

Education

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Undergraduate Teacher Education Program

The undergraduate teacher education program is described in detail in the *Teacher Education Program Guidebook*, which is available at www.calvin.edu/academic/education. In Michigan, teachers are generally certified to teach at the elementary (K-8) or secondary (6-12) level. There are a few specialty areas in which students can be certified to teach in Grades K-12 (e.g. art, foreign languages, music, physical education, and special education). All teacher education students are required to complete the liberal arts core and a series of education courses. In addition, students are required to complete a major and minor or multiple minors in content specialty areas (e.g. history, language arts, early childhood education, etc.). Students who wish to teach at the middle school level are advised to follow the elementary teacher education core requirements and choose two minors that they would like to teach in a middle school setting (e.g., language arts and integrated science).

Since teacher education students have a complex and comprehensive preparation program, they should seek assistance in choosing appropriate courses as early as possible. Students who are interested in teacher education should inform the registrar's office so that they can be assigned to an advisor who is knowledgeable about education program requirements. Since some core courses are designed in particular for education students, programs must be carefully planned. It is especially important for students who are considering endorsements in Special Education, Early Childhood Education, Bilingual Education, or English as a Second Language to work with the advisor in their specialty area early in their programs.

Normally, students apply to be admitted into the teacher education program during their sophomore year. Criteria for admission to the teacher education program are described in the *Teacher Education Program Guidebook*. Students must also fulfill particular criteria for admission to directed teaching (the full-time student teaching semester) and for certification. All of these criteria are described in the *Teacher Education Program Guidebook*.

Specialized core requirements are listed in the *Teacher Education Program Guidebook*. Education course requirements are described in this section of the catalog. Major and minor requirements are described under the appropriate department. The specialty area majors and minors offered are listed below. Note that most group majors and minors are associated with multiple departments. Detailed descriptions of the education program and specialty area requirements can also be found in the *Teacher Education Program Guidebook*.

Practicum experiences for EDUC 303, 330, 344, 345, 346, and 347 occur at a variety of sites in the greater Grand Rapids area. Students are responsible for their own transportation to those settings. Students may be able to arrange a car pool or use the city bus line.

Post Baccalaureate Non-Degree Program Leading to a Michigan Provisional Teacher Certificate

This program is designed for students who have graduated with a bachelor's degree from an accredited institution without having obtained a teaching certificate. To be eligible for this program, students must have a grade point average of 2.5 or above and two letters of recommendation. Students must complete the required courses in the education sequence for elementary or secondary certification including a semester-long directed teaching experience. Certification requirements for specialty area majors and minors (including successful completion of state certification tests) must also be met. Only courses in which a grade of "C-" or higher is earned can be used to meet program requirements. Requests for admission to this program should be addressed to the Education Department.

MAJOR AND MINOR EDUCATION CONCENTRATIONS:

(Some of these majors and minors are available for K-12, secondary, or elementary only. See the department's section of the catalog to determine the certification levels available and to obtain a list of required courses for these majors and minors.)

Art
 Bilingual Spanish
 Biology
 Chemistry
 Communication Arts and Sciences
 Computer Science
 Early Childhood Education
 (see Education)
 Earth/Space Science (see Geology)
 Economics
 English
 English as a Second Language
 Fine Arts Group (see Art, Music or
 Communication Arts and Sciences)
 French
 Geography
 German
 Health Education (see HPERDS)
 History
 Integrated Science
 (see Science Education Studies)
 Language Arts Group (see English or
 Communications Arts and Sciences)
 Latin (see Classical Languages)
 Mathematics
 Music
 Physical Education
 Physics
 Political Science
 Psychology
 Religion
 Social Studies Group (see History,
 Economics, Political Science or
 Geography)
 Sociology
 Spanish
 Special Education — Cognitive Impairment

A comprehensive list of departmental advisors for each concentration can be found in the *Teacher Education Program Guidebook*.

ELEMENTARY EDUCATION COURSES

Education 102
 Education 202

Education 302
 Education 303
 Education 305
 Education 309
 Education 322
 Education 326
 Education 345
 Education 398
 Science Education Studies 313
 Mathematics 221
 Mathematics 222
 Physical Education 221
 Physical Education 222

SECONDARY EDUCATION COURSES

Education 102
 Education 202
 Education 302
 Education 303
 Education 307
 Education 346
 Education 398
 Departmental Seminar 359

SPECIAL EDUCATION MAJOR (COGNITIVE IMPAIRMENT):

Advisor: T. Hoeksema

Biology 115
 Psychology 151
 Psychology 201
 Psychology 213
 Education 306
 Education 310
 Education 330
 Education 347

EARLY CHILDHOOD MINOR

Advisor:

Psychology 204
 Sociology 304
 Education 236
 Education/Communication Arts and Sciences 311
 Education 337
 Education 339
 Education 344

UNDERGRADUATE COURSES

102 **Introduction to Education** (1) F and S. This course serves as an introduction to the discipline of education and the teaching profession. As such, it provides the initial framework for subsequent education courses, intro-

ducing students to pedagogy and its empirical basis, to issues of curriculum and standards, and to the organization of schools in the United States and beyond. The course affords students the opportunity to relate theory to practice as a companion field experience is a required component of the course. This course must be satisfactorily completed as a condition of program admission. Prerequisite: Completion of one semester of college study.

202 The Learner in the Educational Context: Development and Diversity (3) F and S. This course will help students develop insight into the development of the mind, identity, and perspective of all learners, including multiple domains of diversity and many alternate ways of being, doing, and seeing, including what is typically labeled as “exceptionality.” Students will explore and analyze psychological, physical, social, culture and moral/spiritual facets of development as well as their interplay with the social environment of the learner and their impacts in the classroom. Through lectures, readings, class assignments, a service-learning experience, and a case study, the class will examine psychological, educational, biological, and socio-cultural theory through the lens of a reformed Christian perspective. There is a fifteen hour outside of class field placement required as part of this course. This course must be satisfactorily completed as a condition of program admission. Prerequisite: Completion of Education 102.

236 The Young Child in an Educational Setting (3). F. A review and critique of the basic theories of child development. Observation and intensive analysis of the development of a particular child in a preschool setting as related to the major theories and to the appropriate facilitation of development.

302 Curriculum and Instruction for Diverse Learners (4) *F and S. This course will help students develop an increased understanding of the complex issues surrounding learning theory and its impact on instruction in diverse educational contexts. Students will explore how an understanding of the learner, the curriculum, and the context shape instructional practice. They will learn how to engage in a pedagogical cycle that includes planning, implementation, evaluation, and reflection with a focus on meeting the needs

of all learners. Students will also explore ways in which new teachers can develop and maintain a transformative vision. All of these areas will be examined through the lens of a reformed Christian perspective. An extensive practicum will assist students in linking theory and practice in a classroom setting. Prerequisites: Education 102, Education 202, Admission to the Teacher Education Program. (See the Teacher Education Guidebook for admission requirements.) Must be taken concurrently with Education 303.

*Students seeking certification must be admitted to the teacher education program and be in good academic standing before beginning any 300-level course in the department.

303 Curriculum and Instruction: Practicum (3) F and S. Must be taken concurrently with Education 302. See description above.

305 Teaching Social Studies in the Elementary and Middle School (2). F and S. A study of perspectives, content, methods, and materials in teaching the social studies in the elementary school. Students will analyze perspectives and determine major goals and themes for teaching the social studies. They will study and analyze the contributions of the various disciplines to the social studies curriculum. Students will examine materials and learn and practice methods for teaching the social studies. Biblical principles, which offer direction for human interactions in society, will be considered. Prerequisites: Education 302/303 or permission of the instructor.

306 Introduction to Cognitive Impairment (3). * F. A comprehensive study of the characteristics of persons who have an intellectual disability. Historical and contemporary perspectives on mental retardation will be explored, as will common causes, definitional issues, and interventions. While special attention is given to the needs of persons with retardation as learners, the course examines the entire lifespan and functioning in a variety of settings besides the school, such as the church, workplace, and neighborhood. A Christian view of persons, community, and discipleship, along with the concept of normalization/social role valorization, are integrating elements in the course. Prerequisite: Education 202 or permission of the instructor.

307 Reading/Literacy in the Content Area (3). F and S. This course examines the nature and function of literacy in the secondary curriculum. Specifically we will examine the reading and writing practices that support the ways of knowing and doing characteristic of secondary school subject areas. The course will include: analysis of the factors which affect comprehension and composition of content area materials; examining pedagogical strategies that support diagnosis as well as instruction in the literacy skills common to all content areas; strategies for supporting full participation and inclusion of students who display the wide range of ability found in the average secondary classroom; exploring the relationship between discipline based inquiry, literacy development, and educational goals and practices. There is a field placement component as part of this class. Prerequisites: Education 302/303 or permission of the instructor.

309 Teaching Religion Studies in the Elementary School (2). *F and S. A study of perspectives, content, methods, and materials in teaching religion studies in the elementary school. This includes pedagogy appropriate for public and non-public schools and evaluation of methods and materials. Prerequisites: Education 302/303 or permission of the instructor.

310 Assessment In Cognitive Impairment (3). * S. A study of the foundational concepts and basic terminology needed to assess students with intellectual disability. Skill will be developed in selecting, administering, and interpreting both formal and in-formal, norm-referenced as well as criterion referenced and curriculum-based assessment instruments, for the purpose of developing individualized educational plans. Prerequisite: Concurrent enrollment in Education 347.

311 Child Language Development (3). S. See CAS 311.

322 Introduction to Methods of Teaching Reading: Elementary (3). *F and S. A study of the nature of the reading process; an introduction to the various process; an introduction to the various approaches to the teaching of reading with an emphasis on the basal approach; a presentation of instructional strategies appropriate to a developmental reading program; and an analysis of the or-

ganization and management of a classroom reading program. Prerequisites: Education 302/303 or permission of the instructor.

326 Reading/Language Arts in the Elementary School (3). * F and S. This course will present reading as a language art and demonstrate the relationship of language arts to the various subjects in the elementary school. Students will learn strategies and techniques for assessing and differentiating instruction to meet the wide range of reading and writing levels found in elementary classrooms. Prerequisite: Education 322 or permission of the instructor.

330 Curriculum and Instruction: Cognitive Impairment (3). * F. A study of the various curricula, instructional materials, and teaching methods appropriate for learners who have mental impairments. Research-based general principles of instruction are reviewed as well as specific methods for teaching domestic, vocational, community living, recreation/leisure, and functional academic skills. Strategies are learned for generating curriculum, evaluating published curricula, and for developing individualized education programs. Includes a practicum of two half-days per week in local school programs serving students with cognitive impairment. Prerequisites: Education 202, 302/303, and 306 or permission of the instructor.

337 Curriculum Theory and Development: Early Childhood Education (3). * S. An evaluation of the major approaches to development of a curriculum for early childhood education (up to age eight), the underlying assumptions of each approach, and the appropriateness of each approach for children. Included is a model for curriculum development and opportunity to implement the model for early education. Prerequisite: Education 302/303.

339 Current Issues in Early Childhood Education (3). * S. An examination of support systems for the young child, including developing relationships; issues and trends in child advocacy public law and policy; administration and organization of early childhood programs; and assessment issues.

343 Early Childhood Education: Field Experience Preschool (12). *A field experience in a preschool setting that meets state requirements for the endorsement. Provides for

analysis of teaching methods, materials, and classroom organization as they relate to the early childhood setting. Prerequisites: Education 236, 337, 339, and Sociology 304.

344 Early Childhood Education: Field Experience Kindergarten (12). *A field experience in a kindergarten setting that meets state requirements for the endorsement. Provides for analysis of teaching methods, materials, and classroom organization as they relate to the early childhood setting. Prerequisites: Education 236, 337, 339, and Sociology 304.

345 Directed Teaching: Elementary (12). F and S. Students participate in a full-time supervised student teaching experience. Prerequisites: GPA of 2.5, passing scores on the Michigan Test for Teacher Certification—Basic Skills, completion of education courses, and appropriate recommendations from the education and major/minor departments. See the *Teacher Education Program Guidebook* for additional requirements. Includes a weekly seminar.

346 Directed Teaching: Secondary (12). F and S. Students participate in a full-time supervised student teaching experience in their major. Secondary mathematics students student teach during the fall semester. Secondary history and physical education students student teach during the fall or spring semester. All other secondary students student teach during the spring semester. Prerequisites: GPA of 2.5, passing scores on the Michigan Test for Teacher Certification-Basic Skills, completion of education courses, appropriate recommendations from the education and major/minor departments, and concurrent enrollment in a Departmental 359 Seminar. See the *Teacher Education Program Guidebook* for additional requirements.

347 Directed Teaching: Cognitive Impairment (12). * S. Full-time, supervised student teaching in a school program serving students with mild or moderate levels of cognitive impairment. A minimum of ten weeks, including at least 360 clock hours of observation and participation, is required. Includes a biweekly seminar, which engages students in critical reflection on their experience in applying theory to practice in the student teaching context. Prerequisites: Good standing in the teacher

education program, passing scores on the Michigan Test for Teacher Certification-Basic Skills, completion of all required education courses, and appropriate recommendations. See the *Teacher Education Program Guidebook* for additional requirements.

348 Directed Teaching: Elementary - English as a Second Language . *See ESL advisor for more information.

349 Directed Teaching: Secondary - English as a Second Language . *See ESL advisor for more information.

398 Integrative Seminar: Intellectual Foundations of Education (3). In this course students examine education in its context as a life practice. It involves inquiry into and critique of the philosophical assumptions, historical developments, and social settings that shape the beliefs and practices informing schools as social institutions and education as cultural practice. Throughout the course, students are completing their own faith-based philosophy of education. Prerequisites: Junior or senior standing; Education 302/303; Biblical Foundations I or Theological Foundations I, Developing a Christian Mind, and Philosophical Foundations.

IDIS 205 Societal Structures and Education (3). F and S. An examination of the interaction between education and the other systems and institutions (e.g., political, economic, and cultural) that shape society. This course will examine how education is shaped by and is reshaping these systems and institutions. Particular attention will be given to the impact of race, class, and gender on schooling and society. Community-based research projects will challenge students to examine these issues in real-life contexts as well as introducing them to social science research methodology. Christian norms, such as social justice, will shape this critical analysis of the interaction between education and society. This class is appropriate for all students who are interested in education and society and meets a core requirement in the Societal Structures category.

Graduate Teacher Education Program

Calvin College offers Master of Education (M.Ed.) programs in Curriculum and Instruction, Educational Leadership, Literacy and Learning Disabilities. In addition, post-

baccalaureate, non-degree programs are available for obtaining the Michigan Professional Teaching Certificate (18 hours of coursework beyond initial certification) and state endorsements for specialized areas of education.

Master of Education Degree

The Master of Education (M.Ed.) programs serve elementary and secondary teachers and administrators who want advanced professional training and who need to satisfy the requirements for continuing certification or additional endorsements.

Calvin's M.Ed. is designed especially for teachers who are already provisionally certified and experienced in classroom teaching or administration and who wish to attend a Christian college where academic excellence is pursued in the light of Christian commitment. The M.Ed. provides college graduates with an opportunity to integrate an authentic Christian perspective with a broader or deeper range of knowledge and insight into the professional role of the teacher or administrator.

Requirements for admission to the program, transfer of credit, and degree requirements are described in detail in the *Graduate Program Bulletin*, which can be obtained from the education department office. Students who wish to learn more about the Curriculum and Instruction Program should meet with J. Gormas, Curriculum and Instruction Program Advisor; with A. Boerema, Educational Leadership Program Advisor; with K. Dunsmore or J. Rooks, Literacy Program Advisors; and D. Buursma, Learning Disabilities Program Advisor.

Endorsement Program

The Endorsement Program at Calvin allows certified teachers to fulfill the requirements of the Michigan Professional Teaching Certificate, gain highly qualified status, or obtain additional expertise in a specialty area. The State of Michigan requires a minimum of 18 semester hours of coursework beyond initial certification and 3 years of successful teaching experience before a teacher can be recommended for a Professional Teaching Certificate. The state regulations for highly qualified status are available in the education

department. The Endorsement Program allows the participants to add a level of teaching certification to their certificate (e.g. elementary to a secondary certificate) or to add a subject endorsement to their certificate. Calvin offers endorsements in Early Childhood, English as a Second Language, Learning Disabilities, Cognitive Impairment, and Bilingual Education, as well as every major and minor offered at the undergraduate level. Courses taken in this program may be transferable to a master's degree at a later time if they are applicable to a particular concentration.

Courses in the Endorsement Program must be chosen in consultation with an appropriate departmental advisor at the time the program is initiated. Students who graduated from and were recommended for the provisional certificate by Calvin College must take at least 6 semester hours of the program at Calvin. All others must take at least 9 semester hours at Calvin. Previous course work, as well as planned selections, must be evaluated by this advisor. Only courses with a grade of "C+" (2.3) or higher will be applied to program requirements. Please note that some endorsements may require more than 18 semester hours. Also, students adding subject endorsements or elementary certification must pass the Michigan Test for Teacher Certification for those areas.

MASTER'S DEGREE PROGRAMS

CURRICULUM AND INSTRUCTION

Advisor: J. Gormas

Education 501

Education 510

Education 512

Education 580

Education 594

Education 597

Concentration of at least 14 semester hours:

Concentrations in subjects acceptable for teacher certification can be taken and self-designed concentrations can be arranged in consultation with the Curriculum and Instruction advisor.

LEADERSHIP CONCENTRATION

Advisor: A. Boerema

Education 501

Education 510

Education 512
Education 534
Education 538
Education 562
Education 563
Education 569
Education 580
Education 594
Education 597

LITERACY CONCENTRATION

Advisor: K. Dunsmore and J. Rooks

Education 501
Education 510
Education 512
Education 513
Education 540
Education 542
Education 543
Education 580
Education 594
Education 597
Electives

LEARNING DISABILITIES

Requirements for the degree with endorsement. (Requirements for the endorsement only program or degree without endorsement can be found in the *Graduate Program Bulletin*) Advisor: D. Buursma

Education 501
Education 510
Education 511
Education 548
Education 550
Education 551
Education 582
Education 594
Education 598
Electives

GRADUATE COURSES

501 **Advanced Educational Psychology** (3). F, S (on-line). An examination of psychoeducational theories of development from the perspective of selected theorists. Consideration is given to the application of these theories to the educational environment and the implications of these theories with regard to intellectual development. Aspects of faith and moral development are considered.

510 **Advanced Foundations in Education** (3). S and SS. This course will investigate

various aspects of schooling taking into consideration the following: Historical, political, philosophical, social, cultural, religious, and economic contexts. Students will investigate the purposes of school, noticing trends as well as articulating future visions for schooling based on a Christian perspective. Within these contexts, the course will identify and examine school reform issues as they relate to a complex and rapidly changing local, national, and global society.

511 **Consultation and Collaboration: Professional Roles in Education** (3). SS. The course offers an advanced study of professional responsibilities necessary in advocating and planning instruction for learners identified with disabilities or diverse learning needs and gifts. Students will explore, practice, and critique models and methods of collaboration and consultation that involve teachers, learners, specialists, parents, para-professionals, and community agencies in interdependent relationships.

512 **Theories of Instruction** (3). S, on-line, and SS. This course examines the theoretical foundations of instruction as described by selected researchers. It focuses on the underlying assumptions of various theories and interpretation of these theories from a Reformed perspective. Relationships between development and instruction are considered. The implications of diversity in the classroom, the use of technology in contemporary education, and issues of reform in education are discussed.

513 **Cognition, Learning, and Literacy Development** (3). F and SS. This course examines underlying concepts associated with the acquisition of reading and writing. Social and cultural factors contributing to literacy development are considered from the perspectives of educational psychology, cognitive psychology, and language development. Current issues related to classroom instruction are addressed in lectures, discussions, and classroom applications.

534 **Introduction to School Leadership** (3). SS (odd years). A study of leadership theory and practice relating to building school communities that promote learning for all students. This introductory course in school leadership will focus on organizational and

leadership theory; establishing a school mission; collaborative problem-solving and community building; decision-making skills and procedures; and personal leadership qualities. Special emphasis will be given to exploring Biblical principles which guide Christian leaders in school settings. A field experience involving observation of current school leaders is included as part of the course requirements.

538 Professional Development and Supervision (3). SS (even years). A study of the theory and practice related to the professional development of teachers and administrators at both the elementary and secondary levels. This course focuses on ways in which school leaders can structure professional development opportunities that promote student learning and school improvement. The course includes a study of adult learning theory, collaborative learning models, action research, mentoring and coaching, formal and informal teacher assessment, and recruitment, induction, and retention of new teachers. Special emphasis will be given to Biblical principles which help shape professional communities in schools.

540 Trends and Issues in Reading and Literacy Instruction (3). SS (even years). This course is designed to acquaint students with the major theoretical orientations to reading and literacy development from emergent and early reading and writing through conventional, accomplished reading and writing. Students will study the interrelated nature of reading and writing processes and the development of optimal conditions for reading and literacy instruction. Students will develop procedures for evaluating existing reading programs and materials. Classroom case studies will be used to provide experienced teachers with the basis for informed decision-making techniques in order that they will be able to help other classroom teachers become effective practitioners. Prerequisite: Education 307 or 322 or the permission of the instructor.

542 Diagnosis and Remediation of Reading Disabilities (3). SS (odd years). An advanced course for the training of reading personnel or classroom teachers. A cognitive framework for diagnosing and planning instruction for a severely disabled reader is presented. After a review of reading theory, current approaches

to teaching reading, and their relationship to reading disability, formal and informal assessment measures will be examined. Following extensive work with a disabled reader, an assessment portfolio, and a case report on the disabled reader will be developed.

543 Teaching Literacy Through Literature (3). SS (even years). This course investigates literature-based reading as it is used in a variety of ways. It seeks to familiarize teachers, future teachers, administrators, specialized reading personnel, and other interested persons in children's literature and its use in teaching reading. The course examines the relationship between literature-based reading and a language approach to teaching the language arts. Further topics include emergent literacy, word identification, vocabulary, and reading, and comprehension of narrative and expository text as they relate to literature-based reading. The course includes an emphasis on multicultural literature and its use in developing multicultural sensitivity and appreciation. Special needs students, portfolio assessment, and the parent-student-teacher partnerships conclude the course.

548 Practicum: Learning Disabilities (5). S. Students complete a practicum experience at the elementary or secondary level. Knowledge of instructional approaches in grades K-12 must be demonstrated by all students. Students who have not had prior, supervised teaching experience in special education are required to complete a ten-week, full-time supervised teaching experience. Students who are seeking a second endorsement in special education must complete a practicum, with a minimum of 180 hours, in an appropriate setting. A seminar integrating theory and practice is included in this course. Prerequisite: All other courses in the LD. endorsement program.

550 Theories of Learning Disabilities (3). F and SS (even years). This course is designed to acquaint students with major theoretical models of learning disabilities through a series of lecture discussions. Research related to general characteristics, language acquisition, academic, social development, and problem solving performance of the learning disabled is examined. Approaches to the education of the students with learning disabilities based on the theoretical models are also studied. Current issues in

the field are discussed. Federal and State special education legislation is examined. Prerequisite: Education 202.

551 Assessment and Diagnosis: Learning Disabilities (4). S and SS. The course is designed to teach the skills necessary to perform comprehensive educational evaluations of the atypical learner and to utilize the diagnostic data to construct appropriate instructional recommendations for students with learning disabilities. Supervised clinical experiences are required to demonstrate application of theoretical knowledge. Prerequisites: Education 550 and 582 or permission of the instructor.

562 School Business Management (3). F (on-line). In this course students will study principles and methods of planning and fiscal management that are based on a biblical model of stewardship. Topics include the process, funding (including fund raising, tuition and fees), budget (including risk management), and organization. Prerequisites: 534 Introduction to Educational Leadership or permission of instructor.

563 School Law, Ethics and Policy (3). S (on-line). An examination of the legal and ethical frameworks of schooling through a biblical lens. Students will learn the basics of their national and local school policies and laws as they have been developed, as well as surveying the major legal decisions affecting schools. Prerequisite: 534 or permission of the instructor.

569 Educational Leadership Internship (2). F and S. This internship allows prospective school leaders to work closely with a mentor in a school setting for 80 hours over a period of 10 weeks during the school year. Participants will examine nine critical skills of leadership and undertake activities in fourteen investigative areas in two school settings. Prerequisites: Education 534, 538, 562, 563, and permission of the Educational Leadership advisor.

580 Curriculum Theory and Development (3). F (on-line). A study of curriculum development theories and models for pre-school through grade 12. This course includes a study of issues relating to organizing curriculum, selecting effective learning resources, implementing curricular change in a school

setting, analyzing curriculum, and materials for scope and sequence, gender issues, multicultural considerations, and integrating faith and learning. Prerequisite: Teaching experience.

582 Curriculum and Instruction: Learning Disabilities (3). F and SS. This course will acquaint students with remedial methods appropriate for students in grades K-12 with learning disabilities. Attention is given to the role of the teacher/clinician, adapting the learning environment, and selecting appropriate instructional methods for students with learning disabilities. Students examine curriculum and instructional methods related to oral language, reading, writing, mathematics, problem solving, and uses of computer technology. Meeting IEPC goals in classroom instruction is considered. Emphasis is placed on the interpersonal skills required in co-teaching structures and in working with professionals in other disciplines, agencies, colleagues, and parents in the school and community. Prerequisite: Education 550 or permission of the instructor.

590 Independent Study (1-6). F, I, S, and SS. *Staff.*

594 Educational Research and the Classroom (3). F and SS. The purposes of this course are (1) to explore a variety of types and methods of educational research and inquiry from a Christian perspective and (2) to design a master's degree project or action research. Emphasis is placed on identifying and designing research that is practically feasible and provides useful information for the classroom teacher. Students engage in educational inquiry and design educational research in an area appropriate to their subject matter area or grade level interest. Prerequisite: At least two graduate-level courses.

597 Graduate Seminar: Curriculum and Instruction or Educational Leadership (3). S. This seminar is designed to integrate components in the M.Ed. programs in Curriculum and Instruction or Educational Leadership. Developments in the theory and practices in these areas as related to the context of education, curriculum theory, instructional theory, and disciplinary concentration are reviewed. By means of broad unifying themes, students will be expected to integrate into a coherent

unity what they have learned in the program. The broad range of knowledge in these fields will be integrated with an authentic Christian perspective. In the process, students will reflect on how their education and professional experiences can be used for personal growth and to influence society. The seminar will include a final research project. Prerequisites: All other courses in the M.Ed. Program.

598 Graduate Seminar: Learning Disabilities and Literacy (3). S. This seminar is designed to integrate components in the M.Ed. programs in Learning Disabilities or Literacy. De-

velopments in theory, research, and practice in learning disabilities or literacy as related to psychology, education, language, and social practice are reviewed. Students submit integrative papers to demonstrate an understanding of principles and current issues. Emphasis is placed on developing leadership roles in the field of learning disabilities. Guided supervision of individual assessment and educational programming is required. The seminar will include a final research project. Prerequisites: All other courses in the M.Ed. Program.

6XX Workshop in Education

Engineering

Professors R. Brouwer, R. DeJong, L. De Rooy, R. Hoeksema, E. Nielsen, †P. Ribeiro, A. Sykes, S. VanderLeest (chair), W. Wentzheimer
Associate Professors G. Ermer, K. Hekman, M. Heun, J. Jewett Van Antwerp, J. Van Antwerp
Assistant Professors A. Si, D. Wunder

Calvin College offers a Bachelor of Science in Engineering degree (B.S.E.) with concentrations in Chemical, Civil and Environmental, Electrical and Computer, and Mechanical Engineering. The Engineering Program is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone: (410) 347-7700. The recommended first semester curriculum is Chemistry 103, Mathematics 161, Engineering 101, Engineering 181 and English 101.

Engineering (B.S.E.)

Engineering is a design-oriented profession applying the principles of mathematics, science, economics, ethics, social sciences, and humanities with judgment to the utilization of energy and materials for the benefit of humanity.

Students at Calvin College prepare to be engineers by following a program leading to a Bachelor of Science in Engineering (B.S.E.) degree. This degree is attained by completing courses in one of four concentrations—chemical engineering, civil and environmental engineering, electrical and computer engineering, or mechanical engineering. The Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (A.B.E.T.) accredits this curriculum. Students interested in engineering should consult with the department chair, S. VanderLeest.

MISSION OF THE CALVIN COLLEGE ENGINEERING DEPARTMENT

Within the mission of Calvin College, we respond to our Creator's call to be agents of renewal by learning to design responsible technologies that serve the needs of the world. Our mission covers the faculty, staff, and students who together seek to build God's kingdom in the areas of engineering and technology.