EL CAMINO COLLEGE
MINUTES OF THE COLLEGE CURRICULUM COMMITTEE
May 12, 2009

Present: F. Arce, J. Davidson, A. Himsel, R. Hughes, L. Kjeseth, M. Lipe, V. Lloyd, C. Mosqueda, M. Odanaka, S. Panski, V. Rapp, S. Somin, J. Thompson, J. Young

Absent: E. Martinez, M. Odanaka

Ex-Officio Members Present: Q. Chapman, M. Hall, L. Suekawa

Ex-Officio Members Absent: C. Brinkman, D. Charles, J. Harmon, R. Smith, T. Stewart

Also Present: C. Fitzsimons, B. Jaffe, D. Rowan, J. Sims

CALL TO ORDER

- Chair Young called the College Curriculum Committee (CCC) meeting to order at 2:30 p.m.

CHAIR'S REPORT

- Chair Young welcomed the Committee to today's meeting. She stated that the Academic Senate voted to wait until CurricUNET is in place in the fall to incorporate SLO's into the course outlines of record.
- B. Jaffe and Chair Elect, L. Kjeseth will be traveling to Idaho to meet with CurricUNET in an effort to fast track the production and implementation processes.

CURRICULUM REVIEW

Humanities Proposals

- C. Fitzsimons, Interim Associate Dean of Humanities, distributed errata sheets for Journalism 7ab, the Journalism certificate and Journalism major.
- She discussed each section where revisions were made and fielded questions from the Committee on Journalism 7ab.
- Chair Young called for a motion to approve the Humanities courses and conditions of enrollment. C. Somin moved, M. Lipe seconded and the motion carried.
- Chair Young asked for a motion to approve the Journalism Certificate of Achievement and Journalism A.A. degree. V. Lloyd moved, M. Lipe seconded and the motion carried.
- C. Fitzsimons also presented a course proposal for Photography 11ab to be cross-listed with Journalism 7ab, the Photography certificate, and the Photography major.
- Chair Young asked for a motion to approve the Fine Arts course proposals, conditions of enrollment, Photography Certificate of Achievement and Photography A.S. degree. M. Lipe moved, C. Somin seconded and the motion carried.

Industry and Technology Proposals

- S. Rodriguez, Dean of Industry and Technology distributed errata sheets to the Committee.
- S. Rodriguez advised the Committee that course review proposals for Automotive Technology 14, 16, 23, 24, 25, 26, 34, 35, 43, and 45 will not be presented today.
- She presented course review proposals for Fire and Emergency Technology 138 and 139, and seven high school Articulation Agreements.
- There were no other questions. Chair Young then called for a motion to approve the Industry and Technology course proposals, conditions of enrollment, and Articulation Agreements. R. Hughes moved,
  V. Rapp seconded and the motion carried.

Mathematical Sciences Proposals

- Chair Elect, L. Kjeseth distributed errata sheets to the Committee for Dean D. Goldberg.
- He presented Engineering 9 and reviewed each section where revisions were made.
- L. Kjeseth also presented the Updated Placement Cut Scores Memo and explained the changes that would take effect Fall 2009. The changes are to Mathematics 33 and Mathematics 40. He advised the Committee that the Math department has consulted with I. Graff (Institutional Research), counselors, the Testing Office, and ITS.
- Chair Young asked for a motion to approve the Mathematics Sciences proposals and conditions of enrollment. M. Lipe moved, C. Somin seconded and the motion carried.

CONSENT AGENDA PROPOSALS

- Chair Young directed the Committee's attention to today's Consent Agenda proposals.
- The Consent Agenda included two courses from Humanities, seventeen courses from Fine Arts, eight courses from Industry and Technology, and four courses from the Mathematics Sciences division.
- There were no questions or recommendations upon review.
- Chair Young then called for a motion to approve the Consent Agenda proposals.
  S. Panski moved, V. Rapp seconded and the motion carried.

ARTICULATION PRESENTATION/AP TESTS

- Articulation Officer, L. Suekawa gave a presentation to the Committee.
- She explained that there is a resolution from the California Community Colleges Academic Senate for a system-wide pattern in awarding general education credit to students.
- L. Suekawa will present the resolution to the ECC Academic Senate on next Tuesday and is proposing the adoption of the resolution.
- Chair Young called for a motion to recommend the resolution to Academic Senate.
  S. Panksi moved, L. Kjeseth seconded and the motion carried.
- L. Suekawa also demonstrated to the Committee the ASSIST (Articulation System Stimulation Interinstitutional Student Transfer) course outline search feature on the web. ECC has the ability to search other colleges course outlines and see if there course is transferable, and on what area of the IGETC pattern the course was approved.

SUMMER 2009 CURRICULUM REVIEW PROCESS

- Chair Young directed the Committee's attention to the handout in today's packet, which included a memo and Summer 2009 review timeline.
- She explained 10-month faculty summer compensation for curriculum review and answered questions about summer DCC members.
- A discussion ensued about the CCC meeting scheduled for Thursday, August 13, 2009 from 9:00 a.m. to 11:30 a.m. Committee members were in favor of reviewing consent agenda proposals via email.
- Chair Young then called for a motion to conduct the August 13th meeting to review consent agenda items electronically (via email). A. Himsel moved, M. Lipe seconded and the motion carried.

FALL 2009 CURRICULUM REVIEW PROCESS

- The Fall 2009 Curriculum Review Timeline was distributed to the Committee for review.

ADJOURNMENT

- Chair Young called for a motion to adjourn the meeting. C. Somin moved, A. Himsel seconded and the motion carried.

EL CAMINO COLLEGE
COLLEGE CURRICULUM COMMITTEE

Proposed Curriculum Changes
May 12, 2009

FINE ARTS DIVISION

COURSE REVIEW

1. Music 43abcd – Beginning Woodwind Instruments
2. Music 44abcd – Beginning Brass Instruments
3. Music 45abcd – Beginning Percussion Instruments
4. Music 46abcd – Beginning String Instruments
5. Music 60abcd – Woodwind Ensembles
6. Music 61abcd – Brass Ensembles
7. Music 62abcd – Percussion Ensembles
8. Music 63abcd – String Ensembles
9. Music 64abcd – Symphonic Band
10. Music 65abcd – College Community Band
11. Music 67abcd – Big Band Jazz
12. Music 68abcd – Jazz Band
13. Music 69abcd – College Community Jazz Band
14. Music 70abcd – Symphony Orchestra
15. Music 71abcd – Chamber Orchestra
16. Music 72abcd – College Community Orchestra
17. Music 76abcd – Clarinet Choir

HUMANITIES DIVISION

COURSE REVIEW; CHANGE IN CATALOG DESCRIPTION

1. English as a Second Language 01 – Preparation for Naturalization and Citizenship
   Current Status/Proposed Change
   This ESL course provides ~~foreign-born students whose first language is not~~ the non-native English speaker with ~~basic knowledge of~~ the language skills needed to pass the reading, writing, and written portions of the U.S. Citizenship Immigration Services (USCIS) naturalization examination. Students will apply language skills to materials related to the interview process and to the history of the United States, ~~and~~ the structure of American government, and ~~prepares them for passing~~ the ~~written, reading, and oral interview portions of the United States Naturalization Examination~~ responsibilities of American citizens.

   Recommendation:
   This ESL course provides the non-native English speaker with the language skills needed to pass the reading, writing, and written portions of the U.S. Citizenship Immigration Services (USCIS) naturalization examination. Students will apply language skills to materials related to the interview process and to the history of the United States, the structure of American government, and the responsibilities of American citizens.

COURSE REVIEW; CHANGES IN DISCIPLINE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Journalism 7ab – Advanced Photojournalism
   Current Status/Proposed Change
   Discipline: Journalism, Photographic Technology/Commercial Photography/Photography
   Prerequisite: Journalism 6 or Photography ~~51~~ 10 with a minimum grade of C or equivalent
   This course provides ~~practical~~ instruction and laboratory experience in the taking and processing ~~sports, news and feature~~ of photographs ~~to be utilized by~~ for publication in the ~~campus~~ college newspaper, newspaper website and news magazine. ~~Experience is~~ Students also ~~gained~~ receive experience in news, feature and sports photo editing, ~~picture page~~ photo essay page design and layout, as well as digital photography and photo scanning techniques using Photoshop.
   Note: This course may be taken two semesters for either Journalism or Photography credit.
   Note: Journalism 7ab is the same as Photography 11ab.

Recommendation:
Discipline: Journalism, Photographic Technology/Commercial Photography/Photography
Prerequisite: Journalism 6 or Photography 10 with a minimum grade of C or equivalent
This course provides instruction and laboratory experience in the taking and processing of photographs for publication in the college newspaper, newspaper website and news magazine. Students also receive experience in news, feature and sports photo editing, photo essay page design and layout, as well as digital photography and photo scanning techniques using Photoshop.
Note: This course may be taken two semesters for either Journalism or Photography credit.
Note: Journalism 7ab is the same as Photography 11ab.

COURSE REVIEW; CHANGES IN CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Photography 11ab – Advanced Photojournalism
Current Status/Proposed Change
Prerequisite: Journalism 6 or Photography ~~51~~ 10 with a minimum grade of C or equivalent
This course provides ~~practical~~ instruction and laboratory experience in the taking and processing ~~sports, news and feature~~ of photographs ~~to be utilized by the campus~~ for publication in the college newspaper, newspaper website and news magazine. ~~Experience is~~ Students also ~~gained~~ receive experience in news, feature and sports photo editing, ~~picture~~ photo essay page design and layout, as well as digital photography and photo scanning techniques using Photoshop.
Note: The course may be taken two semesters for either journalism or photography credit.
Note: Photography 11ab is the same as Journalism 7ab.

Recommendation:
Prerequisite: Journalism 6 or Photography 10 with a minimum grade of C or equivalent
This course provides instruction and laboratory experience in the taking and processing of photographs for publication in the college newspaper, newspaper website and news magazine. Students also receive experience in news, feature and sports photo editing, photo essay page design and layout, as well as digital photography and photo scanning techniques using Photoshop.
Note: The course may be taken two semesters for either journalism or photography credit.
Note: Photography 11ab is the same as Journalism 7ab.

REACTIVATE COURSE; COURSE REVIEW; CHANGES IN DISCIPLINE, CATALOG DESCRIPTION

1. Photography 10 – Basic Photojournalism
   Current Status/Proposed Change
   Discipline: Journalism/Photography~~, Photographic Technology/Commercial Photography~~
   Recommended Preparation: eligibility for English 84
   This course provides instruction in the ~~E~~elementary aspects of photography with emphasis ~~in taking pictures for newspapers, magazines, and book illustrations. News cameras,~~ on principles and techniques ~~for using cameras for~~ of photojournalism, including camera use, news ~~picture analysis, principles of photo-engraving and wire~~ photography, ~~problems~~ feature photography, sports photography, photo essays, and caption writing. Emphasis is placed on preparing students to take photographs for campus student publications using digital cameras and computer software such as Photoshop.
   Note: This is the same course as Journalism 6.

   Recommendation:
   Discipline: Journalism/Photography
   This course provides instruction in the elementary aspects of photography with emphasis on principles and techniques of photojournalism, including camera use, news photography, feature photography, sports photography, photo essays, and caption writing. Emphasis is placed on preparing students to take photographs for campus student publications using digital cameras and computer software such as Photoshop.
   Note: This is the same course as Journalism 6.

CHANGE IN CERTIFICATE OF ACHIEVEMENT

1. Journalism
   Current Status/Proposed Change
   A Certificate of Achievement will be granted upon completion of the courses listed below. At least 15 units must be completed at El Camino College.
   Journalism 1, Journalism 2 or ~~5~~ 4, Journalism 3ab, (one semester) Journalism ~~7ab~~ 6 (or Photography ~~11ab~~ 10) ~~(one semester)~~, Journalism 9abcd (one semester), Journalism 11abcd (two semesters), Journalism 12, Journalism 14abcd (one semester) ~~English 1B or 1C; three courses from: Journalism 3ab, 4, 7ab or Photography 11ab, 9abcd, 11abcd, 96abcd~~
   Total Units: ~~34-38~~ 24-25

Recommendation:
A Certificate of Achievement will be granted upon completion of the courses listed below. At least 15 units must be completed at El Camino College.
Journalism 1, Journalism 2 or 4, Journalism 3ab (one semester), Journalism 6 or (Photography 10), Journalism 9abcd (one semester), Journalism 11abcd (two semesters), Journalism 12, Journalism 14abcd (one semester)
Total Units: 24-25

2. Photography
Current Status/Proposed Change
A Certificate of Achievement will be awarded to the student who completes the following courses: Photography 10 (or Journalism 6) or 51; 1, 2, 3, 23A and least 9 units from the following: Photography 4, 11ab (or Journalism 7ab) (one semester), 23B, 54, 57, and 60ab (one semester). ~~In addition, the student will be required to submit a portfolio of his/her photographic work to a faculty committee for evaluation of his/her competence and may be required to perform manipulative tests. Upon recommendation of the committee, the certificate will be awarded.~~ At least 50% of the courses for the certificate must be taken at El Camino College.
Total Units: 26

Recommendation:
A Certificate of Achievement will be awarded to the student who completes the following courses: Photography 10 (or Journalism 6) or 51; 1, 2, 3, 23A and least 9 units from the following: Photography 4, 11ab (or Journalism 7ab) (one semester), 23B, 54, 57, and 60ab (one semester). At least 50% of the courses for the certificate must be taken at El Camino College.
Total Units: 26

CHANGE IN MAJOR

1. Journalism – Associate in Arts
Current Status/Proposed Change
Journalism 1, 3ab (one semester), ~~5~~ 6 (or Photography 10), Journalism 11abcd (two semesters), 12, 14abcd (one semester) ~~or Photography 51~~; two courses from: Journalism 2, 4, 7ab (or Photography 11ab) (one semester), 9abcd (one semester), ~~11abcd,~~ 96abcd (one semester), Economics 1, Political Science 5, 8~~, Speech Communication 5~~
Total Units: 24-27

Recommendation:
Journalism 1, 3ab (one semester), 6 (or Photography 10), Journalism 11abcd (two semesters), 12, 14abcd (one semester); two courses from: Journalism 2, 4, 7ab (or

Photography 11ab) (one semester), 9abcd (one semester), 96abcd (one semester), Economics 1, Political Science 5, 8
Total Units: 24-27

2. Photography – Associate of Science
Current Status/Proposed Change
A minimum of 12 units must be completed at El Camino College.
Photography 10 (or Journalism 6) or 51; Photography 1, 2, 3, 23A; a minimum of six units from: Photography 4, 11ab* (or Journalism 7ab*) (one semester), 23B, 54, 57, 60ab* (one semester), Art 141abcd* (one semester), Film/Video 22; three units from: Art 37ab, 142abcd, Business 11, 12, Physics 11 (*Only one semester of the course will be credited toward the major requirements.)
Recommended Electives: Art 1, 2, 3, 4, 10ab, 87ab, 143abcd; Business 20, 24
Total Units: 25-26

Recommendation:
A minimum of 12 units must be completed at El Camino College.
Photography 10 (or Journalism 6) or 51; Photography 1, 2, 3, 23A; a minimum of six units from: Photography 4, 11ab (or Journalism 7ab) (one semester), 23B, 54, 57, 60ab (one semester), Art 141abcd (one semester), Film/Video 22; three units from: Art 37ab, 142abcd, Business 11, 12, Physics 11
Recommended Electives: Art 1, 10ab, 87ab, 143abcd; Business 20, 24
Total Units: 26

INDUSTRY AND TECHNOLOGY DIVISION

COURSE REVIEW; CHANGE IN CATALOG DESCRIPTION

1. Fire and Emergency Technology 135 – Traumatic Emergencies
Current Status/Proposed Change
This course covers the causes and treatment of bodily injuries due to trauma. Discussion tTopics include maxillofacial and soft tissue injuries, burns, head, spinal, chest and abdominal wounds, emergency childbirth and multi-casualty incidents.

Recommendation:
This course covers the causes and treatment of bodily injuries due to trauma. Topics include maxillofacial and soft tissue injuries, burns, head, spinal, chest and abdominal wounds, emergency childbirth and multi-casualty incidents.

2. Fire and Emergency Technology 136 – Special Patient Emergencies
   Current Status/Proposed Change
   This course focuses on emergencies which involve unresponsive patients, pediatrics to geriatrics, and methods for resuscitating these victims. ~~Also discussed are~~ Discussions include obstetrical and behavioral problems~~.~~ ~~Circumstances~~ as well as circumstances surrounding paramedic critical incident stress ~~are presented~~.

   Recommendation:
   This course focuses on emergencies which involve unresponsive patients, pediatrics to geriatrics, and methods for resuscitating these victims. Discussions include obstetrical and behavioral problems as well as circumstances surrounding paramedic critical incident stress.

3. Fire and Emergency Technology 137 – Emergency Medical Services (EMS) Legal Aspects/Documentation
   Current Status/Proposed Change
   This course covers the laws and legal authority which govern the scope of practice for the paramedic. Also ~~presented~~ discussed are documentation techniques, paramedic report writing and ~~paramedic~~ skills competency testing.

   Recommendation:
   This course covers the laws and legal authority which govern the scope of practice for the paramedic. Also discussed are documentation techniques, paramedic report writing and skills competency testing.

COURSE REVIEW; CHANGE IN CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation)

1. Fire and Emergency Technology 138 – Paramedic Clinical Internship
   Current Status/Proposed Change
   Enrollment Limitation: admission to Paramedical Technician Program
   Prerequisite: Fire and Emergency Technology 130, 131, 132, 133, 134, 135, 136 and 137 with a minimum grade of C in each prerequisite course

   Recommendation:
   Enrollment Limitation: admission to Paramedical Technician Program
   Prerequisite: Fire and Emergency Technology 130, 131, 132, 133, 134, 135, 136 and 137 with a minimum grade of C in each prerequisite course

2. Fire and Emergency Technology 139 – Paramedic Field Internship
   Current Status/Proposed Change
   Enrollment Limitation: admission to Paramedical Technician Program
   Prerequisite: Fire and Emergency Technology 138 with a minimum grade of C

   Recommendation:
   Enrollment Limitation: admission to Paramedical Technician Program
   Prerequisite: Fire and Emergency Technology 138 with a minimum grade of C

COURSE REVIEW

1. Construction Technology 105 – Residential Light Steel Framing

2. Fire and Emergency Technology 130 – Basic Prehospital Care Principles

3. Fire and Emergency Technology 131 – Field Assessing and Reporting

4. Fire and Emergency Technology 132 – Prehospital Care Pharmacology

5. Fire and Emergency Technology 133 – Basic and Advanced Life Support

ARTICULATION AGREEMENT

1. Hawthorne High School Course: Computer Integrated Manufacturing articulates with:
   El Camino College Course: Engineering Technology 16 – Computer Integrated Manufacturing

2. Hawthorne High School Course: Introduction to Robotics Engineering articulates with:
   El Camino College Course: Manufacturing Technology 70 – Basic Robotics

3. Hawthorne High School Course: Advanced Robotics Engineering articulates with:
   El Camino College Course: Manufacturing Technology 75 – Integrated Robotic and Automated Technologies

4. Palos Verdes High School Course: Principles of Engineering articulates with:
   El Camino College Course: Engineering Technology 10 – Principles of Engineering

5. Palos Verdes High School Course: Introduction to Engineering Design articulates with:

El Camino College Course: Engineering Technology 12 – Introduction to Engineering Design

6. Palos Verdes High School Course: Digital Electronics articulates with:
   El Camino College Course: Engineering Technology 14 – Electronics for Engineering Technologists

7. Redondo Union High School Course: Introduction to Engineering Design articulates with:
   El Camino College Course: Engineering Technology 12 – Introduction to Engineering Design

8. Southern California Regional Occupational Center Course: Principles of Engineering articulates with:
   El Camino College Course: Engineering Technology 10 – Principles of Engineering Technology

9. Southern California Regional Occupational Center Course: Introduction to Engineering Design articulates with:
   El Camino College Course: Engineering Technology 12 – Introduction to Engineering Design

MATHEMATICAL SCIENCES DIVISION

COURSE REVIEW; CHANGE IN CATALOG DESCRIPTION

1. Computer Science 2 – Introduction to Data Structures
   Current Status/Proposed Change
   In ~~T~~this course, ~~includes a thorough coverage of pointer variables, function pointers, and structures and classes with member functions. Students~~ the C++ computer language is used to demonstrate methods of representing and manipulating data. The student will learn ~~elementary data structures concepts, including stacks, queues, linked lists, dynamic memory allocation, recursion, binary trees, sorting and searching algorithms, efficiency considerations, and general top-down program design and~~ the object oriented ~~programming methods~~ problem solving skills necessary to read, write, and correct complex computer programs, and to make important design decisions. Topics include lists, stacks, queues, trees, searching, sorting, modeling and algorithm analysis.

   Recommendation:
   In this course, the C++ computer language is used to demonstrate methods of representing and manipulating data. The student will learn the object oriented

problem solving skills necessary to read, write, and correct complex computer programs, and to make important design decisions. Topics include lists, stacks, queues, trees, searching, sorting, modeling and algorithm analysis.

2. Engineering 1 – Introduction to Engineering
   Current Status/Proposed Change
   This course is an ~~introduction~~ orientation to the ~~engineering profession:~~ preparation, training, practice, obligations and ethics~~. Also included is~~ of the engineering profession, as well as an ~~orientation~~ introduction to the various ~~disciplines of~~ engineering disciplines. Speakers from various fields present opportunities and challenges in the engineering profession. Academic success strategies related to the study of engineering are emphasized ~~throughout the course~~.

   Recommendation:
   This course is an orientation to the preparation, training, practice, obligations and ethics of the engineering profession, as well as an introduction to the various engineering disciplines. Speakers from various fields present opportunities and challenges in the engineering profession. Academic success strategies related to the study of engineering are emphasized.

COURSE REVIEW; CHANGES IN CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Engineering 9 – Engineering Mechanics - Statics
   Current Status/Proposed Change
   Prerequisite: Physics 1A ~~with a minimum grade of C;~~ and Mathematics ~~220~~ 191 with a minimum grade of C ~~or concurrent enrollment~~
   ~~The topics to be covered in the~~ In this course~~, are:~~ students will explore resultants and components of concurrent forces~~,~~; moments of forces with respect to points and axes~~,~~; equivalent systems of forces and moments~~,~~; ~~equilibrium~~ equilibria of particles and rigid bodies in two and three dimensions~~,~~; distributed forces~~,~~; centroids and centers of gravity~~,~~; analysis of structures~~,~~; forces in beams; ~~and cables,~~ friction~~,~~ moments and products of inertia, and energy methods.

   Recommendation:
   Prerequisite: Physics 1A and Mathematics 191 with a minimum grade of C
   In this course, students will explore resultants and components of concurrent forces; moments of forces with respect to points and axes; equivalent systems of forces and moments; equilibria of particles and rigid bodies in two and three dimensions; distributed forces; centroids and centers of gravity; analysis of

structures; forces in beams; friction moments and products of inertia, and energy methods.

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CATALOG DESCRIPTION

Current Status/Proposed Change

1. Mathematics 160 – Calculus I for the Biological, Management and Social Sciences ~~I~~
   This course includes ~~a~~ the study of differentiation and integration of algebraic and exponential functions of one variable, definite integrals and applications. These topics are applied to practical problems in relevant disciplines, such as life sciences, economics or sociology.

   Recommendation:
   Mathematics 160 – Calculus I for the Biological, Management and Social Sciences
   This course includes the study of differentiation and integration of algebraic and exponential functions of one variable, definite integrals and applications. These topics are applied to practical problems in relevant disciplines, such as life sciences, economics or sociology.

Current Status/Proposed Change

2. Mathematics 161 – Calculus II for the Biological, Management and Social Sciences ~~II~~
   This course includes ~~a study of~~ techniques of single-variable integration~~,~~; both differential and integral multi-variable calculus, differential equations~~,~~; and infinite sequences and series. ~~as well as topics such as probability and trigonometry.~~ These topics are applied to practical problems in relevant disciplines, such as life sciences, economics or sociology.

   Recommendation:
   Mathematics 161 – Calculus II for the Biological, Management and Social Sciences
   This course includes techniques of single-variable integration; both differential and integral multi-variable calculus, differential equations; and infinite sequences and series. These topics are applied to practical problems in relevant disciplines, such as life sciences, economics or sociology.