
   1.3 Properties of Real Numbers
   1.4 Powers of Real Numbers
   1.5 Roots of Real Numbers

2.0 Equations and Inequalities
   2.1 Solving Equations
   2.2 Simplifying Expressions to Solve Equations
   2.3 Application Problems
   2.4 Formulas for Solving Application Problems

3.0 Graphing Linear Equations
   3.1 The Rectangular Coordinate System
   3.2 Graphing Linear Equations
   3.3 Slope and Applications

VI. Suggested Texts


VII. Bibliography

## Course Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course**

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**6. Complete Course Title**

Elementary Algebra B

**Abbreviated Title for Transcript (30 character)**

**7. Type of Course**

- [ ] Academic
- [x] Preparatory/Development
- [ ] Non-credit
- [ ] CEU
- [ ] Professional Development

**8. Type of Action:**

- [ ] Add
- [x] Change
- [ ] Delete

If a change, mark appropriate boxes:

- [ ] Prefix
- [x] Course Number
- [ ] Credits
- [ ] Contact Hours
- [ ] Title
- [ ] Repeat Status
- [ ] Grading Basis
- [ ] Cross-Listed/Stacked
- [x] Course Description
- [ ] Course Prerequisites
- [x] Test Score Prerequisites
- [ ] Co-requisites
- [ ] Automatic Restrictions
- [ ] Registration Restrictions
- [ ] General Education Requirement
- [ ] Class
- [ ] Level
- [ ] College
- [ ] Major
- [ ] Other CCG and Catalog Copy (please specify)

**9. Repeat Status No**

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**10. Grading Basis**

- [x] A-F
- [ ] P/NP
- [ ] NG

**11. Implementation Date**

- From: Fall/2015
- To: 9999

**12. Cross Listed with Stacked with**

Cross-Listed Coordination Signature

**13a. Impacted Courses or Programs:** List any programs or college requirements that require this course.

Please type into fields provided in table. If more than three entries, submit a separate table. A template is available at www.uaa.alaska.edu/governance.

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Initiator Name (typed): Thomas Harman

Initiator Signed Initials: __________ Date: __________

**13b. Coordination Email**

Submitted to Faculty Listserv: (uaa-faculty@lists.uaa.alaska.edu)

**13c. Coordination with Library Liaison**

Date: 1/21/15

**14. General Education Requirement**

Mark appropriate box:

- [ ] Oral Communication
- [ ] Written Communication
- [ ] Quantitative Skills
- [ ] Humanities
- [ ] Fine Arts
- [ ] Social Sciences
- [ ] Natural Sciences
- [ ] Integrative Capstone

**15. Course Description**

(suggested length 20 to 50 words)

Topics include evaluating and simplifying algebraic expressions, polynomials, factoring, integer exponents. Special Note: MATH A055A, A055B, A055C combined are equivalent to MATH A055.

**16a. Course Prerequisite(s) (list prefix and number or test code and score)**

MATH A055A with a minimum grade of C

**16b. Co-requisite(s) (concurrent enrollment required)**

**16c. Automatic Restriction(s)**

- [x] College
- [ ] Major
- [ ] Class
- [ ] Level

**16d. Registration Restriction(s) (non-codable)**

**17. Mark if course has fees**

**18. Mark if course is a selected topic course**

**19. Justification for Action**

BOR resolution to unify course descriptions for developmental courses.

Initiator (faculty only)

Thomas Harman

Initiator (TYPE NAME)

- [ ] Approved
- [ ] Disapproved

Dean/Director of School/College Date

- [ ] Approved
- [ ] Disapproved

Undergraduate/Graduate Academic Board Chair Date

- [ ] Approved
- [ ] Disapproved

Provost or Designee Date

__________________________
Initiator (faculty only) Date

__________________________
Department Chair Date

__________________________
College/School Curriculum Committee Chair Date
I. Date of Initiation: January 2015

II. Curriculum Action Request
   A. College: College of Arts and Sciences
   B. Course Prefix: MATH
   C. Course Number: A055B
   D. Number of Credits: 1
   E. Contact Hours: 1+0 (45 hours of total student engagement)
   F. Course Title: Elementary Algebra B
   G. Grading Basis: A-F
   H. Implementation Date: Fall 2015
   I. Cross-listed/Stacked: N/A
   J. Course Description: Topics include evaluating and simplifying algebraic expressions, polynomials, factoring, integer exponents. Special Note: MATH A055A, A055B, A055C combined are equivalent to MATH A055.
   K. Course Prerequisites: MATH A055A with a minimum grade of C
   L. Course Co-requisites: N/A
   M. Other Restrictions: N/A
   N. Registration Restrictions: N/A
   O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
   A. Instructional Goals. The instructor will:
      1. Define polynomial expressions and demonstrate the basic operations
      2. Define exponents and their properties
      3. Demonstrate how to solve systems of linear equations

   B. Student Learning Outcomes. Students will be able to
      1. Evaluate and simplify polynomial expressions
      2. Perform operations on polynomial expressions
      3. Solve and interpret systems of linear equation
      4. Solve applications of linear equations

IV. Guidelines for evaluation
    Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification
    The course is a prerequisite for General Education Quantitative Skills courses at UAA.

VI. Topical Course Outline
1.0 Solving Systems of Equations and Inequalities
1.1 Solving Systems of Linear Equations by Graphing
1.2 Solving Systems of Linear Equations by Substitution
1.3 Solving Systems of Linear Equations by Elimination/Addition
1.4 Applications of Systems of Equations
1.5 Systems of Linear Inequalities (optional)

2.0 Polynomials
2.1 Exponents and their Properties
2.2 Negative Exponents and Scientific Notation
2.3 Introduction to Polynomials
2.4 Adding and Subtracting Polynomials
2.5 Multiplying Polynomials
2.6 Dividing Polynomials

VI. Suggested Texts


VII. Bibliography


1. School or College  
AS CAS  

2. Course Prefix  
MATH  

3. Course Number  
A055C  

4. Previous Course Prefix & Number  
MATH A058C  

5a. Credits/CEUs  
1 cr.  

5b. Contact Hours  
(Lecture + Lab)  
(1+0)  

6. Complete Course Title  
Elementary Algebra C  

Abbreviated Title for Transcript (30 character)  

7. Type of Course  
[ ] Academic  [x] Preparatory/Development  [ ] Non-credit  [ ] CEU  [ ] Professional Development  

8. Type of Action:  
[ ] Add  [ ] Change  or  [ ] Delete  
If a change, mark appropriate boxes:  
[ ] Prefix  [x] Course Number  [ ] Credits  [ ] Title  [ ] Grading Basis  [ ] Course Description  [ ] Test Score Prerequisites  [ ] Co-requisites  [ ] Automatic Restrictions  [x] Registration Restrictions  [ ] Class  [ ] Level  [ ] College  [ ] Major  [ ] General Education Requirement  [ ] Other CCG and Catalog Copy (please specify)  

9. Repeat Status No  
# of Repeats  
Max Credits  

10. Grading Basis  
[ ] A-F  [ ] P/NP  [ ] NG  

11. Implementation Date  
From: Fall/2015  
To: /9999  

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[ ] Stacked with  

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13a. Impacted Courses or Programs: List any programs or college requirements that require this course.  
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Initiator Name (typed): Thomas Harman  
Initiator Signed Initials: _________  
Date:________________  

13b. Coordination Email  
Submitted to Faculty Listserv:  
[uaa-faculty@lists.uaa.alaska.edu]  

13c. Coordination with Library Liaison  
Date: 1/21/15  

14. General Education Requirement  
Mark appropriate box:  
[ ] Oral Communication  [ ] Written Communication  [ ] Quantitative Skills  [ ] Humanities  
[ ] Fine Arts  [ ] Social Sciences  [ ] Natural Sciences  [ ] Integrative Capstone  

15. Course Description (suggested length 20 to 50 words)  
Topics include evaluating and simplifying algebraic expressions, factoring, and quadratic equations.  
Special Note: MATH A055A, A055B, A055C combined are equivalent to MATH A055.  

16a. Course Prerequisite(s) (list prefix and number or test code and score)  
MATH A055B with a minimum grade of C  

16b. Co-requisite(s) (concurrent enrollment required)  

16c. Automatic Restrictions(s)  
[ ] College  [ ] Major  [ ] Class  [ ] Level  

16d. Registration Restriction(s) (non-codable)  

17. Mark if course has fees  

18. Mark if course is a selected topic course  

19. Justification for Action  
BOR resolution to unify course descriptions for developmental courses.  

Initiator (faculty only)  
Thomas Harman  
Initiator (TYPE NAME)  

[ ] Approved  [ ] Disapproved  
Dean/Director of School/College  
Date  

[ ] Approved  [ ] Disapproved  
Undergraduate/Graduate Academic  
Date  

[ ] Approved  [ ] Disapproved  
Board Chair  
Date  

[ ] Approved  [ ] Disapproved  
Provost or Designee  
Date  

[ ] Approved  [ ] Disapproved  
Correcting/Stacking  
Date  

[ ] Approved  [ ] Disapproved  
College/School Curriculum Committee Chair  
Date
University of Alaska Anchorage  
College of Arts and Sciences  
Course Content Guide

I. Date of Initiation: January 2015

II. Curriculum Action Request
A. College: College of Arts and Sciences  
B. Course Prefix: MATH  
C. Course Number: A055C  
D. Number of Credits: 1  
E. Contact Hours: 1+0 (45 hours of total student engagement)  
F. Course Title: Elementary Algebra C  
G. Grading Basis: A-F  
H. Implementation Date: Fall 2015  
I. Cross-listed/Stacked: N/A  
J. Course Description: Topics include evaluating and simplifying algebraic expressions, factoring, and quadratic equations. Special Note: MATH A055A, A055B, A055C combined are equivalent to MATH A055.  
K. Course Prerequisites: MATH A055B with a minimum grade of C  
L. Course Co-requisites: N/A  
M. Other Restrictions: N/A  
N. Registration Restrictions: N/A  
O. Course Fees: Yes

III. Instructional Goals and Student Learning Outcomes
A. Instructional Goals. The instructor will:  
   1. Define polynomial and rational expressions and demonstrate the basic operations on each  
   2. Introduce the concept of a rational equation  
   3. Demonstrate how to solve rational equations and how to apply them to simple models  
B. Student Learning Outcomes. Students will be able to:  
   1. Evaluate, factor and simplify rational expressions  
   2. Perform operations on rational expressions  
   3. Solve, graph and interpret rational equations  
   4. Solve and interpret rational equations  
   5. Solve applications of rational equations

IV. Guidelines for evaluation  
Assessment tools for all SLOs consist of: homework assignments, quizzes, tests, and a midterm examination. A comprehensive final exam will be given.

V. Course Level Justification  
The course is a prerequisite for General Education Quantitative Skills courses at UAA.

VI. Topical Course Outline
1.0 Factoring Polynomials
   1.1 Factoring out the Greatest Common Factor; Factoring by Grouping
   1.2 Factoring the Difference of Two Squares
   1.3 Factoring Trinomials with a Leading Coefficient of 1
   1.4 Factoring General Trinomials
   1.5 Factoring the Sum and Difference of Cubes
   1.6 Factoring: A General Strategy
   1.7 Solving Equations by Factoring
   1.8 Solving Applications

2.0 Proportions and Rational Expressions
   2.1 Ratios
   2.2 Proportions and Similar Triangles
   2.3 Simplifying Rational Expressions
   2.4 Multiplying and Dividing Rational Expressions
   2.5 Adding and Subtracting Rational Expressions
   2.6 Complex Rational Expressions
   2.7 Solving Rational Equations
   2.8 Applications Involving Rational Equations

VI. Suggested Texts


VII. Bibliography


Incomplete Grades

An incomplete grade (I) indicates that a student has not completed the coursework by the end of the course. A final grade and credit will be withheld without penalty until the course requirements are met within an approved time, not to exceed one year. After one year, the “I” becomes a permanent grade.

An incomplete grade (I) is assigned only at the discretion of the instructor. It is used to indicate that a student has made satisfactory progress in the majority of the work in a course but, for unavoidable absences or other conditions beyond the control of the student, has not been able to complete the remainder of the course. Students must have completed the majority of the course assignments with a passing grade as determined by the instructor by the time they request the incomplete grade. The incomplete grade can be requested only when an unforeseen situation beyond the control of the student makes it difficult for the student to complete the remaining assignments in the class; it cannot be used to make up assignments previously missed or completed with lower than expected grades. In any given situation meeting the requirements above, the decision whether to grant the incomplete grade rests with the instructor for the class. The instructor may require documentation. The instructor who agrees to assign an incomplete grade is responsible for grading any yet to be completed material and for submitting a change of grade form for the student. Students assigned an incomplete grade are not entitled to complete the remaining coursework within the classroom/lab or to any additional instruction, nor may they participate in the class/lab during a future semester without re-registering, paying tuition and retaking the course.

An Incomplete Grade Contract Form between the student and the faculty member, stipulating the assignment(s) required to finish the course and the time frame for submission, is required and should be filed with the Office of the Registrar when an incomplete grade is assigned. Coursework must be completed by the date specified in the contract, not to exceed one year.

Upon completion of the required coursework, the faculty member must submit a Change of Grade Form to the Office of the Registrar. If coursework is not completed by the contract deadline and the faculty member does not submit a Change of Grade Form at that time, the incomplete will become a permanent grade. The student has until the last day of class of the first full semester following the end of the contract to resolve any grading discrepancies.

- See more at: https://catalog.uaa.alaska.edu/policies/academicstandardsregulations/grading/#sthash.MwaCYe0I.RwBWBXiQ.dpuf

Commented [SMK1]: The appropriate process is the final grade dispute process.
Baccalaureate Degrees
Baccalaureate — or bachelor’s — degrees, are organized programs of study that consist of a minimum of 120 credits. In addition to providing extensive preparation in a specific knowledge area, the content and activities found in the baccalaureate degree promote in students the abilities to reason, research and analyze, and to form, support and communicate ideas and opinions.

Baccalaureate degrees are offered at UAA in over 50 major study areas.

PROPOSED COPY
Baccalaureate — or bachelor’s — degrees, consist of a minimum of 120 credits and are comprised of three interrelated parts:

1. **General Education Requirements** (37 credits), which provide students a broad overview of the liberal arts and sciences and create the foundation for further study in the major or program, lifelong learning, and workplace preparedness. GERs are best taken early in a student’s academic career.

2. **Major Requirements**, which afford students intensive study in a specialized subject, program, or professional area. The major prepares a student for employment and/or graduate-level course work.

3. **Elective Credits**, which are the body of work to complete the 120 credits. These credits may be limited, as in the case of many professional programs, or open for the student’s choice, allowing for students to investigate other areas of interest. Many students may choose to declare a Minor (generally 18-24 credits from within the Elective credits) to pursue an additional area of study or qualification. A well-selected minor can strongly complement a student’s major area of study. Additionally, all UAA baccalaureate degrees require a minimum of 42 upper division (300- and 400-level) credits out of 120 total credits.

Baccalaureate degrees are offered at UAA in over more than 50 major study areas. Depending upon the program or major, graduation requirements can vary, so students should check with an advisor to get the latest program details.
# Course Action Request
**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course

<table>
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<tbody>
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<td>ENGR</td>
<td>A4941</td>
<td>na</td>
<td>3</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Complete Course Title</th>
<th>7. Type of Course</th>
<th>8. Type of Action:</th>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Engineering</td>
<td>Academic</td>
<td>☑ Add</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If a change, mark appropriate boxes:
- Prefix
- Credits
- Title
- Grading Basis
- Course Description
- Test Score Prerequisites
- Automatic Restrictions
- Other CCG (please specify)
- Course Number
- Contact Hours
- Repeat Status
- Cross-Listed/Stacked
- Co-requisites
- Registration Restrictions
- General Education Requirement

<table>
<thead>
<tr>
<th>10. Grading Basis</th>
<th>11. Implementation Date</th>
<th>12. Cross Listed with</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ A-F</td>
<td>semesetary/year</td>
<td>☐ Stacked</td>
</tr>
<tr>
<td></td>
<td>From: Fall/2016</td>
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<tr>
<td></td>
<td>To: /99999</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13a. Impacted Courses or Programs</th>
<th>13b. Coordination Date</th>
<th>13c. Coordination with Library Liaison</th>
</tr>
</thead>
<tbody>
<tr>
<td>List any programs or college requirements that require this course.</td>
<td>April 1, 2016</td>
<td>Date: 4-4-16</td>
</tr>
<tr>
<td>Please type into fields provided, if more than three entries, submit a separate table. A template is available at <a href="http://www.uaa.alaska.edu/governance">www.uaa.alaska.edu/governance</a>.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14. General Education Requirement</th>
<th>15. Course Description (suggested length 20 to 50 words)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark appropriate box:</td>
<td>The study and design of automotive systems from an engineering perspective. Design and manufacturability of systems including vehicle powerplant, drivetrain, suspension, and frame are covered.</td>
</tr>
<tr>
<td>☐ Oral Communication</td>
<td></td>
</tr>
<tr>
<td>☐ Written Communication</td>
<td></td>
</tr>
<tr>
<td>☐ Quantitative Skills</td>
<td></td>
</tr>
<tr>
<td>☐ Social Sciences</td>
<td></td>
</tr>
<tr>
<td>☐ Natural Sciences</td>
<td></td>
</tr>
<tr>
<td>☐ Integrative Capstone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16c. Automatic Restriction(s)</th>
<th>16d. Registration Restriction(s) (non-codable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ College</td>
<td></td>
</tr>
<tr>
<td>☐ Major</td>
<td></td>
</tr>
<tr>
<td>☐ Class</td>
<td></td>
</tr>
<tr>
<td>☐ Level</td>
<td></td>
</tr>
</tbody>
</table>

| 17. ☑ Mark if course has fees Standard CoEng Fee | 18. ☐ Mark if course is a selected topic course |

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>This course is being added based on requests from both ME students and faculty as an advanced elective.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiator Name (typed): Jeff Hoffman</th>
<th>Initiator Signed Initials</th>
<th>Date: 4-4-16</th>
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<table>
<thead>
<tr>
<th>13b. Coordination Email</th>
<th>Date submitted to Faculty Listserv</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(uaa-facultylists.uaa.alaska.edu)</td>
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</tbody>
</table>

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<tr>
<td>☐ Integrative Capstone</td>
<td></td>
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</tbody>
</table>

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<tr>
<th>16a. Course Prerequisite(s) (list prefix and number or test code and score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16b. Co-requisite(s) (concurrent enrollment required)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16c. Automatic Restriction(s)</th>
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<td>☐ College</td>
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</table>

<table>
<thead>
<tr>
<th>Initiator (faculty only)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeff Hoffman</td>
<td>4-4-16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initiator (TYPE NAME)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>4-1-16</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Disapproved</th>
<th>Department Chair</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jeff Hoffman</td>
<td>4-4-16</td>
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</table>

<table>
<thead>
<tr>
<th>Disapproved</th>
<th>College/School Curriculum Committee Chair</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approved</td>
<td>4-1-16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disapproved</th>
<th>Provost or Designee</th>
<th>Date</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>4-8-16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disapproved</th>
<th>Dean/Director of School/College</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approved</td>
<td>4-1-16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disapproved</th>
<th>Undergraduate/Graduate Academic Board Chair</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approved</td>
<td>4-8-16</td>
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</tbody>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4-8-16</td>
</tr>
</tbody>
</table>
Resource Implication Form

1. School/College CoEng
2. Program/Course Mechanical Engineering
3. Course Prefix ME
4. Course Number 494I
5. Implementation Date 4-1-16
6. Type of Action and Category
   - Course addition
   - Course change
   - Program addition
   - Program change
7. Consequences of Actions and Costs: Check all appropriate categories and provide an explanation of how it will be funded and by whom.
   - part-time faculty
   - new full-time faculty
   - reassignment of full-time faculty
   - additional class/lab space
   - additional library resources
   - additional computer equipment
   - other costs
8. Explanation: ME-A420 Automotive Engineering has recently passed through the UAB. However, there is not enough time to get this on the schedule for registration next week. Therefore, we are creating ME-A494I Automotive Engineering which is the same course to accommodate registration for the Fall 2016 semester. This course is being added to the ME curriculum due to student demand as an advanced elective. We have the resources to cover this class with no overload or extra costs with facilities.

X Approved

Disapproved

Department Chair

Date

X Approved

Disapproved

Dean/Director of School/College

Date

X Approved

Disapproved

Provost

Date
ME A494I
Automotive Engineering

Course Number: ME A494I

Course Title: Automotive Systems Engineering

Credits: 3

I. Course Description
The study and design of automotive systems from an engineering perspective. Design and manufacturability of systems including vehicle powerplant, drivetrain, suspension, and frame are covered.

II. Course Prerequisites
ME A280; ES-A331, ME A306 (Co-req.); or Instructor Permission

III. Evaluation Criteria (A-F)
Student will be evaluated according to the following criteria. Criteria will reflect team students’ completion of individual and team responsibilities.

1. (Project management) (25%)  
   - Team member individual activity log: Students must keep an accurate journal of activities and time for the entirety of the design/Build phase of the project.  
   - Team member fundraising responsibilities  
   - Management of project funds  
   - Management of design team  
   - Scheduling of build and redesign period  
Team Captain and Design Team members are responsible for management of student personnel. Designated members who have assigned responsibilities will be evaluated by the successful completion of assigned duties.

2. (Reports required for competition at the event.) (25%)  
   - Submission of completed SAE Baja Cost report on time  
   - Submission of completed SAE Baja Design report on time  
   - Submission of completed Design Spec Sheet on time  
Failure to meet the deadline for any of the required report submittal results in the team being withdrawn from the competition. The Overall grade for this class is heavily weighted with delivering a completed car and competing in the event, thus a failure here greatly impacts the overall grade.

3. (Presentations) (10%)  
   - Sales Presentation
• Design Presentation
Not all team members may be assigned to these presentations, but the group as a whole will be evaluated on the strength and professionalism of the presentations.

4. (Exams, Quizzes, and Homework) (40%)

IV. Course Outline
1. Automotive Systems overview
   • Frame
   • Engine
   • Drive train
   • Suspension and steering
   • Electrical
   • Braking
   • Driver safety restraints
   • Safety standards
   • Material standards
   • Adherence to SAE Baja published rules.

2. Manufacturability
   • Build schedule and build plan.
   • Economic assessment
     • Time, materials and manpower

3. Engineering tools
   • Solid modeling / 3D CAD packages
   • Finite Element Analysis
   • Solid mechanics
   • Vehicle dynamics (suspension evaluation)
   • Kinematic models using Matlab
   • Manufacturing techniques

VI. Instructional Goals and Student Outcomes
A. Instructional Goals
The instructor will:

1. Examine the fundamental engineering principles which govern automotive design.
2. Introduce the technical vocabulary associated with automotive systems.
3. Describe the operational characteristics of automotive systems and introduce quantitative methods for evaluating performance parameters.
4. Establish design methodologies for automotive systems.
5. Establish analytical processes for the assessment of design features.
6. Introduce international engineering standards.
7. Establish feasibility of manufacturing techniques to automotive design.
B. Student Outcomes
Upon completion of this course, students will be able to:
1. Evaluate sub-system performance contained in an automobile including front suspension, suspension, and driveline.
2. Appreciate the merits and limitations of different automotive systems.
3. Explain the physical principles of these sub-systems and how they interact.
4. Perform design calculations required to predict vehicle capabilities.
5. Quantitatively evaluate the performance of automotive and automotive sub-system designs.
6. Describe techniques for manufacturing and producing automotive designs.

VII. Suggested Texts

VIII. Bibliography


Rev 8/2014
COURSE FEE REQUEST

The faculty/department completes this form and submits it to their college/school. Course fee requests being submitted through the Curriculum Approval Process (with a Course Action Request) should be submitted to the Governance Office with the curriculum file. All other course fee requests should be submitted directly to the Office of Academic Affairs at uaa_oaa@ualaska.alaska.edu. Requests should provide thoughtful rationale for new or changed course fees and should comply with University Regulation (http://www.alaska.edu/bor/policy/05-10.doc).

COLLEGE: Engineering  DEPARTMENT: CE, ME, EE, CS&E, GEO
COURSE & TITLE: All CE, ME, EE, CS, CSE, CSCE, GIS, GEO, ES, ENGR courses
IMPLEMENTATION YEAR: 2015  IMPLEMENTATION SEMESTER: Fall
COURSE FEE ACCOUNT: 104110  11333

If this Course Fee Request part of a curriculum file being submitted through the Curriculum Approval Process? ☐ YES ☐ NO

*if yes, please submit this form with the curriculum file to the Governance Office.

<table>
<thead>
<tr>
<th>Current Course Fee Per Student</th>
<th>Requested Action</th>
<th>Proposed Course Fee Per Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 32.00</td>
<td></td>
<td>$ 42.00</td>
</tr>
</tbody>
</table>

(Please choose one)
☐ Initiate  ☑ Increase  ☐ Decrease  ☐ Delete  ☐ No Change

$ 10.00

Please provide rationale for this course fee action, including the rationale for existing fees.

The additional $10 will fund student tutors to staff a College-wide tutoring center. Tutors will consist primarily of upper division students to tutor students enrolled in introductory COENG courses.

The existing fee is a 'one-time' fee, charged to students taking COENG courses once per semester. It covers computer lab infrastructure, including specialized software used for instructional purposes.

Please list the course fee category, instructional use, and total cost of each item or service covered by this fee. A detailed description of course fee categories can be found on page 2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Instructional Use</th>
<th>Cost of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab infrastructure</td>
<td>A, B</td>
<td>See attached spreadsheet; lab supplies, equipment</td>
<td>$32</td>
</tr>
<tr>
<td>Tutors</td>
<td>C</td>
<td>Proposed addition; tutors to increase student success</td>
<td>$10</td>
</tr>
</tbody>
</table>

\[
\frac{\text{Total Cost Per Class}}{\text{Anticipated Enrollment}} = 42.00
\]

Please see page 2 for required signatures.
Course Fee Categories: (Sub-categories of Course Fees in Regulation 05.10.07 – C)

A. Lab fee
   Used to help cover student laboratory costs, typically including equipment, lab materials consumed, equipment and facilities maintenance, calibration, rental, lease, supervision, and travel to clinical sites for lab supervision.

B. Materials fee
   Used to help cover costs of class materials typically including materials consumed or used in the teaching process, tools, software, manuals, equipment, protective gear or special clothing retained by students enrolled in a class. Includes disposal of hazardous materials. Copying expenses for specific instructional needs require additional justification and cannot include copying syllabi or exams.

C. Learner Services fee
   Used to help cover cost of individual or small group instruction provided outside of a regularly scheduled class time, for example required or optional tutoring, recitation, private lessons, practicum, internships, or resource center support that is essential to student success in the course.

D. Special Course fee
   Used to help cover exceptional costs associated with specific courses such as equipment, insurance, travel, contracted services, additional personnel required to maintain safety or to meet standards, background checks or other items essential to student success in the course. Includes electronic delivery expenses not covered by university distance fees.
### Revenue

<table>
<thead>
<tr>
<th>Account</th>
<th>Description</th>
<th>Budget</th>
<th>Actual</th>
<th>Encumbrance</th>
<th>Balance</th>
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</thead>
<tbody>
<tr>
<td>9161</td>
<td>Computer laboratory Fees</td>
<td>25,000.00</td>
<td>69,095.62</td>
<td>-</td>
<td>(44,095.62)</td>
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### Expense

<table>
<thead>
<tr>
<th>Account</th>
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<th>Budget</th>
<th>Actual</th>
<th>Encumbrance</th>
<th>Balance</th>
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<td>1001</td>
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<td>1640</td>
<td>Student Wages Not Subject to FICA</td>
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<td>12,325.00</td>
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<td>Contractual Serv-Budget</td>
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<tr>
<td>3222</td>
<td>Software License/Maint</td>
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<td>3,100.00</td>
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<td>3441</td>
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<tr>
<td>3991</td>
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<tr>
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<td></td>
<td></td>
<td>45,432.00</td>
<td>37,480.00</td>
<td>3,662.00</td>
<td>4,290.00</td>
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|            |                           | 31,615.62 | (3,662.00) |            | 27,953.62  |