

Education, School of

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www.spu.edu/depts/soe/

William Rowley, *Dean of the School of Education*

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The mission of the SPU School of Education is as follows:

To prepare educators for service and leadership in schools and communities by developing their professional competence and character within a framework of Christian faith and values.

The vision of the SPU School of Education is as follows: To influence the region, the nation and the world through the preparation of educational leaders for public and private schools.

The primary purpose of the undergraduate program in the School of Education is to prepare competent teachers who integrate academic training and Christian faith with professional practice. School of Education programs are accredited by the National Council for Accreditation of Teacher Education (NCATE). Certification programs in the School of Education are also accredited by the Washington State Board of Education and meet residency requirements for Washington state elementary and secondary teaching certificates.

The basic certification programs in the School of Education reflect an underlying philosophy and knowledge base that permeates all courses and field experiences. This knowledge base consists of two elements: (1) the theoretical and philosophical foundations of education drawn from the social and behavioral sciences; and (2) the effective teaching and schooling research. The following categories shape the competency base for the residency certification programs at SPU. These categories contain national, state and Seattle Pacific competencies for teachers:

Category I: Establish and maintain a positive student-focused learning environment. Demonstrate sensitivity to human diversity in teaching and relationships with students, parents and the community.

Category II: Design and adapt challenging curriculum that is responsive to students' cognitive, social and moral development.

Category III: Use effective teaching practices.

Category IV: Use appropriate assessments to monitor and improve instruction.

Category V: Use information on student performance to advise and involve students and families; inform, involve and collaborate with families to support student success.

Category VI: Evaluate effects of a student's teaching through feedback and reflection. Establish goals for professional improvement.

Category VII: Demonstrate skills, knowledge and attitudes that contribute to professional, ethical behavior.

Overview of Residency Teacher Certification Program

The professional program leading to residency teacher certification at SPU consists of three parts:

1. The Foundations and Methods courses
2. The Skills Courses
3. The Applications Courses

The foundations/methods quarters consist of the theory and background of teaching with only limited application. The skills courses are non-blocked requirements that support the methods courses. The application courses focus on applying the theory and background learned in the foundations/methods quarters.

Majors for Undergraduate Students

Undergraduate students must complete all the requirements for a bachelor's degree in addition to the certification program.

Teacher Certification

Elementary Certification. Students pursuing elementary certification may major in any subject area. Some broad field majors specifically available, although not required, for elementary certification are family and consumer sciences, fine and applied arts, language arts, mathematics, general science and social science (see page 105).

Secondary Certification. Students pursuing secondary certification need to work closely with the certification coordinator to make sure all endorsement requirements are being met. Please see the certification coordinator in the School of Education for more information.

K-12 Certification. Some endorsements lead to K-12 certification. These include art, music, physical education and special education. Students obtaining a K-12 endorsement in art, music or physical education will complete one quarter of internship at the elementary level and another quarter of internship at the secondary level.

Transfer Students

All transfer students are required to take the entire certification program at SPU. Any exceptions must be approved through substitution and petition processes in the School of Education. If substitutions and petitions are granted, a minimum of 26 credits, including the internship, must be completed as a regularly enrolled student at SPU.

Upon arrival at SPU and prior to registration, transfer students should meet with the certification coordinator regarding course substitution requirements and procedures.

Post-Baccalaureate Students

Students pursuing certification after receiving a bachelor's degree from an accredited institution recognized by the state of Washington do not have to earn a second degree. However, they must still meet state requirements for an endorsement and be approved by the School of Education.

Advising

To complete the residency certification program in a timely manner, students need competent academic advice. The School of Education provides group and individual sessions with the certification coordinator to answer questions and help with the certification process. As soon as a student identifies a desire to be a teacher, he or she should make arrangements to attend a group session or make an appointment for advising by calling (206) 281-2214.

Admission to the School of Education

A student enrolling in the Foundations Quarter is considered a tentative candidate for admission to the School of Education. Before the Methods Quarter, the student is asked to prepare a formal application for full admission to the School of Education. The student may continue the sequence of courses leading to certification upon full admission to the School of Education and fulfillment of the prerequisites to the appropriate quarters.

To achieve admission to the School of Education, a candidate must do the following:

1. Complete the Foundations Quarter, achieving a B average with no grade lower than a C. The prerequisite coursework must be no more than five years old.
2. Receive a favorable recommendation from the foundations team.

3. Achieve a cumulative GPA of 3.0 or a 3.3 GPA in the last 45 credits of college or university work.
4. Receive passing scores on all three sections of the Washington Educator Skills Test–Basic (WEST-B).
5. Take the appropriate WEST-E/Praxis II test.
6. File a formal application for admission to the School of Education.

Registration

Most classes in the certification program require School of Education permission to register. Before registering, students must go to the School of Education office to fill out any necessary paperwork and confirm appropriate prerequisites have been passed. No appointment is necessary for this process.

Certification

Upon successful completion of the residency certification program, the Seattle Pacific University School of Education recommends candidates to the state of Washington for teacher certification. Though SPU makes recommendations to the state, the state issues the certificate not the School of Education. All teacher certification candidates are subject to Washington requirements for the residency teaching certificate. These requirements may be changed by the state and override anything stated in the *Catalog*. Please see the education office for updates on state requirements.

Internship Placement and Supervision Policy

Students anticipating teaching internships should be aware of the School of Education school-site placement policy:

1. Internship sites will be selected from districts within 50 miles of Seattle Pacific University that have contractual internship agreements with SPU. In an effort to facilitate supervision, attempts will be made to place groups of interns near each other.
2. Interns will be placed in settings that are new to them in an effort to broaden their school experience. Schools where interns have been students, or parents of students, volunteers, aides or coaches will not generally be considered.
3. Since internships must be arranged in cooperation with school personnel, the School of Education cannot guarantee that an internship will be provided in a certain quarter. Every attempt will be made to assign students to their preferred quarters as space permits.
4. Internships not directly supervised by SPU School of Education faculty will not be provided.

Internship Professional Expectations

1. Interns will be responsible for filing written notification of any changes in their internship plans at least five weeks prior to the first quarter of the scheduled internship. Failing to do so may jeopardize placement.
2. It is strongly recommended that students not be employed during the integrated and internship quarters because of the time and professional demands of the internship program. During these quarters students may not enroll in other courses.
3. Interns are expected to provide their own transportation to the internship school sites.

Moral Character and Personal Fitness Policy

Teacher certification programs at SPU include experiences working closely with children in public and private schools. The protection of children is a paramount concern. Consequently, the School of Education reserves the right to refuse placement of any SPU student in any field experience. Any SPU student registering for any School of Education course that involves working with children does so with the following understanding:

1. Admission to the course and subsequent placement with children may be denied if fitness for such a placement is questionable in the exclusive judgment of the University.

2. The student may be required to withdraw from the course, practicum experience or the certification program should the School of Education receive information during the course of a practicum placement that raises a concern about the fitness of the person to work with children.
3. Information received about the fitness of the student working with children may be shared with the school district to determine if a placement can and should be made or continued.
4. Ultimately, the SPU School of Education cannot override school districts, and practicum placements are dependent on school district cooperation and subject to school district approval.
5. Denial of, or removal from, a practicum setting due to lack of fitness to work with children will result in a denial of admission to the teacher education program or in being dropped from a program if a student has already been admitted.
6. In addition to satisfying the requirements of SPU, in order to receive certification, good moral character and person fitness must be established by each student with Washington state’s Office of the Superintendent of Public Instruction, Office of Professional Practice.

Elementary Certification Requirements

Foundation Quarter Prerequisites

Prerequisites include official admission to SPU; sophomore standing (45 credits); cumulative 2.8 GPA or 3.0 GPA in last 30 credits; start a file in the School of Education (please contact the education office to obtain paperwork); approved general psychology or general sociology class with a grade of C or better.

Foundations Quarter

Must be taken concurrently

EDU 2104 Introduction to Education	2
EDU 2200 Foundations and Educational Psychology	3
EDU 2300 Diversity and the Classroom	3

Methods and Skills Courses

A student must receive a grade of C or better in all methods and skills courses to be recommended for certification.

Choose One:

ART 3546 Art Education (3) or MUS 3501 Elementary Methods and Materials (3) or TRE 3800 Theatre Education Methods (3)	3
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Choose One:

EDRD 4516 Children’s Literature (3) or EDRD 4517 Young Adult Literature (3)	3
MAT 2530 Survey of Mathematics I	3
MAT 2531 Survey of Mathematics II*	2
EDRD 2000 Reading I: Psychology of Reading	3
EDSC 2566 Environmental Science**	5
EDU 3942 September Experience***	1

**Prerequisites for EDMA 3000.*

***Prerequisites for EDSC 3200.*

****September Experience should be taken the September following Foundations Quarter.*

Methods Quarter

Prerequisites include successful completion of the Foundations Quarter; junior standing (90 credits); admission to the School of Education (see page 102); need successful completion of MAT 2530, MAT 2531 and EDSC 2566; and fingerprint clearance.

Must be taken concurrently

EDU 3200 General Methods I: Classroom Management	1
EDRD 3200 Reading II: Reading Methods	2
EDMA 3000 Math Methods I	2
EDSC 3200 Social Studies/ScienceMethods	1
EDU 3105 Lab. Field Experience	3



Integrated and Internship Quarters

Prerequisites include successful completion of the Methods Quarter; completing 15 upper-division credits in your major; receiving a passing score on the appropriate WEST-E/Praxis II; participating in an internship-placement interview; and having senior standing (135 credits).

Integrated Quarter must be taken concurrently

EDU 4200 General Methods II: Strategies for Diverse Learners	1
EDRD 4200 Interventions for Struggling Readers	2
EDMA 4000 Math Methods II	2
EDSC 4200 Social Studies/Science/Health Methods	3
EDU 4941 Elementary Internship A**	10
EDU 4942 Elementary Internship B**	15

Internship Quarter must be taken concurrently

EDU 4800 Teacher as Person	2
EDTC 2235 Educational Technology	2

*Prerequisites: successful completion of Integrated Quarter.

**A grade of B or better is required.

Note: Integrated and Internship Quarters must be taken sequentially.

Secondary Certification Requirements

Endorsements: See SOE Office for complete list.

Prerequisites include official admission to SPU; sophomore standing (45 credits); cumulative 2.8 GPA or 3.0 GPA in last 30 credits; starting a file in the School of Education (please contact the education office to obtain paperwork), approved general psychology or general sociology class with a grade of C or better.

Foundations Quarter

Must be taken concurrently

EDU 2104 Intro. to Education	2
EDU 2200 Foundations and Educational Psychology	3
EDU 2300 Diversity and the Classroom	3

Methods and Skills Courses

A student must receive a grade of C or better in all methods and skills courses to be recommended for certification.

EDRD 4530 Reading and Writing Across The Curriculum	2
EDU 3942 September Experience*	1

Endorsement Area:

Students choose appropriate methods course(s) from the following list according to their endorsement area(s).

English or English/Language Arts

EDU 3361 Secondary English Methods	3
EDU 3561 Field Experience: Secondary English	1

Family and Consumer Science

FCS 4511 Curriculum and Evaluation in FCS Education	5
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Foreign Languages (French, German or Spanish)

LIN 2100 Foundations of Language Study	5
LIN 4365 Methods of Foreign Language Teaching	3

History or Social Studies

EDU 4364 Teaching Secondary Social Studies	3
EDU 3564 Field Experience: Secondary Social Studies	1

Mathematics

EDMA 3357 Teaching Secondary Mathematics	3
EDU 3557 Field Experience: Secondary Mathematics	1

Middle Level

EDU 4315 Middle School Methods	3
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Science (Biology, Chemistry, Physics or Earth Science)

EDSC 3359 Teaching Secondary Science	3
EDU 3559 Field Experience: Secondary Science	1

*September Experience should be taken the September following Foundations Quarter.

Note: The above courses are offered only once or twice a year. Candidates should take them after the Foundations Quarter.

Methods Quarter

Prerequisites include successful completion of the Foundations Quarter; junior standing (90 credits); admission to the School of Education (see page 102); and fingerprint clearance.

Must be taken concurrently

EDU 3250 Secondary General Methods I	2
EDU 3105 Lab Experience	3

A grade of B or better is required.

Integrated and Internship Quarters

Prerequisites include successful completion of the Methods Quarter; completion of 15 upper-division credits in your major; receiving a passing score on the appropriate WEST-E/Praxis II; participating in an internship-placement interview; and having senior standing (135 credits).

Integrated Quarter must be taken concurrently

EDU 4250 Secondary General Methods II	3
EDU 4530 Topics in Secondary Education	3
EDU 4945 Secondary Internship A	12

Internship Quarter must be taken concurrently

EDTC 2235 Education Technology	1
EDU 4800 Teacher as Person	2
EDU 4946 Secondary Internship B	15

Note: Integrated and Internship Quarters must be taken sequentially

K–12 Certification Requirements for Art, Music, Health/Fitness***Foundations Quarter**

Prerequisites include official admission to SPU; sophomore standing (45 credits); cumulative 2.8 GPA or 3.0 GPA in last 30 credits; starting a file in the School of Education (please contact the education office to obtain paperwork); approved general psychology or general sociology course with a grade of C or better.

Must be taken concurrently

EDU 2104 Introduction to Education	2
EDU 2200 Foundations and Educational Psychology	3
EDU 2300 Diversity and Classroom	3
EDU 3942 September Experience**	1

**September Experience should be taken the September following Foundations Quarter.

Must be taken concurrently

EDU 3250 Secondary General Methods I	2
EDU 3105 Lab Experience	3

A grade of B or better is required.

*K–12 certification students should check with their disciplines' advisor for specific requirements.

Methods and Skills Courses**Art**

ART 3546 Art Education	3
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Music

MUS 3503 General Music Methods	3
MUS 3504 Choral Music Methods	2
MUS 3505 Instrumental Music Methods	2

Health/Fitness

PES 3510 Teaching Physical Education	5
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Methods Quarter

Prerequisites include successful completion of the Foundations Quarter; junior standing (90 credits); admission to the School of Education (see page 102); and fingerprint clearance.

Must be taken concurrently

EDU 3250 Secondary General Methods I	2
EDU 3105 Lab Experience	3



Integrated and Internship Quarter

Prerequisites include successful completion of the Methods Quarter; completion of 15 upper-division credits in your major; receiving a passing score on the appropriate WEST-E/Praxis II; participating in an internship-placement interview; and having senior standing (135 credits).

Integrated Quarter must be taken concurrently

EDU 4200 Elementary General Methods II	1
EDU 4530 Topics in Secondary Education	3
EDU 4945 Elementary Internship A (art, music or health/fitness)	12

Internship Quarter must be taken concurrently

EDTC 2235 Educational Technology	1
EDU 4800 Teacher as Person	2
EDU 4945 Secondary Internship A (art, music, or health/fitness)	15

Note: Integrated and Internship Quarters must be taken sequentially.

Majors for Elementary Teachers

To be admitted to these broad field majors, students must meet the admission requirements of both the School of Education and the appropriate school or department in which the courses are offered. For initial advising, contact the School of Education certification coordinator. The majors listed below are designed for students who are seeking elementary certification.

Family and Consumer Sciences

Barbara Bovy, Advisor, Family and Consumer Sciences (FCS)

56–63 credits, 25 upper division

FCS Core 9–10

FCS 1050 Introduction to FCS	1–2
FCS 3240 Individual and Family Development	5
FCS 4899 Foundations and Contemporary Issues	3

FCS Courses for Elementary Certification 49–55

BIO 1100 Human Nutrition (5)	
or FCS 2385 Food and the Consumer (3)	3–5
FCS 2365 Food Science	5
FCS 1710 Design Fundamentals (5)	
or FCS 2702 Intro to Interior Design (3)	3–5
FCS 3830 Textiles	5
FCS 3220 Child Development	3
FCS 3385 Food and Culture (3)	
or FCS 3710 Family Housing (5)	3–5
FCS 3410 Family and Family Finance	4
FCS 3460 Family Resourced Management	3
FCS 3875 Appearance and Culture	3
FCS 3564 Presentation Skills	4
FCS 4240 Family Relations	3
FCS 4250 Strategies/Early Childhood	3
FCS 4511 Curriculum and Evaluation in FCS Education	5

Total credits for elementary FCS education 49–55

Total Credits for majors 58–65

Fine and Applied Arts

Andrew Ryder, Advisor, Theatre Department

66 credits, 23 upper-division

Visual Arts (22 credits)

ART 1180 The Visual Arts	5
ART 1102 Drawing Studio (3)	
or ART 1103 Drawing Studio (3)	3
ART 1202 Design Studio	3
ART 3604 History of Renaissance Art (5)	
or ART 3605 History of Modern Art (5)	5
Select two courses from the following:	
ART 2422 Metal Studio (3)	
ART 2428 Ceramics Studio (3)	
ART 3315 Painting Studio — Watercolor (3)	6

Communication/Integration (10 credits)

COM 4323 Performing Literature	5
FCS 1710 Design Fundamentals	5

Music (15 credits)

MUS 1101 Musicianship	5
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Select two or more courses from the following to total: 4

MUS 1250 Beginning Keyboard (2)	
or MUS 1251 Intermediate Keyboard (2)	
MUS 1260 Beginning Voice (2)	
or MUS 1261 Advanced Voice (2)	
MUS 1270 Beginning Folk Guitar (1)	
or MUS 1271 Intermediate Folk Guitar (1)	
Music Electives (see electives below) to total	6

Theatre (18–19 credits)

TRE 1110 The Theatre Experience (5)	5
TRE 1310 The Actor's Art (5)	
TRE 1340 Acting One (5)	
may be substituted if absolutely necessary	5

Select one course from the following

TRE 2320 Stage Movement (3)	
TRE 3321 Elements of Mime (3)	
TRE 3720 Stage Makeup (3)	
TRE 4770 Creative Dramatics (3)	3

Choose an option below

Two more of the 3-credit courses listed above (6)	
or TRE 3710 Play Directing (5)	5–6

Approved Electives to Complete* 66 credits

Including 23 upper-division

ART 2302 Painting Studio — Oil (3)	
ART 3421 Printmaking Studio — Advanced 1 (3)	
FCS 3870 History of Costume (5) "W"	
MUS 1102 and 1103 Musicianship (5 each)	
MUS 2605 Popular Music (5)	
MUS 3502 Music for Special Education (3)	
MUS 3602 Magic of Opera (5)	
MUS 4401 The Song of the Church (3)	
MUS 4402 History and Appreciation of Jazz (5) "W"	
MUS 4654/4655/4656 Context Studies (3 ea.)	
Any upper-division SPU ensemble (1 ea.)	

*Approved electives to complete 66 credits include those listed above, or other approved electives in art, music, theatre, and family and consumer sciences.

Note: Fine and applied arts majors need to plan carefully so as to meet the University "W" requirement for graduation.

Language Arts

Luke Reinsma, Advisor, English Department

50–53 credits, 23 upper-division

COM 1101 Introduction to Interpersonal Communication	5
COM 4323 Performing Literature	5
EDRD 4516 Children's Literature	3
EDRD 4517 Young Adult Literature	3
ENG 2253 American Literature: Beginnings to 1900	5
ENG 3180 Advanced Grammar	3
ENG 3334 American Ethnic Literature	5
LIN 2100 Foundations of Language Study	5

Select two courses from the following:

ENG 2248 New International Fiction (5)	
ENG 2251 English Literature: Beginnings Through Milton (5)	
ENG 2252 English Literature: Restoration Through Victorian (5)	
ENG 3246 European Literature: Homer to Dante (5)	
ENG 3247 European Literature: Cervantes to Camus (5)	
EUR 3287 Mythology in Literature (5) "W"	10

Select two courses from the following:

ENG 2201 Intermediate Writing (3)	
ENG 2215 Imaginative Writing (3)	
ENG 3301 Advanced Expository Writing (3) "W"	
ENG 3318 Creative Nonfiction (3) "W"	6

Select one of the following:

TRE 1110 Theatre Experience (5)	
TRE 1310 The Actor's Art (5)	
TRE 1720 Stagecraft (5)	
TRE 1931/3931 Production Practicum (2)	
TRE 3800 Theatre Education Methods (3)	
TRE 4770 Creative Dramatics (3)	2–5

Total 50–53



"Education brings hope! Students hope education brings a better life. We seek to link their immediate hope to our eternal hope in Christ. This link brings hope to our communities as our candidates become teachers."

Frank Kline
Education

Note: Language arts majors need to plan carefully so as to meet the University "W" requirement for graduation.

Note: Students choosing the language arts major must fulfill the requirement for proficiency in a second language. The requirement, equal to the completion of the third quarter of a University-level language course, may be met by the study of any modern or classical language.

Mathematics	
Sharon Young , Advisor, Mathematics Department	
<i>54 credits, 23 upper-division</i>	
MAT 1225 (5) and MAT 1226 Calculus (5)	10
MAT 1360 Introduction to Statistics	5
MAT 1521 Introduction to Contemporary Mathematics (5) or MAT 1228 Series and Differential Equations (5)	5
MAT 2401 Linear Algebra	3
MAT 2530 (3) and MAT 2531 (2) Survey of Mathematics I and II	5
MAT 2720 Discrete Mathematics	3
EDMA 3357 Teaching Secondary Mathematics	3
EDU 3542 Elementary Mathematics Field Experience	1
EDU 3557 Secondary Mathematics Field Experience	1
EDMA 4232 Mathematics Methods: Elementary Emphasis	3
MAT 4610 The Evolution of Mathematical Thought "W"	3
MAT 4930 Practicum in Mathematics	1
MAT 4918 Senior Seminar "W"	3
Electives (upper-division)*	8
Total	54

Note: Mathematics majors need to plan carefully so as to meet the University "W" requirement for graduation.

*Approved electives to complete 54 credits: MAT 3401, MAT 3441, MAT 3443, MAT 3749, MAT 4402 "W," MAT 4910, MAT 4930; a maximum of 2 credits in MAT 4930 may be applied.

General Science	
Ray Myers , Advisor, School of Education	
<i>60 credits, 15 upper-division</i>	
<i>Students need 10–15 credits in each of four natural science divisions: biology, chemistry, earth sciences and physics/astronomy.</i>	
<i>Recommended courses are the following:</i>	
Biology	
BIO 2101, 2102, 2103	15
Chemistry	
CHM 1211 and 1330 or 2371	10
<i>Students interested in taking additional chemistry should take CHM 2371.</i>	
Earth Science	
PHY 1150 and EDSC 4566	10
Physics PHY 1110 and PHY 1135	10
Disciplinary Emphasis	
<i>Required to select one area:</i>	
<i>biology, chemistry or physics</i>	15 upper-division
Biology Emphasis	
<i>Choose 15 credits from BIO 3310 "W," 3325 "W," 3351, 3453, 4330, 4615 "W," 4950</i>	
Chemistry Emphasis	
<i>Choose 15 credits from CHM 3225, 3400, 3540, 4361</i>	
Physics Emphasis	
<i>Choose 15 credits from PHY 3120 "W," 3311, 4242, 4243</i>	
Total	60

Note: General science majors need to plan carefully so as to meet the University "W" requirement for graduation.

Social Science	
Donald Holsinger , Advisor, History Department	
<i>61–65 credits, 23 upper-division</i>	
HIS 2502 The United States to 1876 (5) or HIS 3501 Colonial and Revolutionary America "W" (5)	5
HIS 2503 The United States Since 1876	5
Non-American history (upper-division recommended)	5

Upper-division History elective	5
HIS 3600 History of the Pacific Northwest	5
Select one course from the following:	
ECN 1100 Fundamentals of Economics (5)	5
ECN 2101 Principles of Microeconomic (5)	5
ECN 2102 Principles of Macroeconomics (5)	5
GEO 2207 Economic Geography (5)	5
GEO 1110 World Regional Geography	5
POL 1120 American Government and Politics	5
PSY 1180 General Psychology	5
SOC 1110 Introduction to Sociology	5
One Course in Cultural Anthropology	3–5
Two upper-division elective courses from the following disciplines: ANT, GEO, POL, PSY or SOC	
	8–10
Total	61–65

Note: Social science majors need to plan carefully so as to meet the University "W" requirement for graduation.

Special Education (K–12)

The primary purpose of the special education major is to develop teachers who have the knowledge and skills necessary to design and implement appropriate education for students with disabilities. The emphasis in this program is on students with special needs in the areas of learning and behavior.

While not required, it is strongly recommended that the teacher candidate complete both the regular certification program (at either the elementary or secondary level), and the special education major. Students completing regular and special education certification follow the same sequence of courses as regular education certification students, but have an additional quarter of internship in a special education setting. The additional internship will give the candidate experience in the regular classroom as well as in the special education setting. For general requirements and admission policies see the listings for relevant quarters on previous pages.

Admission to the Special Education Major

Students who are interested in the special education certification program are encouraged to indicate their intent upon their arrival at SPU. This indication is made with the School of Education Advising Center in Peterson Hall. It does not commit the student to the program, but it assures advising and continuing receipt of current information about the special education program requirements. Admission to the special education major requires completion of the Foundations Quarter.

Requirements for Special Education Major	
<i>45 credits</i>	
EDSP 3107 Exceptionality in the Classroom	3
PSY 2470 Life Span Developmental Psychology	5
EDRD 2000 Reading I: Psychology of Reading	3
EDSP 4642 Instructional Strategies for the Exceptional Student	3
EDSP 4646 Severe Disabilities	3
EDSP 4648 Teaching Students With Behavior Disorders	3
EDSP 4651 Special Education Assessment	3
EDSP 4652 Learning Disabilities	3
EDSP 4653 Teaching Reading to Exceptional Students "W"	3
EDSP 4657 Behavior Management: Applied Behavioral Analysis	3
EDSP 4899 Senior Seminar: Issues in Special Education "W"	3
EDSP 4943 Elementary	
or EDSP 4948 Secondary Special Internship	10–18
Total	45–53

Requirements leading to certification in special education

1. Certification in special education (grades K–12) is granted upon successful completion of the special education major and the specialized certificate requirements.
2. Foundations requirements for a K–12 special education certificate are listed the same as the general education quarters. The specific applications courses required for the K–12 special education certificate are listed in the major requirements.
3. Transfer students must complete a minimum of 15 upper-division credits in special education coursework prior to the internship.

K–12 Special Education Only Certification

Students pursuing only their K–12 Special Education Certification will take Foundations Quarter along with the certification students. In addition, students will take methods and skills courses and complete their Application and Internship Quarters in either elementary or secondary levels depending on their desired emphasis, as listed below.

K–12 Special Education Only Certification

Methods and Skills Courses

Elementary Required

MAT 2530 Survey of Math I	3
MAT 2531 Survey of Math II	2

Elementary Electives

Minimum of two courses and 5–7 credits.

ART 3546 (3), EDRD 3200 (2), EDRD 4200 (2), EDSC 4200 (3), MUS 3501 (2), MUS 3502 (3), PES 255 (5), PES 3510 (4), PES 3545 (3)	
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or

Secondary Required

EDU 3250 Secondary General Methods I (2)

EDU 4250 Secondary General Methods II (3)

EDU 4530 Topics in Secondary Education (2)

Integrated Quarter

EDSP 4943 (15)

EDSP 4658 (3)

Internship Quarter

EDSP 4948 (16)

EDU 4800 (2)

Math Education

EDMA 3000 Math Methods I: Teaching K–8 Mathematics (2)

Registration approval: School of Education. Prerequisite: MAT 2531. Examines contemporary curricula and materials for teaching K–8 mathematics, with an emphasis on research, learning theory, pedagogy, methods and the use of technology. Attention is given to the NCTM standards and Washington state Essential Academic Learning Requirements. Corequisites: EDRD 3200, EDSC 3200, EDU 3105 and EDU 3200. Attribute: Upper-Division.

EDMA 3357 Teaching Secondary Mathematics (3) Prerequisite: Admission to School of Education. Overviews content methods and strategies appropriate to the teaching of secondary school mathematics. Attention is given to the NCTM standards and Washington state Essential Academic Learning Requirements. Emphasis is also placed on problem solving. Recommended prior to or concurrent with first-quarter internship. Corequisite: EDU 3557. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDMA 4000 Math Methods II: Teaching K–8 Mathematics (2)

Registration approval: School of Education. Prerequisite: EDMA 3000. Seminar to examine the application of methods for teaching K–8 mathematics in a related field experience and explore contemporary issues in teaching K–8 mathematics. Special attention is given to developing instruction that integrates mathematical process standards of problem solving, reasoning, communication,

connections and representation noted in the NCTM standards, the Washington state Essential Academic Learning Requirements and the Third International Mathematics and Science Study.

Corequisites: EDRD 4200, EDSC 4200 and EDU 4200. Attribute: Upper-Division.

EDMA 4232 Mathematics Methods: Elementary Emphasis (3)

Registration approval: School of Education. Prerequisites: Admission to School of Education and EDMA 2530, 2531. Explores contemporary methods and trends in the teaching of mathematics in elementary school emphasizing learning theories, changes in the mathematical content, use of technology and pedagogy. Attention is given to the NCTM standards and to Washington state Essential Academic Learning Requirements. Corequisites: EDSC 4234 and EDU 3542. Attribute: Upper-Division. Class not open to freshmen and sophomores.

Reading Education

EDRD 2000 Reading I: Psychology of Reading (3)

Registration approval: School of Education. Explores the theories of cognitive development applied particularly to the fields of language development and literacy. Examines different theories of the acquisition of language development and cognitive processes and the relationship to learning to read and write. Among the topics to be covered are the linguistics and non-linguistic bases of reading, word recognition, reading comprehension, and reading disabilities (dyslexia) and the impact of home and school environments on language and literacy development. To increase their understanding of the reading/language development process, students will tutor a child in reading.

EDRD 3200 Reading II: Reading and Language Arts Methods (2)

Registration approval: School of Education. Prerequisite: EDRD 2000. Explores current research and best practices in teaching reading, writing and language arts as an integrated process in grades K–8. Addresses topics such as instructional grouping, classroom-based assessments, analysis and use of instructional materials (including the underlying theory base), and strategy instruction. Includes a survey of current reading programs, their instructional design and underlying view of the learner. Students will design unit and lesson plans to teach reading, writing and language processes. Corequisites: EDMA 3000, EDSC 3200, EDU 3105 and EDU 3200. Attribute: Upper-Division.

EDRD 3529 Child Language Development and the Reading Process (3)

Registration approval: School of Education. Prerequisite: LIN 2100. Examines the nature of language, children's stages of language growth, cognitive processes related to language development and growth, and the implications of natural language development for early reading/writing instruction. Attribute: Upper-Division. Class not open to freshmen.

EDRD 4200 Reading III: Intervention for Struggling Readers (2)

Registration approval: School of Education. Prerequisite: EDRD 3200. Students will review and further investigate possible causes of reading problems, including inappropriate reading instruction. Examines current research in best practices and programs for struggling readers at various levels of their schooling. Students will focus on a struggling reader during this quarter of their internship to develop a plan and carry out instruction to improve the student's reading and writing achievement. Corequisites: EDMA 4000, EDSC 4200 and EDU 4200. Attribute: Upper-Division.

EDRD 4231 Reading and Language Arts Methods (3)

Registration approval: School of Education. Prerequisites: EDRD 3529, LIN 2100 and admission to the School of Education. Incorporates a variety of instructional strategies, formats and media to present a variety of methods and strategies for teaching, integrating and assessing the processes of reading, writing and oral language in the elementary classroom; and analysis and uses of language arts

materials. Corequisites: EDU 4230, EDU 4233 and EDU 4941. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDRD 4516 Children's Literature (3) Prerequisite: ENG 1110 or equivalent. Examines the variety and richness of literature available for children in preschool through eighth grade; presents major genres and notable authors and illustrators; and develops familiarity with varied responses to literature adaptable for classroom use. Attribute: Upper-Division. Class not open to freshmen.

EDRD 4517 Young Adult Literature (3) A study of young adult literature, including intensive reading in the best of this literature and application of both critical and pedagogical strategies to the reading. Attribute: Upper-Division.

EDRD 4530 Reading and Writing Across the Curriculum (2) Prerequisite: Completion of Professional Quarter One and Two. Provides a functional approach to content-centered instruction that will prepare pre-service teachers to teach content, reading and writing skills simultaneously. Emphasis is placed on the application of skills that middle, junior and senior high school readers must make to learn content from a variety of sources and materials. Attribute: Upper-Division. Class not open to freshmen and sophomores.

Science Education

EDSC 2566 Environmental Education for Elementary Teachers (5) Will involve students in inquiry-based activities in the classroom and on field trips, using regional environmental resources to investigate the interaction of the earth's biosphere, geosphere, atmosphere and hydrosphere. Teaching strategies suitable for elementary education will be modeled.

EDSC 3200 Social Studies/Science Methods I (1) Registration approval: School of Education. Prerequisite: EDSC 2566. Provides a basic introduction to methods for teaching science and social studies. Interdisciplinary approaches to science and social studies are encouraged as well as development of research and experience-based principles of effective practice for encouraging the intellectual, social and personal development of students. This will be carried out through a focus on inquiry-based instruction. Corequisites: EDMA 3000, EDRD 3200, EDU 3105 and EDU 3200. Attribute: Upper-Division.

EDSC 3359 Teaching Secondary Science (3) Prerequisite: Admission to School of Education. Designed to assist students in relating their understanding in various science disciplines to the practical problems of planning and implementing learning experiences for secondary students. The emphasis is on the use of inquiry/problem solving approaches to science learning. Corequisite: EDU 3559. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSC 4200 Social Studies/Science/Health Methods II (3) Registration approval: School of Education. Prerequisite: EDSC 3200. Expands the ideas built in EDSC 3200 and provides opportunity to apply them in practice teaching. The course will build integration of concepts of healthy living into the science/social studies content. Unit and lesson plans will be developed for implementation. Corequisites: EDMA 4000, EDRD 4200 and EDU 4200. Attribute: Upper-Division.

EDSC 4234 Science Methods: Elementary Emphasis (3) Registration approval: School of Education. Prerequisite: Admission to School of Education. Briefly surveys current elementary science programs and examines techniques and materials using a discovery approach to teach some basic principles of science. Corequisite: EDU 3542. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSC 4527 Nature of Elementary School Science (3) Introduces science teaching strategies and processes of science (hypothesizing, designing experiments, etc.) using class activities from modern elementary science curricula. Attribute: Upper-Division.

EDSC 4566 Environmental Education for Teachers — Oceanography and Meteorology (5) Prerequisites: CHM 1110 or PHY 1110, BIO 1100 or higher, and PHY 1150 or permission of Instructor. Gives ideas for outdoor activities, classroom activities, field trips, regional environmental resources, readings, teaching strategies and discussions. Attribute: Upper-Division. Class not open to freshmen.

Special Education

EDSP 3107 Exceptionality in the Classroom (2–3) Registration approval: School of Education. Prerequisite: Professional Quarter One. Examines the concept of difference, including influences of exceptionality on social and psychological roles. Presents strategies for inclusion of exceptional students in classrooms. Corequisites: EDU 3102, EDU 3104 and EDU 3105. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSP 4642 Individual Education Programs (3) Registration approval: School of Education. Prerequisite: EDSP 3107. Classroom presentation centers around the interaction of the disabled child with the school. Topics include federal and state regulations for the education of the disabled; procedures for referral, diagnosis and placement; formation of individual education programs, service models, task analysis and sequencing of skills; formation and evaluation of behavioral objectives; selection of instructional materials and methodology; and classroom organization. (Pre-service emphasis.) Course equivalent: EDSP 6642. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSP 4645 Psychology of the Gifted Individual (3) Registration approval: School of Education. Prerequisite: EDSP 3107. Introduces identification of gifted and creative individuals and development of educational programs and resources for the gifted. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSP 4646 Severe Disabilities (3) Registration approval: School of Education. Prerequisite: EDSP 3107. Explores the issues surrounding the education of the developmentally disabled person. Includes definitions and classification systems, etiology, theoretical approaches, strategies for educational diagnosis and intervention, family problems and other issues. Course equivalent: EDSP 6646. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSP 4648 Teaching Students With Emotional and Behavior Disorders (3) Registration approval: School of Education. Prerequisite: EDSP 3107. Provides special educators with knowledge related to characteristics and inclusion strategies for children and youth with behavior disorders or emotional disturbance. Course equivalent: EDSP 6648. Attributes: SPECIAL ED-Instr methods; and Upper-Division. Class not open to freshmen and sophomores.

EDSP 4651 Special Education Assessment (3) Registration approval: School of Education. Prerequisite: EDSP 3107. Teaches diagnostic and evaluative procedures commonly used with exceptional children. Includes construction of criterion referenced tests and curriculum based assessment; use and interpretation of formal and informal tests, and procedures and related ethics procedures, and related issues. Attributes: SPECIAL ED-Assessment and evaluation; and Upper-Division. Class not open to freshmen and sophomores.

EDSP 4652 Disabilities of Learning and Attention (3) Registration approval: School of Education. Attributes: SPECIAL ED-Alt delivery and strat; and SPECIAL ED-Instr methods. Class not open to freshmen and sophomores.

EDSP 4653 Teaching Reading to Exceptional Students (3) Registration approval: School of Education. Prerequisites: EDRD 3529 and EDSP 3107 or permission of instructor. Focuses on diagnosis of reading strengths and weaknesses; of correlates of reading problems; and analysis and selection of methods and materials for reading instruction of special needs children, including children who speak English as their second language. Attributes: Upper-Division; and Writing Course. Class not open to freshmen and sophomores.

EDSP 4657 Behavior Management (3) Registration approval: School of Education. Prerequisite: EDSP 3107. Focuses on an in-depth explanation of applied behavior analysis and classroom management strategies useful in meeting the needs of children and youth with behavioral disabilities. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDSP 4899 Issues in Special Education — Capstone (3) Registration approval: School of Education. Prerequisite: EDSP 3107. This capstone course explores major trends and issues affecting special education, including the rights of the disabled, emerging trends in educational services and major issues surrounding the quality of life of disabled individuals. Open to special education majors only. Attributes: Upper-Division; and Writing Course.

EDSP 4900 Independent Study (1–5) Registration approval: Independent Study Agreement. Prerequisites: EDSP 3107. May be repeated for credit up to 5 credits. Attribute: Upper-Division.

EDSP 4943 Elementary Special Education Internship A (1–17) Registration approval: School of Education. Prerequisites: Same as for EDU 4941. First quarter of a two-quarter internship. Observation and daily teaching in special education in the elementary schools under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDSP 4944 Elementary Special Education Internship B (1–17) Registration approval: School of Education. Prerequisites: Same as for EDU 4941. Second quarter of a two-quarter internship. Observation and daily teaching in special education in the elementary schools under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDSP 4948 Secondary Special Education Internship A (1–17) Registration approval: School of Education. Prerequisites: See Professional Quarters Four and Five secondary program prerequisites. Three-quarter internship (two in special education; one in regular education). Provides opportunity for observation and daily teaching in special education sections in the public schools under the direction of a master teacher. Extra fee. May be repeated for credit up to 17 credits. Corequisite: EDU 4845. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDSP 4949 Secondary Special Education Internship B (1–17) Registration approval: School of Education. Prerequisites: See Professional Quarters Four and Five secondary. Program prerequisites. Extra fee. May be repeated for credit up to 17 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

Technology Education

EDTC 2235 Introduction to Educational Technology (2) Prerequisite: Admission to Professional Quarter One. Instruction on processes and procedures for using media and computers in school settings. Includes instructional design; basic production skills for computer, media and multimedia applications; and courseware evaluation. Corequisite: EDU 2103. Class not open to freshmen.

EDTC 3930 Practicum (1–5) Registration approval: Instructor. Attribute: Upper-Division.

Education

EDU 2103 Foundations of American Education (3) Registration approval: School of Education. Prerequisite: Admission to Professional Quarter One. Explores social, historical and philosophical foundations of American education. Focuses on teaching and curricula from ancient times to the present. Provides opportunities to apply course content through service learning and field-related experiences. Corequisite: EDTC 2235. Class not open to freshmen.

EDU 2104 Introduction to Education (2) Registration approval: School of Education. An introduction to the profession of teaching is provided with a special emphasis on requirements of the state of Washington and the Seattle Pacific University teacher education program. The course will cover history of the educational reform effort in Washington, Residency certification competencies, endorsement competencies and the various tests required to become a teacher. Portfolio requirements for the program as well as lesson and unit planning, will also be introduced. Corequisites: EDU 2200 and EDU 2300.

EDU 2200 Foundations and Educational Psychology (3) Registration approval: School of Education. Explores the social, historical, philosophical and moral aspects of American education. Additional study includes the major instructional, developmental and cognitive theorists as they relate to human growth and development, and classroom management. Corequisites: EDU 2104 and EDU 2300.

EDU 2300 Diversity and the Classroom (3) Registration approval: School of Education. Presents an overview of issues of diversity and exceptionality in the classroom. Students will develop a greater appreciation for cultural variations and individual differences. In addition to an overview of cultural diversity focusing on low status/historically marginalized students, and overview of special education including various categories of disabilities will be provided. Students will develop an awareness of effective educational strategies that support the learning of all students including students who have disabilities or who come from low-status/historically marginalized groups. Corequisites: EDU 2104 and EDU 2200.

EDU 3102 Applications of Educational Psychology (2) Registration approval: School of Education. Prerequisite: Professional Quarter One. This course will explore social, moral and cognitive aspects of human growth and development along with learning theories related to children and youth. These principles will form a broad base for the study and consideration of curriculum, instruction, assessment and behavior management. Corequisites: EDSP 3107, EDU 3104 and EDU 3105. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3104 Foundations of Multicultural Education (2) Registration approval: School of Education. Prerequisite: Professional Quarter One. An introduction to the historical background and theoretical constructs of multicultural education. Examines the nature of our diverse society and the implications for education. The nature of bias is discussed, and techniques are presented that foster positive expectations for all students. Corequisites: EDSP 3107, EDU 3102 and EDU 3105. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3105 Laboratory Experience (3) Registration approval: School of Education. Prerequisite: Professional Quarter One. Provides opportunity for the student to be placed in a school with diverse populations. Integration of learning and experience will be gained through observing and working with students in various classroom settings. Corequisites: EDSP 3107, EDU 3102 and EDU 3104. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3106 Laboratory Experience (3) Registration approval: School of Education. Gives students an opportunity for an additional individualized laboratory experience. See EDU 3105. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3200 Elementary General Methods I: Classroom Management (1) Registration approval: School of Education. Prerequisites: EDU 2104, 2200 and 2300. Applies instructional theory to classroom management presenting general factors that affect learning in the elementary classroom. Management of the physical, behavioral and emotional environment will be primary, with additional focus on assessment and communication with parents. Corequisites: EDMA 3000, EDRD 3200 and EDU 3105. Attribute: Upper-Division.

EDU 3250 Secondary General Methods I: Planning and Classroom Management (2) Registration approval: School of Education. Prerequisites: EDU 2104, 2200 and 2300. Emphasizes research and experienced based principles of effective practice for encouraging the intellectual social and personal development of secondary students. This will be carried out through exercises in planning and managing instruction based on knowledge of community/school contexts and curriculum standards. Corequisite: EDU 3105. Attribute: Upper-Division.

EDU 3361 Secondary English Methods (3) Prerequisite: Professional Quarters One and Two. Explores teaching and planning methods and materials appropriate for middle school and senior high school students. Based on essential learnings, the course considers various learning styles, moral implications, literary works and writing activities in creating and sharing ideas and projects. Corequisite: EDU 3561. Attribute: Upper-Division.

EDU 3542 Field Experience: Elementary Math and Science (1–2) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This field experience will provide experiences teaching elementary math and science to bring back to the methods classroom for discussion and evaluation. It will also provide an environment for applying lessons and activities from the methods course. Corequisites: EDMA 4232 and EDSC 4234. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3557 Field Experience: Secondary Mathematics (1) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This field experience will provide experiences teaching secondary mathematics to bring back to the methods classroom for discussion and evaluation. It will also provide an environment for applying lessons and activities from the methods course. The hours of observation and instruction will be flexible and scheduled to meet assignments in each of the subject area classes, the schedules of each cooperating classroom and the schedule of each student. Corequisite: EDMA 3357. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3559 Field Experience: Secondary Science (1) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This field experience will provide experiences teaching secondary science to bring back to the methods classroom

for discussion and evaluation. It will also provide an environment for applying lessons and activities from the methods course. The hours of observation and instruction will be flexible and scheduled to meet assignments in each of the subject-area classes, the schedules of each cooperating classroom and the schedule of each student. Corequisite: EDSC 3359. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3561 Field Experience: Secondary English (1) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This field experience will provide experiences teaching secondary English to bring back to the methods classroom for discussion and evaluation. It will also provide an environment for applying lessons and activities from the methods course. The hours of observation and instruction will be flexible and scheduled to meet assignments in each of the subject-area classes, the schedules of each cooperating classroom and the schedule of each student. Corequisite: EDU 3361. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3564 Field Experience: Secondary Social Studies (1) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This field experience will provide experiences teaching secondary social studies to bring back to the methods classroom for discussion and evaluation. It will also provide an environment for applying lessons and activities from the methods course. The hours of observation and instruction will be flexible and scheduled to meet assignments in each of the subject area classes, the schedules of each cooperating classroom and the schedule of each student. Corequisite: EDU 4364. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 3942 September Experience (1) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This course requires two weeks of observation and assistance at the opening of a school year in a program that reflects the level and subject matter preferred by the pre-service teacher. It will include any faculty meetings, preparation days and in-service workshops that take place prior to the students' arrival at school. The intern will then remain for the first two weeks of the school year. Course equivalent: EDU 6942. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 4200 Elementary General Methods II: Strategies for Diverse Learners (1) Registration approval: School of Education. Prerequisite: EDU 3200. Examines the nature of a diverse society and the implications for education. This includes examination of social and psychological roles as well as characteristics and strategies for inclusion. Further study of social and psychological roles of students will be studied. Corequisites: EDMA 4200, EDRD 4200 and EDSC 4200. Attribute: Upper-Division.

EDU 4230 Elementary General Methods: Theory Into Practice (2) Registration approval: School of Education. Prerequisite: Admission to the School of Education. Presents general factors that affect learning in the elementary classroom; development of teacher-pupil relationships, lesson planning, behavior guidance, assessment and communicating with parents. Corequisites: EDRD 4231, EDU 4233 and EDU 4941. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4233 Social Studies Methods: Elementary Emphasis (3) Registration approval: School of Education. Prerequisite: Admission to the School of Education. Explores interdisciplinary approach for teaching elementary school social studies and develops strategies for implementation in the classroom. Corequisites: EDRD 4231, EDU 4230 and EDU 4941. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4240 General Methods for Teaching in Secondary Schools (4) Registration approval: School of Education. Prerequisite: Admission to the School of Education. Presents instructional theory, lesson planning, classroom management and related topics designed to enhance and be applied in a practice classroom setting. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 4250 Secondary General Methods II: Strategies for Diverse Learners (3) Registration approval: School of Education. Prerequisite: EDU 3250. Emphasizes research and experienced-based principles for creating and adapting instructional opportunities for learners with diverse learning abilities and cultural and linguistic backgrounds. This will be carried out through exercises in planning and managing instruction focusing on characteristics and needs of particular learners, especially low-status/historically marginalized students, and development of a variety of intervention strategies. Attribute: Upper-Division.

EDU 4315 Middle School Methods (3) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This course is designed to prepare students for internships in middle school or junior high school with special emphasis in collaboration and subject matter integration at the middle level and the social, moral and cognitive parts of early adolescent development. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 4364 Teaching Secondary Social Studies (3) Registration approval: School of Education. Prerequisite: Professional Quarters One and Two. Presents specific elements of secondary social studies instruction, including content selection and planning based on essential learnings, moral implications of content, use of instructional strategies, assessment of student learning and management of the classroom. Corequisite: EDU 3564. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 4511 Strategies in Early Childhood (3) Prerequisite: FCS 3220. Provides opportunities to observe and participate with children in a preschool or kindergarten and to observe the role of the teacher as a participant. Implementation and evaluation of models, methods and materials relevant to programs for children in preschool, day-care centers and kindergarten. Offered summers only. Attribute: Upper-Division. Class not open to freshmen.

EDU 4530 Topics in Secondary Education (2) Registration approval: School of Education. Prerequisite: Admission to School of Education. Explores major topics related to instruction in the secondary classroom, including student assessment, reading and study skills, and child abuse. Attribute: Upper-Division. Class not open to freshmen and sophomores.

EDU 4800 Teacher as Person (2) Registration approval: School of Education. Prerequisite: Admission to the School of Education. This course will focus on professional and spiritual aspects of teaching school law, governance and finance. Seminar and case-study format will be used. Final portfolio checkout and job search information will also be included. Concurrent enrollment is required with the final quarter of internship. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4845 Secondary Student Teaching Seminar (1) Registration approval: School of Education. Prerequisite: Completion of Professional Quarters One, Two and Three. These seminars will provide an opportunity for student teachers to share experiences from their internship, as well as a forum for developing additional ideas and skills in key areas of instruction and management. Special attention will be paid to developing explicit links between theory previously learned and the particular internship placement

of each student. Concurrent enrollment in the first quarter of internship is required. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4900 Independent Study (1–5) Registration approval: Independent Study Agreement. Prerequisite: Admission to School of Education. May be repeated for credit up to 15 credits. Attribute: Upper-Division.

EDU 4930 Education Practicum (1–5) Registration approval: Instructor.

EDU 4940 Student Teaching in the Elementary School (1–16) Registration approval: School of Education. Prerequisites: See Professional Quarters Three, Four and Five elementary program prerequisites. Provides opportunity for observation and daily teaching for one quarter in elementary schools. Extra fee. May be repeated for credit up to 16 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4941 Elementary School Internship A (1–17) Registration approval: School of Education. Prerequisites: See Professional Quarters Four and Five elementary program prerequisites (first quarter). Provides opportunity for observation and daily teaching in elementary schools under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Corequisites: EDRD 4231, EDU 4230 and EDU 4233. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4942 Elementary School Internship B (1–17) Registration approval: School of Education. Prerequisites: Same as for EDU 4941. (Second or third quarter.) Provides opportunity for observation and daily teaching in the elementary school under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4943 Elementary Internship: Music (1–17) Registration approval: School of Education. Prerequisites: Same as for EDU 4941. Provides opportunity for observation and daily teaching of music in the elementary school under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Corequisite: EDU 4230. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4944 Elementary Internship: Art (1–17) Registration approval: School of Education. Prerequisites: See Professional Quarters Four and Five elementary program prerequisites (first quarter). Provides opportunity for observation and daily teaching of art in the elementary school under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Corequisite: EDU 4230. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4945 Secondary Internship A (1–17) Registration approval: School of Education. Prerequisites: See Professional Quarters Four and Five secondary program prerequisites. Provides opportunity for observation and daily teaching in public or approved private schools under the direction of a master teacher. Extra fee. May be repeated for credit up to 17 credits. Corequisite: EDU 4845. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4946 Secondary Internship B (1–17) Registration approval: School of Education. Prerequisites: EDU 4945. Second quarter of two-quarter internship. Provides opportunity for observation and daily teaching in public or approved private schools under the direction of a master teacher. Extra fee. May be repeated for credit up to 17 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.



EDU 4948 Elementary Internship: Physical Education (1–17)
Registration approval: School of Education. Prerequisites: See Professional Quarters Four and Five elementary program prerequisites (first quarter). Provides opportunity for observation and daily teaching of physical education in the elementary school under the direction of a cooperating teacher. Extra fee. May be repeated for credit up to 17 credits. Corequisite: EDU 4230. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

EDU 4951 International Elementary School Internship (8–17)
Registration approval: School of Education. Prerequisite: Completion of certification program. Observation and daily teaching in an international elementary school setting under the direction of a cooperating teacher. Attribute: Upper-Division.

EDU 4952 International Secondary School Internship (8–17)
Registration approval: School of Education. Prerequisite: Completion of certification program. Observation and daily teaching in an international secondary school setting under the direction of a cooperating teacher. Attribute: Upper-Division.

Faculty

Daniel J. Bishop, Instructor, Continuing Education/Certification; B.A.E., Pacific Lutheran University, 1980; Teacher Certification, Pacific Lutheran University, 1986; M.A., Pacific Lutheran University, 1988; Principal Certification K–12, Pacific Lutheran University, 1991. At SPU since 2002.

Dirk (Rick) Eigenbrood, Associate Professor of Doctoral Education; Director, Doctoral Studies and Graduate Programs; Chair, Special Education; A.B., Dordt College, 1974; M.Ed., University of Washington, 1979; Ph.D., University of Iowa, 1988. At SPU since 2001.

Ruth H. Givens, Associate Professor; Chair, Master of Arts in Teaching; B.S., Tulsa University, 1971; M.T.A., Tulsa University, 1980; Ed.D., Oklahoma State University, 1996. At SPU since 2002.

Sharon E. Hartnett, Assistant Professor of Education; B.A., Whitworth College, 1978; M.A.T., Whitworth College, 1985; Ph.D., Gonzaga University, 1999. At SPU since 2000.

Frank M. Kline, Associate Professor of Education; Assistant Dean for Teacher Education; B.S., Greenville College, 1978; M.Ed., Wichita State University, 1981; Ph.D., University of Kansas, 1989. At SPU since 1996.

Debra S. Lierman, Instructor, Placement Coordinator; B.A., Seattle Pacific University, 1978; M.A., Seattle Pacific University, 1985; Teacher Certification, Seattle Pacific University, 1995. At SPU since 2002.

Gail L. Miller, Assistant Visiting Professor/Gates Grant Coordinator; B.A., SUNY Oneonta, 1969; M.A., University of Colorado, 1979; Principal's Certification, Seattle Pacific University, 1984. At SPU since 2001.

Raymond E. Myers, Professor of Science Education; B.S., Wayne State University, 1963; M.S., Oregon State University, 1968; Ed.D., 1978. At SPU since 1987.

Annette B. Robinson, Associate Professor of Special Education; B.A., University of Washington, 1966; M.Ed., 1969; Ph.D., 1976. At SPU since 1977.

William J. Rowley, Dean of the School of Education; Associate Professor of School Counseling; B.A., Pasadena College, 1962; M.A., San Jose State College, 1967; Ed.D., University of Northern Colorado, 1973. At SPU since 1996.

Engineering

Otto M. Miller Hall
(206) 281-2140
www.spu.edu/depts/egr

Bruce D. Congdon, *Dean of the College of Arts and Sciences*

Anthony Donaldson, Director and EE Chair, **Kevin Bolding**, **Don Bowie**, **Brad Gjerding**, **Donald Peter**, **Melani Plett**

In a Christian context, engineering is a ministry of designing, manufacturing and marketing products that serve and preserve God's creation. An engineer applies the principles of science and mathematics to create economically the tools, products and processes that people want or need. Today, as civilization becomes more complex the engineer must have a deeper understanding of the physical world, a wider versatility with mathematical and experimental techniques, and an increased sensitivity to the long-term effects of technology on people. The engineering program not only develops these skills in the applied sciences, but it also provides the liberal arts enrichment that makes the engineer better able to communicate ideas to other segments of our society. A more complete description of our vision and goals is found at the Web site www.spu.edu/depts/egr/vision.

Majors

SPU offers B.S. degrees in electrical engineering (BSEE), computer engineering (BSCPE) and engineering and applied science (BSEAS). The BSEE degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The BSEAS degree offers options in bio-engineering, engineering physics, environmental engineering and missions applications. The missions application option is a unique blend of practical engineering training for the missions setting and an opportunity to minor in global and urban ministries.

To offer the advantages of combined Christian liberal arts and other engineering majors, SPU has formal arrangements for dual degree programs with the University of Washington, Columbia University in New York and the University of Southern California. For example, if a student is interested in aeronautical, civil or mechanical engineering, he or she can obtain a baccalaureate from SPU and a B.S. from the participating engineering school. Three years are spent in residence at SPU, during which time the student satisfies many requirements for the B.S. degree by taking the core Christian foundations, liberal arts and prescribed courses in chemistry, physics, mathematics and engineering. If the student then fulfills the entrance requirements, he or she may transfer to the participating university. At that university, the student would spend two years in civil or mechanical engineering to complete the second degree. Details of this 3/2 transfer program are available from the Division of Science and Engineering. Seattle Pacific University engineering seniors are urged to take Washington state's Department of Licensing examination for engineer-in-training. Those passing the test are certified by Washington state as licensed engineers-in-training.

Evening Electrical and Computer Engineering Program

In addition to the day courses, evening courses in electrical and computer engineering make a BSEE or BSCPE degree available for students who work full-time during the day. Students are strongly advised to complete the direct transfer A.A. degree through Washington community colleges. Contact the director of engineering at (206) 281-2296 for more information.

Intern Program

All engineering majors are required to do an internship with industry or another career entity. Normally this internship is accomplished during the summer between their junior and senior years.

In almost all cases the interns are paid. These internships are facilitated by the director of engineering.

Expectations of Entering Students

In addition to meeting all the general SPU admission requirements, the high school graduate entering the engineering program should present a high school record showing four years of mathematics and one year of physics or chemistry (preferably both). SAT scores of at least 1100 are recommended. Those students entering with deficiencies should consult an engineering advisor for a program of preparation for the engineering curriculum. Scores higher than 1200 are given consideration for freshman engineering scholarships. Transfer students should have at least a 2.75 transfer GPA; and a 3.0 is preferred.

Admission to the Major

Student performance during the first two years will be used as an indicator of the student's promise of success in engineering. Application for admission to the major should be made in the spring of the sophomore year. The engineering faculty will review these applications. Students with SPU grade point averages below 2.5 are normally not granted admission to the major. Transfer students (sophomores and beyond) may apply after one full quarter of class work (12 or more hours) in the SPU engineering program. Students must be admitted to the major prior to taking senior (4000-level) courses.

Humanities and Social Science Requirement

To satisfy ABET accreditation guidelines, all engineering students must take at least 24 credits of philosophy, religion, history, literature, fine arts, sociology, psychology, political science or foreign languages other than a student's native language(s). These courses satisfy a general humanities and social-science accreditation requirement. Students who take the full SPU Core and Exploratory general education program more than meet this requirement. However, transfer students should carefully select their courses to insure they fulfill the 24-credit humanities and social-science requirement both in breadth and depth. They must see there assigned general education advisor to insure this requirement is met.

EE majors are exempt from the foreign language requirement.

Requirements for the Computer Engineering (CPE) Major

129–32 credits; 62–65 upper-division

Mathematics

MAT 1225, 1226 Calculus	10
MAT 1228 Series and Differential Equations	5
MAT 2375 Probability	3
MAT 2376 Statistics	2
MAT 2401 Linear Algebra	3

Science

PHY 1121, 1122, 1123 Physics for Science and Engineering	15
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Computer Science

CSC 1230 Programming	5
CSC 2430 Data Structures	5
CSC 2431 Data Structures II	5
CSC 3150 Systems Design	5

Engineering

EGR 1401 Intro to Engineering	1
EGR 3000 Engineering Seminar	1
EGR 3730 Engineering Design or EE 3028	5–4
EGR 4740 Internship Prep	1
EGR 4940 Internship Report	1

Computer Engineering

CPE 3280 Microcontroller System Design	5
CPE 3350 System Programming	4
CPE 3760 Computer Organization and Assembly Language	5
CPE 4211, 4212, 4213 Microprocessor System Design I, II, III	9
CPE 4760 Advanced Computer Architecture	4

Electrical Engineering

EE 1210 Introduction to Logic System Design	5
EE 2726, 2727 Electric Circuits I, II	8
EE 3721, 3722 Electronics I, II	10
EGR 4961 Senior Portfolio	1

Electives

Three courses from below or other approved upper-division:

CPE 4150 Software Engineering	4
CPE 4350 Operating Systems	4
CSC 4750 Computer Networks	4
EE 3410 Signal Analysis	5
EE 3550 Communication System Analysis	5

Requirements for the Computer Engineering (CPE) Minor

34 credits; 15 upper-division

CSC1230 Programming	5
CSC 2430 Data Structures	5
CSC 3150 Systems Design	5
CPE 3760 Computer Organization	5
CPE 3280 Microcontroller System Design	5
EE 1210 Introduction to Logic System Design	5
EE 2726 Electric Circuits	4

Requirements for the Electrical Engineering (EE) Major

42–146 credits; 64–68 upper-division

Refer to pages 60–62 for a summary of degree requirements.

The following coursework is required of all students majoring in electrical engineering:

Mathematics

MAT 1225, 1226 Calculus	10
MAT 1228 Series and Differential Equations	5
MAT 2228 Multivariable Calculus	3
MAT 2375 Probability (or upper-division math related)	2
MAT 2401 Linear Algebra	3

Science

CHM 1211 General Chemistry (requirement replaced with EGR 3841 if high school chemistry)	5
BIO 2101	5
PHY 1121, 1122, 1123 Physics for Science and Engineering	15

Engineering Science

CSC 1230 Problem Solving and Programming	5
CSC 2430 Data Structures and Programming	5

Technical

Electives	9–11
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Choices include MAT 2376, 3724, CSC 2431, EE 3500, EGR 2391, 2891, 3401 3550, 3600, 3800.

Certain combinations result in an emphasis within EE.

Emphases are biomedical, business, computer science, energy and power, environmental, math and physics.

EGR 1402 Intro to Engineering I	1
EGR 3000 Engineering Seminar	1
EGR 3402 Intro to Engineering II (required for transfer students only)	2
EGR 3841 Dynamics	5

EGR 4740 Intern Preparation 1

EGR 4940 Engineering Internship	1
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Electrical Engineering

EE 1210 Introduction to Logic System Design	5
EE 2726, 2727, 3028 Electric Circuits I, II, III	12
EE 3280 Microcontroller System Design	5
EE 3410 Signal and System Analysis	5
EE 3550 Communication System Analysis	5
EE 3721, 3722 Electronics I, II	10
EE 3730 Electronic Design	5

EE 3760 Computer Organization and Assembly Language	5
EE 4961 Senior Portfolio	1
EE 4211, 4212, 4899 Microprocessor System Design I, II, III	9
EE 4310 Electromagnetics	5
EE 4450 Control System Design	5
Total	142–146

Note: Because engineering courses require many mathematics and science prerequisites, the electrical engineering major must specify those prerequisites, leaving few electives. However, the 15-credit natural-science general education requirement is met by the courses in this major. Note that electrical engineering students are not required to fulfill the foreign language competency. The BSEE degree can be completed in four years by taking approximately 17 credits per quarter. A four-year plan is available from the department. Taking and reporting the FE/EIT score is required.

Requirements for the Electrical Engineering Minor	
<i>37 credits; 24 upper-division</i>	
The minor in electrical engineering consists of basic digital and analog circuits courses, plus 15 credits of elective EE courses:	
EE 3760 Computer Organization and Assembly Language	5
EE 1210 Introduction to Logic System Design	5
EE 2726 Circuits I	4
EE 2727 Circuits II	4
EE 3028 Circuits III	4
EE courses (upper-division)	15
Total	37

Requirements for Engineering and Applied Science (EAS) Major

The engineering and applied science major offers a unique program that combines a basic engineering foundation with an applied science. Because engineering courses require many mathematics and science prerequisites, the engineering and applied science major must specify those prerequisites, leaving few electives. However, the 15-credit natural-science general education requirement is met by the courses in this major. Normally, the BSEAS degree can be completed in four years by taking approximately 16 credits per quarter. The following coursework is required of all students majoring in engineering and applied science:

EAS Core Requirements	
<i>103–140 credits; 27–50 upper-division</i>	
<i>Refer to pages 60–62 for a summary of degree requirements.</i>	
Mathematics	
MAT 1225, 1226 Calculus	10
MAT 1228 Series and Differential Equations	5
Science	
BIO 2101 General Biology	5
CHM 1211 General Chemistry (requirement replaced with EGR 3841 if high school chemistry)	5
PHY 1121, 1122, 1123 Physics for Science and Engineering	15
Engineering Science	
CSC 1230 Problem Solving and Programming	5
EGR 1401 Intro to Engineering I	1
EGR 1125 Engineering Study Prep (x3)	3
EGR 3401 Intro to Engineering II (required for transfer students only)	2
EGR 2891 Statics	4
EGR 3000 Engineering Seminar	1
EGR 3401 Thermodynamics	4
EGR 4740 Internship Prep	1
EGR 4940 Engineering Internship	1
Electrical Engineering	
EE 2726, 2727 Electric Circuits I, II	8
EGR 4961 Senior Portfolio	1
Total	68–69

Note: ECN 1100 Fundamentals of Economics is a recommended general education course.

In addition to the courses above, one of the following options must be satisfied by completing the minimum coursework listed:

EAS Options	
Bio-Engineering	
BIO 3325 Genetics	5
CHM 2371, 2372 Organic Chemistry	10
CHM 3225 Chemical Equilibrium and Analysis	5
EGR 2391 Introduction to Material Science (Biomaterials)	5
EGR 3800 Biomedical Engineering I	5
EGR 4311 Engineering Senior Design Lab	5
EGR 4352 Cell Biology	5
Tech Electives (2)	10
Choices: CSC 2430,2431, EGR 3226,3841, MAT 2401, EE 3410, PHY 4311, BIO 4418	
Total (including EAS core courses)	119
Environmental Engineering	
BIO 2103 General Biology	5
BIO 3310 Ecology	5
CHM 2371 Organic Chemistry	5
CHM 3225 Chemical Equilibrium and Analysis	5
EGR 2391 Introduction to Material Science	5
EGR 3226 Quantitative and Instrumental Analysis	5
EGR 3600 Environmental Engineering I	5
EGR 4311 Engineering Senior Design Lab	5
Tech Electives (2)	10
Choices: CSC 2430, 2431, EE 3410, EGR 3841, MAT 2401, PHY 4311	
Total (including EAS core courses)	119
Mission Applications	
BUS 2700 Statistics	5
EE 3500 Power Systems	5
EE 4950 Topics in EE (preferably telecommunications)	5
EGR 3550 Alternative Energies	5
EGR 3600 Environmental Engineering I	5
EGR 4311 Engineering Senior Design Lab	5
EGR 4940 Engineering Internship (taken for 5 credits not 1)	5
Total (including EAS core courses)	103–104
Engineering Physics	
PHY 2321 Intermediate Physics	5
PHY 3312, 3313 Advanced Physics Lab	4
PHY 3401 Thermodynamics	4
EGR 2391 Introduction to Material Science	5
EGR 3841 Dynamics	5
EE 1210 Intro to Logic System Design	5
EE 3028 Circuits III Design	4
EE 3721 Electronics I, II	10
EE 3280 or 3410 Microcontrollers or Signals and Systems	5
EE 3760 Computer Organization	5
EE 4310 Electromagnetics	5
MAT 2228 Multivariable Calculus	3
MAT 3724 Applied Analysis	3
BIO xxxx general education biology course	5
Total (including EAS core courses)	131–132
Students may wish to obtain their Christian liberal arts and basic engineering education at SPU. Later they may want to transfer to another university and obtain an engineering degree not offered at SPU.	
Engineering Transfer Program Curriculum	
Students may select mathematics, science and engineering courses, which they may transfer, from the following list:	
Mathematics	
MAT 1225, 1226 Calculus	10
MAT 1228 Series and Differential Equations	5
MAT 2228 Multivariable Calculus	3
MAT 2401 Linear Algebra	3

Science	
CHM 1211 General Chemistry	5
CHM 2371, 2372 Organic Chemistry	10
PHY 1121, 1122, 1123 Physics for Science and Engineering	15
Engineering Science	
CSC 1230 Problem Solving and Programming	5
CSC 2430 Data Structures and Programming	5
EE 1210 Introduction to Logic Circuit Design	5
EE 2726, 2727 Circuits I, II	8
EGR 2391 Material Science	5
EGR 2891 Statics	4
EGR 3401 Thermodynamics	4
EGR 3841 Dynamics	5

Computer Engineering Courses

CPE 3280 Microcontroller System Design (5) Prerequisites: EE 1210 and EE/CSC/CPE 3760. Design of hardware and software for embedded systems using a modern microcontroller. Covers hardware interfacing, including memory system design, interrupt interfacing, and use of internal and external peripheral devices. Emphasis is placed on assembly language programming of the microcontroller, including device drivers, exception and interrupt handling, and interfacing with higher-level languages. Laboratory exercises require assembly language programming and hardware design. Course equivalent: EE 3280. Attribute: Upper-Division.

CPE 3350 Systems Programming (4) Prerequisites: CSC 2431 and either CSC 3750 or CPE/CSC/EE 3760. Introduction to operating systems and systems programming. Surveys systems software; operating system interface and functions; utilities and shell programming; linkers and loaders; and translators. Course equivalent: CSC 3350. Attribute: Upper-Division.

CPE 3550 Communication System Analysis (5) Prerequisite: EE 2727. An introduction to principles of modern communication systems with an emphasis on current technological applications. Covers basics such as transmission media (electrical, optical and wireless), analog and digital signaling techniques, data encoding methods and multiplexing mechanisms. Modern communication protocols for networks (Ethernet, IP) and radio links (CDMA, GSM) are analyzed. High-level issues such as security, encryption, cellular management and network modeling are studied. Course equivalent: EE 3550. Attribute: Upper-Division.

CPE 3760 Computer Organization (5) Prerequisite: CSC 2430 and EE 1210. Study of organization and structuring of the major hardware and software components of computers. Includes mechanics of information transfer and control within a digital computer system. Introduces computer architecture, machine instruction sets and assembly language programming. Course equivalents: CSC 3760 and EE 3760. Attribute: Upper-Division.

CPE 4150 Software Engineering (4) Prerequisite: CSC 3150. Covers topics in software engineering, including team programming, project planning and management, SDLC (software development life cycle) and software quality assurance. Course requirements include the design and implementation of a team software project. Course equivalent: CSC 4150. Attribute: Upper-Division. Class open to seniors.

CPE 4211 Microprocessor-Based Mixed Signal System Design I (3) Prerequisites: EE/CPE 3280 and EE/EGR 3730. Study of mixed digital and analog system design including embedded software design. Student teams begin a system level design of a company-sponsored project (a non-disclosure agreement may be required). Projects typically include use of a microcontroller and may include analog-to-digital converters, digital signal-processing chips, external memories, power supplies, user interfaces and

more. Students provide detailed schedules for building prototype systems and present periodic progress reports. During the course, students produce a technical specification, undergo a preliminary design review (PDR) and build a working prototype system. Course equivalent: EE 4211. Attribute: Upper-Division.

CPE 4212 Microprocessor-Based Mixed Signal System Design II (3) Prerequisite: EE/CPE 4211. Continued study of mixed digital and analog system design including embedded software design. Student teams design printed circuit boards for their products using CAD PCB layout tools and continue to refine the prototype hardware and software designs from EE 4211. Teams write detailed technical reports and submit their designs to design reviews (CDR). Periodic progress reports and team presentations are required. Course equivalent: EE 4212. Attribute: Upper-Division.

CPE 4350 Operating Systems (4) Prerequisite: CPE/CSC 3350. Introduces the major functions of operating systems. Covers processes and concurrency; concurrent programming; resource allocation, contention and control; scheduling, memory management and device management. Course equivalent: CSC 4350. Attribute: Upper-Division.

CPE 4760 Advanced Computer Architecture (4) Prerequisite: CSC 3750 or CSC 3760 or CPE 3760 or EE 3760. Recommended: CSC 2431. Studies the architecture of multiprocessor, vector, pipelined and parallel computers. Emphasis is placed on principles of parallelism and the architecture of state-of-the-art supercomputers. A team project is required. Course equivalent: CSC 4760. Attribute: Upper-Division.

CPE 4899 Microprocessor-Based Mixed Signal System Design III (3) Prerequisite: EE/CPE 4212. In this capstone course designs from EE 4212 are developed into a manufacturing prototype and tested. Covers testing methodology (hardware and software), board debugging and documentation methodology. Teams author operations manuals and detailed technical manuals. Periodic progress reports and final presentations are required. Includes study of vocation in engineering and writing reflective responses. Completion of the University Christian Faith Exploration (CFE) Senior Project is required. Course equivalent: EE 4899. Attributes: Upper-Division; and Writing Course.

CPE 4900 Independent Study (1–5) Registration approval: Independent Study Agreement.

Electrical Engineering Courses

EE 1210 Introduction to Logic System Design (5) Introduction to digital logic design including combinational and sequential logic design with implementation using programmable logic devices and CMOS transistors. Combinational logic covers truth tables, Boolean algebra, logic gates, Karnaugh maps, multiplexers, decoders, ROMs, PLAs and PALs. Sequential logic covers latches, flip-flops, clocks, registers, counters, finite state machines and modern PLDs. Special emphasis is placed on design techniques. Laboratory exercises include designs using both discrete TTL gates and PLDs.

EE 2726 Electric Circuits I (4) Prerequisite: MAT 1228. Study of Basic Ohm's and Kirchhoff's laws, voltage/current sources, nodal and mesh analysis, power transfer, Thevenin's and Norton's theorems and superposition. Introduction to operational amplifiers, inductance, capacitance and first-order state variable analysis. Includes lab problems and introduction to PSPICE and MATLAB computer software. The first of a three-course sequence in which the engineer as servant is discussed.

EE 2727 Electric Circuits II (4) Prerequisite: EE 2726. Introduction to second-order state variable analysis. Alternating current theory and analysis, power, frequency response, resonance and polo-zero concepts. Introduction to three-phase systems, transformers and analog filter design. Includes lab problems, PSpice and MATLAB.

EE 3000 Electrical Engineering Seminar (1) Seminar, small-group discussion and colloquia on topics related to the engineering mission statement and goals. Attribute: Upper-Division.

EE 3028 Electric Circuits III (4) Prerequisite: EE 2727. Introduction to Laplace transforms applied to network analysis, signal processing, two-port theory, three-phase and filtering. The lab portion includes a design project, the use of Pspice, Matlab and Labview. Attribute: Upper-Division.

EE 3280 Microcontroller System Design (5) Prerequisites: EE 1210 and EE/CSC/CPE 3760. Design of hardware and software for embedded systems using a modern microcontroller. Covers hardware interfacing including memory system design, interrupt interfacing, and use of internal and external peripheral devices. Emphasis is placed on assembly language programming of the microcontroller including device drivers, exception and interrupt handling, and interfacing with higher-level languages. Laboratory exercises require assembly language programming and hardware design. Course equivalent: CPE 3280. Attribute: Upper-Division.

EE 3410 Signal and System Analysis (5) Prerequisites: EE 2727, EE 3410, MAT 1228, MAT 2401, familiarity with MATLAB computer software. Characterization of linear systems by impulse response, convolution and transfer function. Study of linear differential equations and linear difference equations as models. Study of continuous and discrete signals including filters and their effects. Uses transform methods including Fourier series and transforms, FFT, Laplace transforms and Z transforms. Includes computer problems. Attribute: Upper-Division.

EE 3500 Introduction to Power Systems (5) Prerequisite: EE 2727. Three-phase power generation, transmission and distribution systems. Safety and electric code standards. Practical training in material and component selection for commercial and industrial applications. Attribute: Upper-Division.

EE 3510 Introduction to Power Electronics (4) Prerequisite: EE 3722. Studies semiconductor switching devices, rectification; switch-mode ac-dc, dc-dc, converters; switching dc power supplies, conditioners and uninterruptible supplies, residential and industrial applications. Includes laboratory exercises. Attribute: Upper-Division.

EE 3550 Communication System Analysis (5) Prerequisite: EE 2727. An introduction to principles of modern communication systems with an emphasis on current technological applications. Covers basics such as transmission media (electrical, optical and wireless), analog and digital signaling techniques, data encoding methods and multiplexing mechanisms. Modern communication protocols for networks (Ethernet, IP) and radio links (CDMA, GSM) are analyzed. High-level issues such as security, encryption, and cellular management are studied. Course equivalent: CPE 3550. Attribute: Upper-Division. Class open to electrical engineering majors.

EE 3721 Electronics I — Analog Devices and Circuits (5) Prerequisite: EE 2727. Study of electronic devices and basic circuit configurations. Topics covered include operational amplifiers, diodes, ac to dc conversion, amplifier principles, bipolar junction transistors, field-effect transistors and differential amplifiers. Includes project teaming with business students from the Operations Management course. Includes lab problems. Attribute: Upper-Division.

EE 3722 Electronics II Analog Electronics (5) Prerequisite: EE 3721. Study of frequency response, feedback, output stages and power amplifiers, analog integrated circuits, filters and an introduction to power electronics. Continues project teaming with business students from the Operations Management course. Includes lab problems. Attribute: Upper-Division.

EE 3730 Engineering Design (5) Prerequisite: EE 3722. An interdisciplinary design course for both electrical engineering (EE) and engineering and applied science (EAS) students. Team design and construction of industrial or self-designed projects. Typical EE projects require analog and digital electronic circuit design, development, construction and testing. EAS design projects require some aspect of the student's chosen science discipline. Interdisciplinary projects are encouraged. All projects require oral and written reports. Includes review and analysis of professional papers within a student's discipline. Includes project teaming with business students from the Operations Management course. Course equivalent: EGR 3730. Attributes: Upper-Division; and Writing Course.

EE 3760 Computer Organization and Assembly Language (5) Prerequisites: CSC 2430 and EE 1210. Study of organization and structuring of the major hardware and software components of computers. Includes mechanics of information transfer and control within a digital computer system. Introduces computer architecture, machine instruction sets and assembly language programming. Course equivalents: CPE 3760 and CSC 3760. Attribute: Upper-Division.

EE 4211 Microprocessor-Based Mixed Signal System Design I (3) Prerequisites: EE/CPE 3280 and EE/EGR 3730. Study of mixed digital and analog system design, including embedded software design. Student teams begin a system level design of a project (a nondisclosure agreement may be required). Projects typically include use of a microcontroller and may include analog-to-digital converters, digital signal-processing chips, external memories, power supplies, user interfaces and more. Students provide detailed schedules for building prototype systems and present periodic progress reports. During the course, students produce a technical specification, undergo several design reviews and build a working prototype system. Course equivalent: CPE 4211. Attribute: Upper-Division.

EE 4212 Microprocessor-Based Mixed Signal System Design II (3) Prerequisite: CPE/EE 4211. Continued study of mixed digital and analog system design, including embedded software design. Student teams design printed circuit boards for their products using CAD PCB layout tools and continue to refine the prototype hardware and software designs from EE 4211. Teams write detailed technical reports and submit their designs to design reviews. Periodic progress reports and team presentations are required. Course equivalent: CPE 4212. Attribute: Upper-Division.

EE 4310 Electromagnetics (5) Prerequisites: MAT 1228, MAT 2228, and either PHY 1103 or PHY 1123. Study of electrostatics, magnetostatics, boundary conditions and boundary-value solutions, Maxwell's equations, electromagnetic waves and their propagation, transmission lines, waveguides and antennas. Includes computer and laboratory experiments. Course equivalent: PHY 4310. Attribute: Upper-Division.

EE 4311 Optics and Lasers (5) Prerequisite: PHY 4310. General theory of geometrical optics, physical optics, fiber optics, polarization and coherent states and optical devices. Four lectures and one laboratory each week. Offered on demand. Course equivalent: PHY 4311.

EE 4450 Control System Design (5) Prerequisite: EE 3410. Analog and digital control system design using root locus, frequency and PID methods. Includes a comprehensive design and test of a realtime digital control system. MATLAB and SIMULINK are used extensively as design tools. Attribute: Upper-Division. Class open to electrical engineering and engineering science majors.

EE 4491 Solid State Physics (2–5) Prerequisite: PHY 2321; PHY 4441 recommended. Focuses on lattice statics and dynamics, electrons and Fermi surfaces, transport phenomena, semiconductors and superconductivity. Offered alternate years. Course equivalent: PHY 4491.

EE 4560 Wireless Communication Systems (5) Prerequisite: EE 3550. Students study radio frequency (RF) and other wireless communications systems with an emphasis on current methods and standards. Transmission and reception concepts including high- and low-gain antennas, power budget and analysis, attenuation, interference, fading and bandwidth are studied. Modern wireless communications protocols used for mobile telephones, computer networking and broadcast radio/television are explored in detail. Attribute: Upper-Division.

EE 4899 Microprocessor-Based Mixed Signal System Design III (3) Prerequisite: EE/CPE 4212. In this capstone course designs from EE 4212 are developed into a manufacturing prototype and tested. Covers testing methodology (hardware and software), board debugging and documentation methodology. Teams author operations manuals and detailed technical manuals. Periodic progress reports and final presentations are required. Includes study of vocation in engineering and writing reflective responses. Completion of the University Christian Faith Exploration (CFE) senior project is required. Course equivalent: CPE 4899. Attributes: Upper-Division; and Writing Course.

EE 4900 Independent Study (1–5) Registration approval: Independent Study Agreement. Student works independently with a faculty member on a mutually agreed upon topic. May be repeated for credit up to 15 credits. Attribute: Upper-Division.

EE 4950 Topics in Electrical Engineering (1–5) Registration approval: Instructor. An advanced course studying a special interest topic in electrical engineering. Topics and credits may vary between offerings. Attribute: Upper-Division. Class open to electrical engineering and engineering science majors. Class not open to freshmen and sophomores.

EE 4960 Senior Project (1–5) Registration approval: Instructor. Student works with faculty advisor and most likely an industrial representative on a mutually agreed upon project. Requires submission of application to EE chair three weeks prior to the start of the quarter. Attribute: Upper-Division.

EE 4961 Senior Portfolio Evaluation (1) Final preparation and evaluation of engineering portfolios. Components include design, internship, service and growth. Course equivalent: EGR 4961. Attribute: Upper-Division. Class open to computer engineering and engineering and applied science majors. Class not open to freshmen and sophomores.

Engineering Courses

EGR 1125 Engineering Study Preparation (1) Required for all freshman engineering non-honors students unless they receive a waiver from the results of the math test given the first week in calculus. Designed to provide additional skill sets in math and science problem solving, test taking and study habits. Student will develop an individualized and accountable study/work plan to

insure engineering success. Will be repeated for credit each of the first three quarters unless a score of B- or better is achieved in the previous quarter's math class. May be repeated for credit in the sophomore year. May be repeated for credit up to 5 credits.

EGR 1402 Introduction to Engineering I (1–2) Required for all freshman engineering students. This course is an introduction to the engineering career field and includes guest speakers from industry, reports of student internships, interviews with engineers and a team-based Lego mindstorm robotic design competition.

EGR 1501 Autocad (1–2) This course studies the fundamentals needed to use autocad programs.

EGR 2891 Statics (4) Prerequisite: PHY 1121. Studies vector forces and their analysis, equilibrium of particles and of rigid bodies, structural analysis, distributed forces, center of gravity and centroids, and internal forces on beams and cables.

EGR 3000 Engineering Seminar (1) This course is for all EAS third-year students and is preparation for the particular EAS option. It will include seminars and small-group discussions on topics related to the various EAS upper-division topics and on the engineering mission statement and goals. Attribute: Upper-Division.

EGR 3226 Quantitative and Instrumental Analysis (5) Prerequisite: CHM 3225. Laboratory-oriented course, dealing with the theory and practice of quantitative analytical chemistry with emphasis on instrumental techniques. Instrumental analysis will include a variety of separation, spectroscopic and electrochemical methods, includes engineering and clinical applications. Course equivalent: CHM 3226. Attribute: Upper-Division.

EGR 3391 Mechanics of Materials (4) Prerequisites: CSC 1230 and EGR 2891. Study of stress and strain, properties of materials, axial load, torsion, bending, shear, combined loads, design of beams and shafts. Attribute: Upper-Division.

EGR 3401 Thermodynamics (4) Prerequisites: MAT 1228, and either PHY 1103 or 1123. Studies equilibrium and nonequilibrium, and properties of gases, liquids and solids from thermodynamic processes. Engineering applications include elements of statistical thermodynamics. Course equivalents: CHM 3401 and PHY 3401. Attribute: Upper-Division.

EGR 3402 Introduction to Engineering II (2) Required for all transfer engineering students who have not taken EE 2726 at SPU. Introduction to the SPU engineering program. Provides instruction on the software and hardware that is utilized in the labs at Seattle Pacific University, which is normally covered in beginning classes. Included is the discussion of a Christian worldview, the engineering department's mission statement and goals, and their implications for engineers. Attribute: Upper-Division.

EGR 3600 Environmental Engineering (5) Prerequisites: CHM 1211, BIO 2101. Studies the fundamentals of air- and water-quality systems: filters, scrubbers and precipitators, control of volatile organic compounds, gaseous emissions, particulate matter, waste water, and solid and hazardous wastes, environmental toxicity and industrial health and safety issues. Attribute: Upper-Division.

EGR 3650 Alternative Energies (5) Prerequisite: EE 2726. Introduces different energy sources and investigates methods to convert this energy into a useful form. Energy sources that are investigated, designed, built and tested include solar, hydro, wind, biomass, hydrogen fuel cell and water purification. Includes examples of the use of each of these power sources. Attribute: Upper-Division.

EGR 3730 Engineering Design (5) Prerequisite: EE 3722. An interdisciplinary design course for both electrical engineering (EE) and engineering and applied science (EAS) students. Team design and construction of industrial or self-designed projects. Typical EE projects require analog and digital electronic circuit design, development, construction and testing. EAS design projects require some aspect of the student's chosen science discipline. Interdisciplinary projects are encouraged. All projects require oral and written reports. Includes review and analysis of professional papers within a student's discipline. Continues project teaming with business students from the Operations Management course. Course equivalent: EE 3730. Attributes: Upper-Division; and Writing Course.

EGR 3800 Biomedical Engineering I (5) Prerequisites: BIO 2101 and EE 2726, or special permission of instructor. Introduction to the history of biomedical engineering, biosensors, bioelectric phenomena, bioinstrumentation, biosignal processing, biomechanics, cardiovascular mechanics and ultrasound. Attribute: Upper-Division.

EGR 3841 Dynamics (5) Prerequisites: MAT 1228, MAT 2401, and either PHY 1101 or PHY 1121. Study of vectorial treatment of Newton's laws for undamped and damped linear, rotational and vibrational motion in several coordinate systems. Includes solving problems for particles and rigid bodies using energy, momentum and angular momentum conservation laws. A team project and labs are included. Course equivalent: PHY 3841. Attribute: Upper-Division.

EGR 3871 Fluid Mechanics (5) Prerequisites: MAT 1228, MAT 2401 and PHY 1123. Studies fluid mechanics, both statics and dynamics. Emphasis is on the control volume approach, covering the transport of mass, energy, momentum and angular momentum, with engineering applications. Offered on demand. Attribute: Upper-Division.

EGR 4311 Engineering Senior Design Lab (5) Prerequisite: EGR 4940. Intended for EAS students only. Individualized or group senior project based on internship experience. Includes instruction on design and appropriate use of technology. Attribute: Upper-Division.

EGR 4352 Cell Biology (5) Prerequisites: BIO 3325 and CHM 2371. Examines structure and functions of bacteria, plants and animals emphasizing cellular specialization, organelle models and chemical dynamics. Includes laboratory. Course equivalent: BIO 4352. Attributes: Upper-Division; and Writing Course.

EGR 4740 Internship Preparation (1) Preparatory course for those taking EGR 4940 Engineering Internship. Includes résumé preparation, interviewing-skills development, exploration of job opportunities, oral presentation and discussion of the Christian worldview on the internship experience. Attributes: Upper-Division; and Writing Course.

EGR 4900 Independent Study in Engineering (1–5) Registration approval: Independent Study Agreement. Student does an independent study under direction of a faculty member. Study of problems in a topic for which related courses have been completed. May be repeated for credit up to 15 credits. Attribute: Upper-Division.

EGR 4910 Washington State FE/EIT Preparation (1) Registration approval: Engineering faculty. Seminar review of principles and problem solving in math, chemistry, physics, electrical engineering, engineering science and engineering economics in the proportions these topics are covered in the Washington state EIT test. Attribute: Upper-Division.

EGR 4930 Engineering Applications in Industry (1–10) Registration approval: Engineering faculty. Provides prearranged coordinated field experience in engineering employment in industry. A coordinating committee plans the program with the student and evaluates the learning experience. May be repeated for credit up to 10 credits. Attribute: Upper-Division.

EGR 4940 Engineering Internship (1–5) Internship I is normally a paid summer job with an engineering company or a university research lab. Other career-related job experiences may be considered. Students will give a written and oral presentation of their work the following Autumn Quarter. The job is fully coordinated between the intern's faculty advisor and an engineer in the host company. The jobs are intended to be a professional learning experience for the student. May be repeated for credit up to 5 credits. Attributes: Upper-Division; and Writing Course.

EGR 4961 Senior Portfolio Evaluation (1) Final preparation and evaluation of engineering portfolios. Components include design, internship, service and growth. Course equivalent: EE 4961. Attribute: Upper-Division. Class open to computer engineering and engineering and applied science majors. Class not open to freshmen and sophomores.

Faculty

Kevin W. Boldig, Associate Professor of Computer and Electrical Engineering; B.A., Rice University, 1988; M.S., University of Washington, 1991; Ph.D., 1993. At SPU since 1995.

Donald L. Bowie, Affiliate Professor of Electrical Engineering, B.S., University of Illinois, 1958, M.S. Seattle University, 1965. At SPU since 1990.

Anthony L. Donaldson, Professor of Electrical Engineering; Chair of Electrical Engineering Department; B.S., Texas Tech University, 1979; M.S., Texas Tech University, 1982; Ph.D., Texas Tech University, 1990; M.A., Asbury Theological Seminary, 1994. At SPU since 1998.

Donald Peter, Associate Professor of Electrical Engineering; B.S., Seattle Pacific College, 1974; M.S.E.E., University of Washington, 1976. NASA Faculty Fellow, J.P.L., Cal Tech, 1989. At SPU since 1987.

Melani I. Plett, Assistant Professor of Electrical Engineering; B.S.E.E., Seattle Pacific University, 1991; M.S.E.E., University of Washington, 1993; Ph.D. University of Washington, 2000. At SPU since 1993.

English

Marston Hall
(206) 281-2036
www.spu.edu/depts/eng/

Bruce D. Congdon, *Dean of the College of Arts and Sciences*

Mark Walhout, Chair, **Tom Amorose**, **Christine Chaney**, **David Cho**, **Susan Gallagher**, **Jennifer Maier**, **Luke Reinsma**, **Kimberly Segall**, **Doug Thorpe**, **Tom Trzyna**, **Gregory Wolfe**, **Suzanne Wolfe**

Courses in English give students the opportunity to read a rich variety of excellent literature and to improve their own writing and thinking. Literature courses show how language enables us to explore and shape our views of God, humanity and the earth; writing courses stress writing as a process of communication with readers and as an exploration of one's own ideas and emotions.

Courses in English also allow students to discuss the fundamental questions of human life and meaning, as well as to cultivate an appreciation of individual and cultural diversity. An English major prepares students to enter professions such as the ministry, law,

social work or medicine; to work in a variety of businesses and governmental agencies; to teach in elementary or secondary schools; to pursue graduate study in English or the humanities; and generally to enter life with an appreciation for God's gifts of language and literature.

Goals of the Major

1. Knowledge of British, American and world literature.
2. Skill in literary criticism and scholarship.
3. Understanding of the relationship between literature and the Christian faith.
4. Skill in prose writing, whether critical or creative.
5. Experience of the central role of the imagination in living lives of compassion and service in a diverse, interconnected world.

Admission to the Major

Applicants for a major in English must display an average GPA of 2.5 or higher (4.0 = A) in any two of the following: ENG 2225, 2251, 2252, 2253.

Admission to the Minor

Applicants for minors in literature or writing must display an average GPA of 2.5 or higher (4.0 = A) in at least two English courses at the 2000 level or above.

Requirements for the English Major

63 credits; 30 upper-division

English majors choose a concentration in either literature or creative writing. All majors take the core courses.

Core Courses

ENG 2225 Practical Criticism: Writing and Research	5
ENG 2251 English Literature: Beginnings Through Milton	5
ENG 2252 English Literature: Restoration through Victorian	5
ENG 2253 American Literature: Beginnings to 1900	5
ENG 4225/6 Senior Capstone	5
ENG 4445 Shakespeare	5
Total	30

Literature Concentration

Choose at least one course from each of the following:

British Literature

ENG 3345 Medieval English Literature	5
ENG 3346 Literature of the English Renaissance	5
ENG 3348 Eighteenth-Century Literature	5
ENG 3348 Romantic Poetry and Fiction	5
ENG 3351 Victorian Literature	5

American Literature

ENG 3235 Literature of the American Renaissance	5
ENG 3334 American Ethnic Literature	5
ENG 3336 The Age of Realism	5
ENG 4334 American Ethnic Literature: Special Topics	5

Twentieth-Century Literature

ENG 3338 Contemporary Fiction	5
ENG 3352 Modern Fiction	5
ENG 4425 Modern Poetry	5
ENG 4426 Contemporary Poetry	5

European Literature

CLA 3014 Survey of Ancient Greek Literature	5
CLA 3204 Survey of Classical Latin Literature	5
ENG 3246 European Literature: Homer to Dante	5
ENG 3247 European Literature: Cervantes to Camus	5
EUR 3287 Mythology in Literature	5
FRE 3205 Topics in French Literature	3-5
GER 3206 Topics in German Literature	3-5
RUS 2207 Russian Culture Through Literature	5
SPN 4401 Topics in Spanish Literature	3-5

Postcolonial Literature

ENG 2248 New International Fiction	5
ENG 3380 Postcolonial African Literature	5
ENG 3381 Postcolonial Asian Literature	5
SPN 4501 Topics in Latin American Literature	3-5
Electives*	8-10
Total	33

*Electives include ENG 1110 and all ENG courses above 2000, with the exception of ENG 2201.

Creative Writing Concentration

Writing

Take all three of the following:

ENG 2215 Imaginative Writing	3
ENG 3180 Advanced Grammar	3
ENG 4601 History of English	3

Contemporary Literature

Choose at least two of the following:

ENG 3338 Contemporary Fiction	5
ENG 3352 Modern Fiction	5
ENG 4425 Modern Poetry	5
ENG 4426 Contemporary Poetry	5

Choose at least one of these three genre sequences:

Poetry

ENG 3316 Workshop in Writing Poetry	3
ENG 4316 Advanced Poetry Writing	3

Fiction

ENG 3317 Workshop in Writing Fiction	3
ENG 4317 Advanced Fiction Writing	3

Creative Nonfiction

ENG 3318 Creative Nonfiction	3
ENG 4318 Advanced Creative Nonfiction	3

Electives*

Total	33
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*Electives include ENG 1110 and all ENG courses above 2000 (with the exception of ENG 2201), as well as TRE 4760 Playwriting.

Foreign Language Requirement

All students who complete the English major must be proficient in a foreign language. Proficiency is established upon satisfactory completion of the third quarter of a first-year college-level foreign language course or its equivalent. For alternate ways of satisfying this requirement, see the General Education section of the *Catalog*. Language proficiency is not satisfied by transfer of an associate's degree from a community college unless the transcript records the completion of foreign language coursework. It is strongly recommended, however, that English majors complete at least two years of study of either a contemporary or ancient foreign language.

Requirements for the Literature Minor

30 credits; 15 upper-division

ENG 2251 English Literature: Beginnings Through Milton	5
ENG 2252 English Literature: Restoration Through Victorian	5
ENG 2253 American Literature: Beginnings to 1900	5
ENG 4445 Shakespeare	5

Two upper-division courses from American, British, contemporary, European or postcolonial categories

Total	30
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Note: This literature minor partially fulfills the requirements for a supporting endorsement on a teaching credential. See the School of Education section for additional requirements.

Requirements for the Writing Minor

30 credits; 15 upper-division

Writing minors choose an emphasis in either creative or professional writing.

Creative Writing Emphasis

ENG 2215 Imaginative Writing	3
ENG 3180 Advanced Grammar	3

ENG 4601 History of English	3
Choose at least one of the following genre sequences:	
Poetry	
ENG 3316 Workshop in Writing Poetry	3
ENG 4316 Publishing Poetry	3
Fiction	
ENG 3317 Workshop in Writing Fiction	3
ENG 4317 Publishing Fiction	3
Creative Nonfiction	
ENG 3318 Creative Nonfiction	3
ENG 4318 Publishing Creative Nonfiction	3
Electives*	15
Total	30
Professional Writing Emphasis	
ENG 3180 Advanced Grammar	3
ENG 3205 Writing in the Professions	3
ENG 3301 Advanced Expository Writing	3
ENG 3318 Creative Nonfiction	3
ENG 4940 English Internship	3
Electives*	15
Total	30

*All elective credits must be approved by the minor advisor. Electives may be selected from among courses in various disciplines depending on the student's major and career goals. Non-English majors with an emphasis in creative writing must include at least 10 credits of literature in their electives. English majors may apply no more than 10 credits of work in this minor toward their major.

Special Programs

Image: A Journal of the Arts and Religion. *Image* is a quarterly literary journal with editorial offices at SPU. For more information about the journal, visit the *Image* Web site at www.imagejournal.org. English majors may apply to work as interns on the editorial staff of the journal.

British Isles Quarter

A biennial study-abroad program, British Isles Quarter (BIQ) offers students an opportunity to take regular English courses from an SPU professor while residing and traveling in Great Britain for a full academic quarter. For details about upcoming BIQs, visit the English Department Web site.

Summer Program in South Africa

A biennial study tour, the Summer Program in South Africa offers students an opportunity to take regular English courses from an SPU professor while traveling in South Africa for a month. For details on upcoming tours, visit the English Department Web site.

English Courses

ENG 0102 Writing Tutorial (2) Prerequisite: Score of two to three on English Placement Test. Supports work done in ENG 2201 through a series of conferences with the instructor. Students must be enrolled in the designated section of ENG 2201 to take this course but not in any other section. Credits for this course do not apply toward graduation. Corequisite: ENG 2201. Attribute: Remedial.

ENG 1110 Literature and Faith (5) Examines the treatment of belief and disbelief in literature shaped by various Christian traditions and by a variety of social and literary contexts. Instructor may choose to focus on American, British or contemporary literature. Attributes: Arts and Humanities B; and Literature Core.

ENG 2201 Intermediate College Writing (3) Prerequisite: Score of four on English Placement Test. Improves upon elementary college-writing skills through readings, discussion and the assignment of writing tasks typically found in college coursework. Tutorial sessions in the Writing Center may be required. Attributes: English Skills Competency; and Oral or Written Communication.

ENG 2215 Imaginative Writing (3) Prerequisites ENG 2201 or score of five to six on English Placement Test and a literature course. Fosters the vision and skills necessary for effective writing of poetry and fiction. Attributes: English Skills Competency; and Oral or Written Communication.

ENG 2225 Practical Criticism: Writing and Research (5) Prerequisite: Literature course. An introduction to various contemporary approaches to the study of literature, with emphasis on scholarly research, thinking and writing. Includes consideration of Christian approaches to criticism. Designed for students intending to major in English. Attribute: Writing Course.

ENG 2230 Literature of American West (5) Explores poetry, essays and fiction associated with the "Idea of the West" developed on the North American continent over the past two centuries. Particular emphasis is given to the importance of place in shaping the literature and the spirituality of writers in the West. Attributes: Arts and Humanities B; and Literature Option.

ENG 2234 Literature by Women (5) A study of poems, stories, plays and essays written in English by women. The course will include classic as well as rediscovered women writers, and will examine the significant themes, the literary forms and the social contexts of literature written by women. Attributes: Arts and Humanities B; and Literature Option.

ENG 2248 New International Fiction (5) Explores recent fiction from around the world, featuring international authors who write in English (e.g., Chinua Achebe, Salman Rushdie) or have been strongly influenced by British or American literature (e.g., Gabriel Garcia-Marquez, Haruki Murakami). Attributes: Arts and Humanities B; and Literature Option.

ENG 2251 English Literature: Beginnings Through Milton (5) Prerequisite: Literature course. Surveys the first three periods of English literary history: Old English, including the eighth-century Anglo-Saxon epic *Beowulf*; Middle English, including Chaucer's *Canterbury Tales*; and English Renaissance, concluding with Milton's 17th-century *Paradise Lost*.

ENG 2252 English Literature: Restoration through Victorian (5) Prerequisite: Literature course. Surveys major authors, themes, genres and movements in British literature of the 18th and 19th centuries, including intellectual and social contexts.

ENG 2253 American Literature: Beginnings to 1900 (5) Prerequisite: Literature course. Surveys major authors, themes, genres and movements in American literature from the colonial era through the modern period, including intellectual and social contexts.

ENG 3000 British Isles Orientation (1) Registration approval: Instructor. Introduces students to the literary and cultural landscape of the British Isles. Orients students to the academic work of the ensuing British Isles Quarter, and to the challenges and opportunities of traveling and studying in Britain. Addresses practical matters such as financial aid, BIQ itinerary, travel safety and post-quarter travel. Graded pass/fail. Offered alternate years. Attribute: Upper-Division.

ENG 3180 Advanced Grammar (3) This basic grammar course brings insights from both traditional and generative-transformational approaches to explain how language works. Especially designed for teachers of English, it also introduces students to parts of speech, phrases and clauses, as well as to grammatical and mechanical rules for generating standard American English. Attribute: Upper-Division.

ENG 3205 Writing in the Professions (3) Prerequisite: ENG 2201 or score of five to six on English Placement Test. Develops abilities associated with writing tasks in the professions, including reports, correspondence, proposals and procedure manuals. Emphasizes role of persuasion in routine and special writing tasks. Also addresses visual design in the preparation of documents and the impact of digital technologies on writing in the professional workplace. Attributes: English Skills Competency; Oral or Written Communication; Upper-Division; and Writing Course.

ENG 3235 Literature of the American Renaissance (5) Prerequisite: ENG 2253 or permission of instructor. Focuses on the first flowering of American literature in the difficult years before the Civil War. Includes works by such writers as Emerson, Thoreau, Douglass, Hawthorne, Melville, Stowe, Whitman and Dickinson. Offered alternate years. Attribute: Upper-Division.

ENG 3246 European Literature: Homer to Dante (5) Prerequisite: Literature course. Explores the literary heritage of British and American literature through intensive study of selected classics in translation, including works by authors such as Homer, Sophocles, Virgil and Dante. Attribute: Upper-Division.

ENG 3247 European Literature: Cervantes to Camus (5) Prerequisite: Literature course. Explores the literary heritage of British and American literature through intensive study of selected classics in translation, including works by such authors as Cervantes, Goethe, Dostoevsky and Camus. Attribute: Upper-Division.

ENG 3301 Advanced Expository Writing (3) Prerequisite: ENG 2201 or score of five to six on English Placement Test. Moves students beyond the academic essay and shows them techniques for addressing an audience beyond the academy. Focuses on the exploratory, open-ended essay as a lens for examining topics chosen by students in consultation with the instructor. Attributes: English Skills Competency; Oral or Written Communication; Upper-Division; and Writing Course.

ENG 3310 Elements of Prosody (2) For English majors and others interested in exploring in greater depth the workings of poetry, with particular attention paid to the relationship between the elements that make up the poem (rhythm, structure, sound qualities — the “music” of the poem) and where those elements take us. Attribute: Upper-Division.

ENG 3316 Workshop in Writing Poetry (3) Prerequisite: ENG 2215 or permission of instructor. Refines skills and techniques necessary for the effective writing of poetry. Students examine the work of professional poets from the perspective of apprentice to the craft. Offered alternate years. Attribute: Upper-Division.

ENG 3317 Workshop in Writing Fiction (3) Prerequisite: ENG 2215 or permission of instructor. Refines skills and techniques necessary for the effective writing of short fiction. Students analyze the work of professional fiction writers from the perspective of apprentices to the craft. Offered alternate years. Attribute: Upper-Division.

ENG 3318 Creative Nonfiction (3) Prerequisite: ENG 2201 or score of five to six on English Placement Test. Examines the literary essay, emphasizing contemporary authors such as Diane Ackerman,

Annie Dillard and Barry Lopez; “schools” such as the New Journalists and the environmental essayists; and publications such as *The New Yorker* and *The Atlantic*. Special attention will be paid to students’ development as writers of nonfiction. Attributes: English Skills Competency; Oral or Written Communication; Upper-Division; and Writing Course.

ENG 3334 American Ethnic Literature (5) Traces the expression in novels, plays, poems and essays of the minority groups who have been a part of the American people, particularly emphasizing the writing of African Americans. Attributes: Arts and Humanities B; Literature Option; and Upper-Division.

ENG 3336 The Age of Realism (5) Prerequisite: ENG 2253 or permission of instructor. Focuses on the development of realism and naturalism in the era of modernization following the Civil War. Includes work by such writers as Howells, James, Twain, Chopin, Crane, Dreiser and Wharton. Offered alternate years. Attribute: Upper-Division.

ENG 3338 Contemporary Fiction (5) Prerequisite: ENG 2252 and 2253 or permission of instructor. Considers British and American fiction published after 1945, including both realistic and postmodern works by such writers as Carver, DeLillo, Ishiguro, Murdoch, Nabokov, O’Connor and Pynchon. Offered alternate years. Attribute: Upper-Division.

ENG 3345 Medieval English Literature (5) Prerequisite: ENG 2251 or permission of instructor. Studies Celtic, Anglo-Saxon and Medieval English masterpieces, with special emphasis on *Beowulf* and on the works of the Pearl Poet. Culminates in a study of Chaucer’s *Canterbury Tales* and Malory’s *Morte D’Arthur*. Offered alternate years. Attribute: Upper-Division.

ENG 3346 Literature of the English Renaissance (5) Prerequisite: ENG 2251 or permission of instructor. Considers the “Golden Age” of Elizabeth I and the darker days that followed, as seen through the works of Wyatt, Spenser, Sidney, Raleigh, Shakespeare, Bacon, Milton and other contemporaries. Special attention given to written explication of poems by Donne, Herbert and Marvell. Offered alternate years. Attribute: Upper-Division.

ENG 3347 18th-Century Literature (5) Prerequisite: ENG 2252 or permission of instructor. Considers 18th-century British literature in the context of the Enlightenment. Focuses on new understandings of the self and society that illuminate many of our contemporary assumptions. Includes works by such writers as Defoe, Dryden, Swift, Fielding, Pope and Johnson. Offered alternate years. Attribute: Upper-Division.

ENG 3348 Romantic Poetry and Fiction (5) Prerequisite: ENG 2252 or permission of instructor. Studies selected works of such British Romantic writers, including Blake, Wordsworth, Coleridge, Byron, Keats and the Shelleys. Offered alternate years. Attribute: Upper-Division.

ENG 3351 Victorian Literature (5) Prerequisite: ENG 2252 or permission of instructor. Studies the poetry of the Brownings, Tennyson, Arnold and Christina Rossetti as inheritors of the Romantic tradition and novels by the Brontes, Dickens, Eliot and Hardy. Special attention to the various ideologies of Victorian culture in comparison to contemporary values. Offered alternate years. Attribute: Upper-Division.

ENG 3352 Modern Fiction (5) Prerequisite: ENG 2252 and 2253 or permission of instructor. Studies major fictional works of the early 20th century, including novels and short stories by such authors as Conrad, Faulkner, Hemingway, Lawrence, Joyce and Woolf. Offered alternate years. Attribute: Upper-Division.



“I’m passionate about the study of English because I believe that powerful works of literary art are able to equip and transform our students for life and service in our beautiful but hurting world.”

Christine Chaney
English

ENG 3380 Postcolonial African Literature (5) Prerequisite: Literature course. Examines the work of a variety of authors from the continent of Africa in the light of colonialism and its aftermath. Focuses primarily on English-language writers such as Achebe, Coetzee, Dangarembga, Fugard, Gordimer, Ngugi and Soyinka. Offered alternate years. Attribute: Upper-Division.

ENG 3381 Postcolonial Asian Literature (5) Prerequisite: Literature course. Examines the work of a variety of authors from the continent of Asia in the light of colonialism and its aftermath. Focuses primarily on English-language writers such as R.K. Narayan, Salman Rushdie, Anita Desai, Michael Ondaatje and Kazuo Ishiguro. Offered alternate years. Attribute: Upper-Division.

ENG 3382 South African Literature and Theatre (5) Registration approval: Travel Studies Form. Introduces students to the literature and culture of South Africa. Examines the work of a variety of authors and playwrights. Requires original research based on viewing performances in South Africa. Attributes: Arts and Humanities B; and Upper-Division.

ENG 4225 Literature Capstone (5) Prerequisite: ENG 2225, UCOR 3000 and UFDN 3000, or permission of instructor. Studies a major text, its context and its reception. Examples of the kind of text to be considered include *The Aeneid*, *Canterbury Tales*, *Paradise Lost*, *Moby Dick*, *Middlemarch* and *Ulysses*. Students will complete a significant literary essay that draws upon their skills and experience as English majors. They will also write a reflective self-assessment of their learning experience that draws upon learning in the liberal arts, relates it to learning in their English major, and reflects upon the relationship between faith and the discipline of literary studies. May be repeated for credit up to 10 credits. Attributes: Upper-Division; and Writing Course. Class open to English majors. Class not open to freshmen and sophomores.

ENG 4226 Creative Writing Capstone (5) Prerequisite: ENG 2215, UCOR 3000 and UFDN 3000, or permission of instructor. Students will complete a significant creative writing project that draws upon their skills and experience as English majors. They will also write a reflective self-assessment of their learning experience that draws upon learning in the liberal arts, relates it to learning in their English major and reflects upon the relationship between faith and the discipline of creative writing. May be repeated for credit up to 10 credits. Attributes: Upper-Division; and Writing Course. Class open to English majors. Class not open to freshmen and sophomores.

ENG 4316 Advanced Poetry Writing (3) Registration approval: Instructor. Prerequisite: ENG 3316. A writing workshop for experienced writers of poetry. Also addresses such topics as poetry magazines, small presses, agents and editors, the submission process and current trends in publishing. Offered alternate years. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4317 Advanced Fiction Writing (3) Registration approval: Instructor. Prerequisite: ENG 3317. A writing workshop for experienced writers of fiction. Also addresses such topics as fiction magazines, publishing houses, agents and editors, the submission process and current trends in publishing. Offered alternate years. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4318 Advanced Creative Nonfiction (3) Registration approval: Instructor. Prerequisite: ENG 3318. A writing workshop for experienced writers of creative nonfiction. Also addresses such topics as literary magazines, publishing houses, agents and editors, the submission process and current trends in publishing. Offered alternate years. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4334 American Ethnic Literature: Special Topics (5) Prerequisite: ENG 2253 or permission of instructor. Explores various topics pertinent to the lives and literature of ethnic Americans. Depending on topic, focus may be on Native-American, African-American, Latino/Latina or Asian-American authors. Offered alternate years. May be repeated for credit up to 10 credits. Attribute: Upper-Division.

ENG 4425 Modern Poetry (5) Prerequisite: ENG 2252 and 2253 or permission of instructor. Concentrates on how to read, understand, evaluate and enjoy the work of major modern poets, including Yeats, Pound, Eliot, Stevens, Williams and Moore. Offered alternate years. Attribute: Upper-Division.

ENG 4426 Contemporary Poetry (5) Prerequisites: ENG 2252 and 2253, or permission of instructor. Considers British and American poetry from 1945 to the present. If possible, students should take ENG 4425 first. Offered alternate years. Attribute: Upper-Division.

ENG 4445 Shakespeare (5) Prerequisite: ENG 2251 or permission of instructor. Considers Shakespeare's comedies, histories, tragedies and romances while studying his art and thought in relation to the Elizabethan background. Attribute: Upper-Division.

ENG 4601 History of English (3) Examines Anglo Saxon, Middle and Modern forms of English in historical development. Includes phonology, morphology, syntax and some discussion of the relationship of each language stage to literary expression during its era. Offered alternate years. Course equivalent: LIN 4601. Attribute: Upper-Division.

ENG 4661 The Best of C.S. Lewis (3) Identifies basic literary, philosophical and theological categories of Lewis' works. Studies the great themes that permeate Lewis' literature, through examining his major works. Attribute: Upper-Division.

ENG 4685 History of Literary Theory (5) Prerequisite: ENG 2225 or permission of instructor. Studies the major issues and schools of literary theory in terms of their historical development. The course is especially appropriate for advanced majors. It also provides a useful synthesis for those who might be considering graduate studies in English. Offered alternate years. Attribute: Upper-Division.

ENG 4900 Independent Study (1–5) Registration approval: Independent Study Agreement. May be repeated for credit up to 15 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4921 Directed Readings in the C.S. Lewis Circle (1–5) Registration approval: Independent Study Agreement. Offers directed study in the fiction and/or literary criticism of C.S. Lewis, J.R.R. Tolkien, Dorothy L. Sayers and Charles Williams. Examples of the belles-lettres: *Till We Have Faces: A Myth Retold* (Lewis), *The Lord of the Rings* (Tolkien), *The Man Born to Be King* (Sayers) and *Descent Into Hell* (Williams). Attribute: Upper-Division.

ENG 4922 The British Novel (5) Surveys the history of the British novel through selected readings from the 18th century to the present day. Attribute: Upper-Division.

ENG 4930 English Practicum (1–5) Registration approval: Instructor. For advanced students who wish to assist as tutors, discussion leaders and readers in lower-division English classes. May be repeated for credit up to 6 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4940 Coop Education: English Internship (1–5) Registration approval: Intern Learning Contract Req. Applies writing skills in varied employment settings; possibilities include public relations offices, newspapers and other informational services. Students may suggest their own internships in consultation with the faculty supervisor, as long as writing skills are used and other internship criteria are met. May be repeated for credit up to 6 credits. Course equivalent: JRN 4940. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4941 Coop Education: English Internship (1–5) Registration approval: Intern Learning Contract Req. Applies writing skills in varied employment settings; possibilities include public relations offices, newspapers and other informational services. Students may suggest their own internships in consultation with the faculty supervisor, as long as writing skills are used and other internship criteria are met. May be repeated for credit up to 6 credits. Course equivalent: JRN 4941. Attribute: Upper-Division. Class not open to freshmen and sophomores.

ENG 4953 Writing Workshop: Special Topics (1–5) Registration approval: Instructor. Offers an intensive writing experience in a small workshop setting. Genres, themes and locations vary. May be repeated for credit up to 10 credits. Attribute: Upper-Division.

Faculty

Thomas Amorose, Professor of English; Director of Writing; B.A., Ohio State University, 1972; Ph.D., University of Washington, 1978. At SPU since 1996.

Christine Chaney, Assistant Professor of English; B.A., University of Washington, 1982; M.A., University of Washington, 1993; Ph.D., 1998. At SPU since 1999.

David Cho, Assistant Professor of English; B.A., University of Illinois–Urbana, 1995; M.A., Purdue University, 2001; M.F.A., Purdue University, 1999. At SPU since 2003.

Susan VanZanten Gallagher, Professor of English; Director of University Scholars; B.A., Westmont College, 1978; M.A., Emory University, 1981; Ph.D., 1982. At SPU since 1993.

Jennifer Maier, Assistant Professor of English; B.A./B.S., University of Washington, 1985; M.A., 1987; Ph.D., Tulane University, 1998. At SPU since 1993.

Luke Reinsma, Professor of English; B.A., Calvin College, 1970; M.A., University of Michigan, 1974; Ph.D., 1978. At SPU since 1984.

Kimberly Segall, Assistant Professor of English; B.A. Calvin College, 1992; M.A., Northwestern University, 1996; Ph.D., 2001. At SPU since 2001.

Douglas Thorpe, Associate Professor of English; B.A., Beloit College, 1975; M.A., University of Washington, 1977; Ph.D., 1983. At SPU since 1988.

Thomas Trzyna, Professor of English; B.A., University of California, 1968; M.A., University of Washington, 1974; Ph.D., 1977. At SPU since 1981.

Mark Walhout, Professor of English; Chair of English; B.A., Wheaton College, 1981; M.A., Northwestern University, 1982; Ph.D., 1985. At SPU since 1987.

Gregory Wolfe, Writer in Residence and Lecturer in English; B.A., Hillsdale College, 1980; M.A., Oxford University, 1983. At SPU since 2000.

Suzanne Wolfe, Lecturer in English; B.A., Oxford University, 1984; M.A., Oxford University, 1986. At SPU since 2000.

European Studies

See Languages and Special Programs

Family and Consumer Sciences

Peterson Hall
(206) 281-2195
www.spu.edu/depts/fcs

Bruce D. Congdon, *Dean of the College of Arts and Sciences*

Sharleen Kato, Director; **Barbara Bovy**, **Sandra Hartje**, **Jaeil Lee**, **Beth Miller**, **Gaile Moe**

Family and consumer sciences (FCS) is a multidisciplinary field of study integrating and applying knowledge from research within the discipline, the natural sciences, social and behavioral sciences, and the arts. Using basic principles from these disciplines, family and consumer sciences offers solutions to problems faced by individuals, families and communities. Students can major in elementary or secondary family and consumer sciences education; general family and consumer sciences; food and nutritional sciences; or clothing, textiles and interior design. The program provides a strong undergraduate background for those students wishing to attend graduate school. Practicum and internship experiences are available in business, public service and government, and are an integral part of the curriculum.

Requirements for the Majors

Family and consumer sciences views families as the fundamental social unit and understanding individuals and families is central to each FCS major. The FCS general major prepares students to understand individuals and families and to motivate students to use their specialization knowledge to affect the direction of our culture through service to families in business, social service and educational settings.

A variety of degree programs are available in family and consumer sciences, each built around a common core of courses designated as the family and consumer science core curriculum. Students select a major from the options offered and these courses are taken concurrently with the core curriculum. Of the total credits required for a family and consumer science major, 25 credits must be upper-division credits. All students desiring degrees in family and consumer sciences must meet the department's requirements for major status (2.5 GPA overall and 2.8 GPA for dietetics) and be approved as majors by the department's faculty. Major status application can be made after three courses in FCS are completed.

Core Curriculum Required for All FCS Majors

9–10 credits	
Taken in the following order:	
FCS 1050 Introduction to FCS*	1–2
FCS 3240 Individual and Family Development	5
FCS 4630 Foundations and Contemporary Issues	3
Total	9–10

*One credit required for junior and senior transfers entering SPU with an associate's degree, otherwise 2 credits.

Individual and Family Development

The individual and family development major is intended to prepare students to understand individuals and families, and to use their specialization knowledge to affect the direction of our culture through service to families in business, social service and educational settings. The major includes supplementary upper-division coursework in sociology, psychology and health sciences. All majors take the family and consumer sciences core.

Individual and Family Development

62–66 credits; 25 upper-division credits required

FCS Core	9–10
FCS 2253 Marriage and the Family	5
FCS 3035 Human Sexuality	3
FCS 3320 Maternal and Child Nutrition	3
FCS 3410 Individual and Family Finance	4
FCS 3460 Family Resource Management	3
FCS 3220 Child development	3
FCS 3564 Presentation Skills	4
FCS 3710 Family Housing "W"	5
SOC 3751 Introduction to Research Methods (5) "W" or discipline alternative	5
FCS 3875 Appearance and Culture	3
FCS 4240 Family Relations	3
PSY 4420 Adolescent Developmental Psychology	5
PSY 4460 Abnormal Behavior	5
FCS 4900 Internship or Practicum	2–5
Total	62–66

Family and Consumer Sciences Education Major

The B.A. degree is offered in elementary and secondary family and consumer sciences education. All students working toward this degree are required to take the family and consumer sciences core and the required courses in the major to meet the endorsement standards in elementary or secondary certification. Students who complete required courses in the major also meet endorsement standards in elementary or secondary certification. Students who complete the required courses in the major for secondary certification also meet state standards for certification in FCS career and technical education. Students seeking teacher certification in family and consumer education at either the elementary or secondary level must meet the requirements of the teacher education program. For complete FCS elementary education requirements, see the School of Education section in this *Catalog*.

FCS Secondary EducationMeets state requirements for career and technical education
70–73 credits; 25 upper-division FCS credits required

Family and Consumer Sciences Core	9–10
BIO 1100 Biological Science: Human Nutrition (5) or FCS 2385 Food and the Consumer (3)	3–5
FCS 2252 Marriage and the Family	5
FCS 2385 Food Science	5
FCS 2702 Introduction to Interior Design (3) or FCS 1710 Design Fundamentals (5)	3–5
FCS 3830 Textiles	5
FCS 3220 Child Development	3
FCS 3365 Food Management and Economics	4
FCS 3410 Individual and Family Finance	4
FCS 3460 Family Resource Management	3
FCS 3564 Presentation Skills	4
FCS 3710 Family Housing "W"	5
FCS 3875 Appearance and Culture "W"	3
FCS 4240 Family Relations	3
FCS 4250 Strategies in Early Childhood	3
FCS 4511 Curriculum and Evaluation in FCS Education "W"	5
FCS 4512 Aspects of Career and Technical Education for FCS	3
Total credits for FCS secondary education	61–65
Total credits for major	70–73

Certification in Career and Technical Education

Seattle Pacific University is an approved institution for certification in career and technical education of family and consumer sciences teachers in middle, junior and high school FCS programs. In addition to secondary course requirements, students must meet first-aid requirements.

Food and Nutritional Sciences Major

The B.S. degree is offered in food and nutritional sciences. All majors must take the family and consumer sciences core and the required courses, plus one of the areas of study. Because certain chemistry and biology courses are prerequisites to many nutrition courses, it is most efficient to complete the prerequisite by the junior year.

The dietetics specialization in the food and nutritional sciences program has had approval since 1992 by the Commission on Accreditation for Dietetics Education of the American Dietetics Association, 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606-6995; phone (312) 899-0040, extension 5400; on the Web at www.eatright.org. This means an SPU graduate with a dietetics specialization is eligible to apply for a dietetic internship in another institution. After the dietetic internship, the student is eligible to sit for the national registration exam for dietitians. If passed, the student becomes a registered dietitian.

Food and Nutritional Sciences Major

83–117 credits; 25 upper-division FCS credits required

Refer to pages 60–62 for a summary of degree requirements.

Family and Consumer Science Core	9–10
Required Courses	
FCS 2365 Food Science	5
FCS 3340 Human Nutrition*	5
FCS 3365 Food Management and Economics*	4
FCS 3385 Food and Culture "W"	3
FCS 4330 Advanced Nutrition* "W"	5
FCS 4367 Experimental Foods* "W"	5
BIO 2129 Anatomy and Physiology	5
BIO 2130 Anatomy and Physiology*	5
BIO 3351 General Microbiology*	5
HSC 4044 Biomedical Tests, Measurements and Statistics (5) or MAT 1360 Introduction to Statistics (5)	5
Choose one of the two chemistry groups below:	
CHM 1211 General Chemistry (5) and CHM 1330 General Organic/Biochemistry (5)	
CHM 1211 General Chemistry (5) and CHM 2371/2372 Organic Chemistry (10)* and CHM 4361/4362 Biochemistry (10)*	10–25
Total of Required Courses	57–72
<i>In addition to the FCS core and required courses above, select one of the following areas of study: food and nutrition, dietetics, or sport and exercise.</i>	
Food and Nutrition Specialization	
FCS 2375 Food Production and Management	5
FCS 3320 Maternal and Child Nutrition	3
FCS 3564 Presentation Skills	4
FCS 4350 Community Nutrition and Education*	5
Total credits for food and nutrition	17
Dietetics Specialization	
ACCT 2361 Financial Accounting	5
BUS 3614 Organizational Behavior (5) or BUS 3657 Human Resource Management (5)	5
FCS 2375 Food Production and Management	5
FCS 4340 Medical Nutrition Therapy I*	5
FCS 4341 Medical Nutrition Therapy II*	5
FCS 4350 Community Nutrition and Education *	5
SOC 4308 Helping Relationship	5
Total credits for dietetics	35
Sports and Exercise Specialization	
FCS 3320 Maternal and Child Nutrition	3
FCS 4310 Nutrition in Sports and Exercise *	3
FCS 4340 Medical Nutrition Therapy I*	5
FCS 4341 Medical Nutrition Therapy II*	5
FCS 4350 Community Nutrition and Education *	5
PE 3580 Exercise Physiology *	5
PE 4585 Exercise Science Seminar *	3
Total credits for sports and exercise	29
Total credits for major	83–117

* Prerequisites.

Post-baccalaureate student in dietetics. Students with a B.A. or B.S. degree in another discipline are evaluated on an individual basis. Once the food and nutritional sciences and dietetics specialization requirements are met, the student is eligible to apply for an ADA-approved dietetic internship. Student Academic Services and the FCS advisor will evaluate your transcript and help you plan your course of study.

Textiles, Clothing and Interiors Major

A B.A. degree is offered in textiles, clothing and interiors. The curriculum is designed to train individuals for careers in the areas of retail merchandising, apparel manufacturing, advertising, apparel designing, and residential and commercial design. Students can select from textiles and clothing or interior design. All students completing the textiles and clothing specialization must complete the FCS core, general requirements for clothing and textiles and either the fashion merchandising emphasis or the apparel design emphasis below.

Clothing and Textiles Specialization	
<i>59–64 credits; 25 upper-division FCS credits required</i>	
<i>Refer to pages 60–62 for a summary of degree requirements.</i>	
Family and Consumer Science Core	9–10
Clothing and Textiles Core	33
FCS 2820 Introduction to the Fashion Industry	5
FCS 3830 Textiles	5
FCS 3840 Flat Pattern Design*	5
FCS 3842 Apparel Production and Evaluation	5
FCS 3870 History of Costume (W)	5
FCS 3875 Appearance and Culture	3
FCS 4840 Apparel Design Through Draping*	3
Total credits for requirements	33
Fashion Merchandising Emphasis	
FCS 3820 Merchandise Planning and Inventory Control *	3
FCS 4820 Apparel Retail Management*	3
ACCT 2361 Financial Accounting	5
BUS 3828 International Business	5
Select one of the following business courses:	
BUS 3541 Marketing and Society (5)	
BUS 3544 Advertising* (5)	
BUS 3545 Sales and Sales Management* (5)	
BUS 3631 Entrepreneurship* (5)	
BUS 3657 Human Resource Management (5)	5
Total credits for fashion merchandising	21
Apparel Design Emphasis	
ART 1102 Drawing Studio	3
ART 3112 Drawing Studio — Figure	3
FCS 2110 Fashion Illustration	3
FCS 4843 CAD Applications in Apparel Design*	5
FCS 3564 Presentation Skills (3)	
or FCS 4844 Advanced Apparel Design* (5)	
or FCS 4940 Internship (5)	3–5
Total credits for apparel design	17–19
Total credits for the major	59–64

*Prerequisites.

Fashion Institute of Technology (FIT)

Students in the textiles and clothing program who have major status and have maintained a satisfactory grade point average may select from nine additional specializations if they are accepted into the liaison program with the Fashion Institute of Technology in New York City.

Specializations offered through the liaison program with FIT include accessories design; advertising and communication; advertising design; manufacturing management; fashion design; fashion buying and merchandising; jewelry design; textile/surface design; or textile development and marketing. Students considering this option should seek advisement early in their academic careers in order to meet the requirements of both FIT and SPU.

Interior Design Specialization

The Interior Design Program prepares students for a variety of entry-level positions in interior design. This interdisciplinary program combines courses from art, business and family and consumer sciences. The program features a student chapter of ASID (American Society of Interior Designers), a required internship (FCS 4940), AutoCAD courses and a liaison program with FIDM (the Fashion Institute of Design and Merchandising).

Interior Design Specialization	
<i>81–84 credits; 25 upper-division FCS credits required</i>	
<i>Refer to pages 60–62 for a summary of degree requirements.</i>	
Family and Consumer Science Core	9–10
FCS 2204 Interior Design Studio	3
FCS 2702 Introduction to Interior Design *	3
FCS 3710 Family Housing (W)	5
FCS 3712 Lighting Design *	4
FCS 3714 Advanced Design — Interiors	3
FCS 3720 Universal Design	
or FCS 4753 CAD for Interior Design II	3
FCS 3830 Textiles	5
FCS 3843 Introduction to AutoCAD *	3
FCS 4710 Advanced Design II — Residential Interiors	3
FCS 4712 Advanced Design II — Commercial Interiors	3
FCS 4720 Portfolio	2
FCS 4730 Interior Design Resources and Materials *	5
FCS 4743 CAD Applications in Interior Design *	3
FCS 4940 Internship	3–5
ACCT 2361 Financial Accounting *	5
ART 1102 Drawing Studio (3)	
or ART 1103 Drawing Studio(3)	3
ART 1202 Design Studio	3
ART 3604 History of Renaissance Art	5
ART 3605 History of Modern Art (5)	
or ART 3607 History of American Art (5)	5
Select one of the following:	
BUS 3400 Business Ethics (5)	
BUS 3541 Marketing and Society (5)	
BUS 3544 Advertising* (5)	
BUS 3545 Sales and Sales Management* (5)	
BUS 3614 Organizational Behavior(5)	
BUS 3657 Human Resource Management(5)	
BUS 3631 Entrepreneurship (5) *	5
CSC 1126 Presentation Managers	1
Select one of the following:	
ENG 3205 Writing in the Professions* (3)	
FCS 3564 Presentation Skills* (4)	3–4
Total credits for interior design	78–81
Total credits for major	87–91

*Prerequisites.

Fashion Institute of Design and Merchandising

Students have an option of pursuing a concentrated year of training in interior design by participating in the liaison program with the Fashion Institute of Design and Merchandising (FIDM) in Los Angeles, California. Students electing to participate in the FIDM liaison would apply in their junior year and attend during their senior year. Students considering this option should seek advisement early in their academic careers in order to meet the requirements of both FIDM and SPU.

Requirements for the Minors

Three minors are offered: family and consumer sciences; food and nutritional sciences; and clothing and textiles. A minimum of 30 credits in family and consumer sciences, including 15 upper-division credits, are required for each of the three minors.

Minor in Family and Consumer Sciences

Select at least one course from each area for a minimum of 30 credits:

Food and Nutritional Sciences

BIO 1100 Biological Science: Human Nutrition (5)

FCS 2365 Food Science (5)

FCS 2385 Food and the Consumer (3)

FCS 3220 Maternal and Child Nutrition (3)

FCS 3365 Food Management and Economics (4)*

FCS 3385 Food and Culture "W" (3)

Clothing and Textiles

FCS 2820 Introduction to the Fashion Industry (5)

FCS 3830 Textiles (5)

FCS 3870 History of Costume "W" (5)

FCS 3875 Appearance and Culture (3)

Family and Development I

FCS 2252 Marriage and the Family (5)

FCS 3220 Child Development (3)

FCS 4240 Family Relations (3)

FCS 4250 Strategies in Early Childhood (3)*

Family and Development II

FCS 3410 Individual and Family Finance (4)

FCS 3460 Family Resource Management (3)*

Interior Design

FCS 2702 Introduction to Interior Design (3)

FCS 3710 Family Housing "W" (5)

FCS 3712 Lighting Design (4)*

FCS 4730 Interior Design Resources and Materials (5)

*Prerequisites.

Minor requirements contribute to, but do not meet, educational certification requirements for vocational certification for secondary family and consumer science education teachers of grades 9–12.

Minor in Food and Nutritional Sciences

30 credits

FCS 2365 Food Science 5

FCS 3320 Maternal and Child Nutrition 3

FCS 3340 Human Nutrition* 5

FCS 3385 Food and Culture 3

FCS 4330 Advanced Nutrition* 5

FCS 4367 Experimental Foods "W" 5

Select a minimum of 4 credits from the following to total 30 credits:

FCS 2375 Food Production and Management* 5

FCS 3365 Food Management and Economics* 4

FCS 4310 Nutrition in Sports and Exercise* 3

FCS 4340 Medical Nutrition Therapy* 5

FCS 4350 Community Nutrition and Education* 5

FCS 4930 Family and Consumer Sciences Practicum (1-5) 1–5

Total 30

Minor in Clothing and Textiles

30 credits

FCS 1050 Introduction to FCS 3

FCS 2820 Introduction to the Fashion Industry 5

FCS 3830 Textiles 5

FCS 3840 Flat Pattern Design* 5

FCS 3870 History of Costume "W" 5

FCS 3875 Appearance in Culture "W" 3

Select a minimum of 8 credits from the following to total 30 credits:

FCS 3820 Merchandising Planning and Inventory Control 3

FCS 3842 Apparel Production and Evaluation* 5

Total 30

*Prerequisites.

Family and Consumer Sciences Courses

FCS 1050 Introduction to Family and Consumer Sciences

(1–2) Introduces the history, literature and contributions of the family and consumer sciences profession to help students discover special interests, career potential and set academic goals. Guest speakers highlight each FCS major. Students organize a personal portfolio. One credit required for juniors and seniors entering SPU with 90 credits or more, otherwise 2 credits required. This course is partially Web-based.

FCS 1710 Design Fundamentals (5) Surveys how design can be used to enhance the quality of life for individuals by applying standards for creativity, integrity of materials, and the elements and principles of design. The focus is primarily on classic, modern and post-modern architecture and the impact of culture, economics, social structures, natural resources and technology on design. Includes local walking tours and events. Part of the course will be Web-based. Attributes: Arts and Humanities A; and Fine Arts Core.

FCS 2110 Fashion Illustration (3) Explores the professional uses of fashion illustration, career opportunities, training and skills required for the professional. Teaches design details and rendering of an elementary fashion figure through lectures and demonstration. May be repeated for credit up to 6 credits.

FCS 2204 Interior Design Studio (3) Applies the elements and principles of design to practical residential interior design problems. Drafting. Extra fee. Class not open to freshmen.

FCS 2252 Marriage and the Family (5) Surveys the family as an institution and a mode for personal living: marital adjustment, parent-child relationships, changing family patterns, and family disorganization and reorganization. Course equivalent: SOC 2252.

FCS 2365 Food Science (5) Examines the basic scientific concepts related to the preparation of food. Studies the principles of food selection, storage and preparation based on a knowledge of chemical and physical properties. Includes laboratory.

FCS 2375 Food Production and Management (5) Prerequisite: FCS 2365. Surveys the organization, management and cost control of food-service operations. Includes laboratory experience in quantity food service facilities in Seattle.

FCS 2385 Food and the Consumer (3) Examines consumer behavior in the selection of food as it relates to need, economics and satisfaction. Analyzes personal nutrition in relation to cultural, social, faith, aesthetics and psychological influences on food selection. Identifies the impact of environment, safety, food additives, natural foods, supplements and freedom of choice.

FCS 2702 Introduction to Interior Design (3) Examines elements and principles of design applied to residential and commercial interiors, and provides an overview of the interior-design field.

FCS 2820 Introduction to the Fashion Industry (5) Presents an overview of the background, structure and operation of the ever-changing world of the fashion industry. Provides basic knowledge and skills for effective development in understanding the fashion industry and fashion. Allows a chance to explore one's personal attributes and different career opportunities in the fashion industry.

FCS 2870 Seeing History Through Clothes: A Personal Perspective (5) Study of how political, economic and sociological factors have influenced people's clothing choices and the materials available for dress. This course will examine clothing styles throughout history, from early Egypt to the present day, with special focus on dress during the 18th, 19th and 20th centuries. Attributes: Arts and Humanities A; and Fine Arts Core. Class not open to seniors.

FCS 3220 Child Development (3) Analyzes factors that affect development of the child physically, emotionally, socially and intellectually. Identifies the impact of health, the environment and society on the child. Attribute: Upper-Division.

FCS 3240 Individual and Family Development (5) Prerequisite: FCS 1050. Introduction to the application of concepts and theories in human development within the context of the family. Explores the reciprocal relationships between families and their environment and issues of individuals and families as consumers that affect the quality of life. Attribute: Upper-Division. Class not open to freshmen.

FCS 3320 Maternal and Child Nutrition (3) Prior nutrition or anatomy and physiology course recommended. Studies the influence of nutrition on the course and outcome of pregnancy; nutritional needs during lactation, fundamentals of infant nutrition and influence of nutrition on growth, development and behavior during infancy, childhood and adolescence. Women's study minor course. Attribute: Upper-Division.

FCS 3340 Human Nutrition (5) Prerequisites: CHM 1211, 1330, BIO 2129 and 2130 (Note BIO 2130 may be taken concurrently). Presents essentials of adequate diets and food sources of the nutrients; nutritional needs throughout the lifespan; nutritional composition of foods in relation to normal diets and medical nutrition therapy. Attribute: Upper-Division.

FCS 3365 Food Management and Economics (4) Prerequisite: FCS 2365, a human nutrition course or permission of instructor. Surveys the effect of nutrition, budget, aesthetics and resources in menu planning for various nutritional needs. Includes laboratory. Attribute: Upper-Division.

FCS 3385 Food and Culture (3) Prerequisite: Junior standing or permission of instructor. Explores how the foodways of individuals in different cultures evolved. Considers gender issues. Evaluates the nutritional, economic and aesthetic properties of food from various cultures. Examples are prepared. May be repeated for credit up to 6 credits. Attributes: Upper-Division; and Writing Course. Class not open to freshmen and sophomores.

FCS 3410 Individual and Family Finance (4) Understanding financial planning for individuals and families, including net worth, budgeting, cash management, use of credit, federal income taxes, investment basics, insurance, making wise consumption decisions, consumer redress and ethical behavior in the marketplace. Attribute: Upper-Division.

FCS 3460 Family Resource Management (3) Prerequisite: FCS 1050. Emphasis is on a systems approach to resource management within the family ecosystem. Includes strategies for maximizing management influences on individuals and families at varying stages of the lifecycle and socioeconomic levels. Explores issues of work and family. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 3564 Presentation Skills for FCS Professionals (4) Registration approval: Instructor. Prerequisites: FCS 3240 and five completed courses in FCS area of specialization within the major, or permission of instructor. Provides opportunity for skill development in content selection and delivery techniques appropriate to audiences in the areas of professional practice for the family and consumer sciences profession. Students' presentations utilize the lecture/demonstration method. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 3710 Family Housing (5) This survey course studies housing as a complex process and product that meets individual, family and community needs. Housing is demanded by consumers and supplied by the private, nonprofit and government sectors of the economy. The provision of housing is further impacted by government policies at the local, state and federal level. Topics addressed include defining housing, housing constraints, construction, styles, housing tenure, financing home ownership, the housing market, housing for special populations and social issues related to housing. Attributes: Upper-Division; and Writing Course. Class not open to freshmen and sophomores.

FCS 3712 Lighting Design (4) Prerequisites: FCS 2204 and 2702. Survey of space planning and interior systems (electrical and mechanical). Emphasis on lighting: sources, techniques, installations, and specifications for residential and nonresidential applications. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 3714 Advanced Design — Interiors (3) Prerequisite: FCS 2204. Applies the design process to practical problems in interior-design drafting. Incorporates elements of furniture design, universal design, and organization of commercial space. Extra fee. Attribute: Upper-Division. Class not open to freshmen.

FCS 3720 Universal Design in Housing (3) Introduces the students to the fundamentals of universal design and home modifications. Students learn about human factors, activities of daily living, and priorities to make the best functional and aesthetic use of space. This course is designed to stimulate students' critical thinking and creative problem solving often in very restricted space. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 3820 Merchandising Planning and Inventory Control (3) Prerequisite: FCS 2820. Covers specifics of six-month planning, open-to-buys, inventory turns, stock sales ratio and gross margin in the fashion industry. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 3830 Textiles (5) Study of textiles from raw materials through finishing and dyeing of fabrics as related to durability, comfort and aesthetics. Survey includes the structure of the textile industry, textile laws and regulations, and textile testing. Provides hands-on experiences in areas such as fiber identification, properties and structures. Attribute: Upper-Division. Class not open to freshmen.

FCS 3840 Flat Pattern Design (5) Presents basic drafting and sewing techniques necessary for the construction of basic and torso muslin and slopers. Provides basic pattern engineering and construction skills to develop creative designing garments. Attribute: Upper-Division. Class not open to freshmen.

FCS 3842 Apparel Production and Evaluation (5) Prerequisite: FCS 3840 or permission of instructor. Provides clothing construction techniques and pattern engineering skills employed in the production of ready-to-wear apparel that fulfills standards of the industry. Presents knowledge related to the industry standards and quality and cost analysis that are essential for evaluating apparel products in the ready-to-wear industry. Attribute: Upper-Division. Class not open to freshmen.

FCS 3843 Introduction to Computer-Aided Design (CAD) (3) This course will provide the theory and practical skills essential to computer-aided design and drafting. Basic CAD commands will be taught through lectures and hands-on training at individual computer terminals using Auto CAD software. Students will be required to perform a series of computerized drawings and to

complete a final drawing project. Attribute: Upper-Division. Class open to undergraduate students. Class not open to freshmen and sophomores.

FCS 3870 History of Costume (5) Studies textile and costume designs of civilizations from the ancient to present day. Social, economic and political factors of various periods and their influence on evolution of costume and the importance of women's role in the history of Western dress are major emphases. Integrates costume with various arts: painting, sculpture, drama and music. Women's studies minor course. Attributes: Arts and Humanities A; Fine Arts Core; Upper-Division; and Writing Course. Class not open to freshmen and sophomores.

FCS 3875 Appearance and Culture (3) Prerequisite: FCS 2820 or permission of instructor. A study of the diverse meaning of appearance and dress as manifestations of individual and group behavior, social organizations and cultural norms in various cultures. Attributes: Upper-Division; and Writing Course. Class not open to freshmen and sophomores.

FCS 4240 Family Relations (3) Studies the role of families in establishing a home environment that provides for the physical, emotional, intellectual and social development of all family members including decision making elements, problem-solving techniques and shared responsibilities. Attribute: Upper-Division.

FCS 4250 Strategies in Early Childhood (3) Prerequisites: FCS 3220, FCS 4511 (can be taken concurrently). Provides opportunities to observe and participate with children in a nursery school or kindergarten and to observe the role of the teacher as a participant. Implementation and valuation of models, methods and materials relevant to programs for children in preschool, day-care centers and kindergarten. Thirty hours of laboratory experience required. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4310 Nutrition in Sports and Exercise (3) Prerequisites: FCS 3340 or permission of instructor. Discusses basic nutritional principles: The role of the six major nutrient groups in physical performance; energy metabolism and exercise; and special concerns with dietary considerations about nutrition and performance. Current readings on controversial issues. Attribute: Upper-Division.

FCS 4330 Advanced Nutrition (5) Prerequisites: CHM 1330, BIO 2130 and FCS 3340. Expanded discussion of nutrient interrelationships, intermediary metabolism and nutrient requirements for health maintenance. Research of recent advances and controversial issues in human nutrition. Attributes: Upper-Division; and Writing Course.

FCS 4340 Medical Nutrition Therapy I (5) Prerequisites: FCS 2365 and 3340. This course presents nutrition as a factor in the treatment and prevention of disease and maintenance of health. Strategies for assessing needs, developing treatment care plans, implementing and documenting of plans, evaluating and quality assurance will be studied for each medical condition. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4341 Medical Nutrition Therapy II (5) Prerequisite: FCS 4340. Continuing study of nutrition as a factor in the treatment and prevention of disease and maintenance of health. Strategies for assessing needs, developing treatment care plans, implementing and documenting of plans, evaluating and quality assurance will be studied for each medical condition. Includes lab. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4350 Community Nutrition and Education (5) Prerequisites: FCS 3340 or permission of instructor. Covers nutrition education and community nutrition programs; multidimensional nature of nutrition problems and programs designed to solve them; communicating with people in clinical and community settings; application of learning theory and methods of behavior change. Also preparation for post-graduate jobs, study, and internships. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4367 Experimental Foods (5) Prerequisite: FCS 2365, CHM 1330 and Statistics. Provides an experimental approach in the study of the physical and chemical properties of food. Explores theory and application of basic food-science research design, implementation of experiments, interpretation of data and reporting of data in a research paper. Attributes: Upper-Division; and Writing Course.

FCS 4511 Curriculum and Evaluation in FCS Education (5) Prerequisites: BIO 1100, FCS 2365, 3220, 3410, 3460, 3564, 4240 and Professional Quarter Two. Explores methods (scope and sequence) and strategies for teaching family and consumer science concepts. Emphasizes a critical understanding, development and organization of the subject content that promotes student learning and meets national and state standards. Attributes: Upper-Division; and Writing Course.

FCS 4512 Aspects of Career and Technical Education for Approved Family and Consumer Science Programs (3) Prerequisite: Professional Quarter Two. Identifies philosophy and mission of career and technical education and explores methods of planning and implementing a program that meets the established standards and criteria for a state approved Family and Consumer Sciences Program. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4710 Advanced Design II — Residential Interiors (3) Prerequisite: FCS 3712, 3714 and 3843. Application of the design process to projects in residential design. Extra fee. May be repeated for credit one time. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4712 Advanced Design II — Commercial Interiors (3) Prerequisite: FCS 3712, 3714, and 3843. Application of design process to projects in commercial design. Extra fee. May be repeated for credit one time. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4720 Portfolio (2) Prerequisites: FCS 4710 and 4712. Instruction in the development of a professional portfolio including résumé and cover letter writing and presentation of samples of creative work. Examination of professional practice in interior design. Course equivalent: ART 4236. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4730 Interior Design Resources and Materials (5) Prerequisites: FCS 2204, 2702 and 2830. Studies the functional uses and inherent properties of materials used in interiors, as well as safety standards and local resources. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4743 CAD Applications in Interior Design (3) Registration approval: Instructor. Prerequisite: FCS 3843. Application of advanced techniques (3-D) of computer-aided design and drafting using AutoCAD software. Offered alternate years. May be repeated for credit up to 8 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4753 CAD Application in Interior Design II (3) Prerequisites: FCS 3843 or FCS 4743, and FCS 4730. Continued application of advanced techniques (3–D) of computer-aided design and drafting using AutoCAD software and third-party architectural program software. May be repeated for credit two times. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4820 Apparel Retail Management (3) Prerequisite: FCS 2820. Includes hiring, scheduling, selling costs, department presentation and special events. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4840 Apparel Design Through Draping (5) Prerequisites: FCS 3840 and 3842 or permission of instructor. Focuses on acquiring the skills necessary to develop apparel designs by using techniques of draping material on the human form. Principles of design will be studied and applied in the production of attractive apparel designs that are in harmony with the current fashion scene. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4843 CAD Applications in Apparel Design (5) Prerequisites: FCS 3840 and 3842. Students in apparel design and merchandising will acquire the knowledge and rendering skills of corel/Draw 10 necessary to effectively communicate visual concepts. This course will prepare students with the computer-aided skills for anyone who wishes to be competitive in entering a career in the fashion industry. For students who wish to learn advanced Corel/Draw 10, this course can be repeated. May be repeated for credit up to 10 credits. Attribute: Upper-Division. Class open to graduate and undergraduate students. Class not open to freshmen and sophomores.

FCS 4844 Advanced Apparel Design (5) Prerequisites: FCS 3840, 3842 and 4840 or permission of instructor. Explores creative designing process through integrating the theories and skills of sketching, pattern making, draping and construction in the production of ready-to-wear. Provides a chance to practice visual presentation skills. May be repeated for credit up to 10 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4899 Foundations and Contemporary Issues (3) Prerequisites: FCS 1050 and FCS 3240. FCS senior capstone course. Examines history, philosophy and cultural values as they relate to the mission and goals of the family and consumer-science discipline and profession and to each FCS specialization. Investigates public policy issues affecting families. Identifies management abilities for planning and implementing professional goals. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4900 Independent Study (1–5) Registration approval: Independent Study Agreement. Prerequisites: Senior standing and a B average in family and consumer science studies. May be repeated for credit up to 15 credits. Attribute: Upper-Division. Class not open to freshmen, sophomores and juniors.

FCS 4930 Family and Consumer Science Practicum (1–5) Provides an opportunity to gain practical experience related to previous coursework in the major field in supervised teaching, grading, laboratory preparation and/or tutoring. Specific arrangements with the instructor required. No more than 6 credits may count for major. May be repeated for credit up to 6 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

FCS 4931 Practicum in Design Production (1–5) Registration approval: Instructor. Practical application of coordination, production and promotion in the Designer's Showcase. May be repeated for credit up to 5 credits. Attribute: Upper-Division.

FCS 4940 Internship (1–10) Registration approval: Intern Learning Contract Req. Prerequisites: B average; junior standing. Provides opportunity for observation, orientation and participation in employment. Work experience planned in advance with the instructor. May be repeated for credit up to 10 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

Faculty

Barbara J. Bovy, Professor of Family and Consumer Sciences; B.S., University of Idaho, 1960; M.A., University of Washington, 1971; Ph.D., 1979. At SPU since 1978.

Sandra C. Hartje, Associate Professor of Family and Consumer Sciences; B.S., University of Minnesota, 1979; M.S., 1984; Ph.D., 1998. At SPU since 1986.

Sharleen L. Kato, Director of Family and Consumer Sciences; Professor of Family and Consumer Sciences; B.A., Seattle Pacific University, 1984; M.A., Michigan State University, 1986; Ed.D., Seattle University, 1992. At SPU since 1986.

Jaail Lee, Assistant Professor of Family and Consumer Sciences; B.A., Chungnam National University, 1992; M.S., The Ohio State University, 1998, Ph.D., 2000. At SPU since 2001.

Beth Miller, Instructor of Interior Design, M.A., University of Oklahoma, 1992; M.S., University of Central Oklahoma, 2000. At SPU since 2002.

Gaile L. Moe, Associate Professor of Family and Consumer Sciences; B.S., University of Washington, 1978; Ph.D., 1996. At SPU since 1994.

Film

See Special Programs

Food and Nutritional Sciences

See Family and Consumer Sciences

French

See Languages

General Studies Major

The general studies major is available to students who have an SPU GPA of 2.5. Seventy-five credits selected from three disciplines related to the student's degree objectives are required for the major. A statement of rationale and a major contract are required and must be submitted to Student Academic Services for review by academic departments. At least 20 credits, but not over 35 credits, will be applied in each discipline. A minimum of 35 credits must be upper-division. No grade below a C- will apply to the major. For more information contact undergraduate academic counseling in Student Academic Services at (206) 281-2021.

General Studies

(Interdisciplinary Courses)

GS 1000 Foundations for Success in College (1) Registration approval: Instructor. Students who succeed in college possess or develop a requisite core set of behaviors. Five particularly vital to first-year success are time management, self-regulation, motivation, goal setting and awareness of campus culture. Entering freshmen taking this class will learn about each through research-based reading, the experience of older students and lecture. They will use that understanding to increase their self-awareness and to establish a base of effective behaviors in each of those areas. Class open to freshmen.

GS 1001 Success Skills for College (2) Assists students as they develop and expand their understanding and use of time management, note-taking, textbook reading and exam strategies in order to increase their academic performance in the university setting. Information is included on how to utilize personal learning styles and strengths.

GS 1005 Values, Faith and Traditions in Western Culture (1) Registration approval: Instructor. Offered each quarter for international students only to provide an opportunity for discussion and exploration of American values, social issues and religion. Extra fee. May be repeated for credit up to 3 credits.

GS 2001 Major and Career Exploration (1) Assists students in choosing a major and exploring career and vocational options. Includes self-assessment tests, discerning natural talents and giftedness, and discerning vocational calling. May be repeated for credit one time.

GS 2002 Advanced Skills for College Success (2) Class emphasizes writing, reading, research and thinking skills required for success with upper-division work. An interdisciplinary approach will be used. Coursework will be coordinated with other current classes.

GS 2306 Tutoring (1) Registration approval: Instructor. May be repeated for credit two times.

GS 3001 Career and Life Transition (1) Assists students transitioning from college into work, life and service after college. Includes finding appropriate work and service opportunities; maintaining community; managing finances and stressors; developing resumes and cover letters; articulating skills, interviewing, etc. Attribute: Upper-Division. Class not open to freshmen and sophomores.

GS 3418 Student Leadership and Service I (2–3) Special Approval: Recommendation from residence life instructor. This course offers sessions where peer advisor leaders experience training as well as small group sessions for instruction specific to their leadership position. Course content will include practical information and skills to address issues such as peer counseling, conflict mediation, crisis intervention, program management, developmental transitions and other important challenges facing residential students. May be repeated for credit three times. Attribute: Upper-Division.

GS 3419 Student Leadership and Service II (1–2) Registration approval: Instructor. Prerequisite: GS 3418. This course offers sessions where peer advisor leaders experience advanced training as well as small-group sessions for instruction specific to their leadership position. Course content will include practical information and skills to address issues such as peer counseling, conflict mediation, crisis intervention, program management, developmental transitions and other important challenges facing residential students. May be repeated for credit three times. Attribute: Upper-Division.

GS 4900 Independent Study (1–5) Registration approval: Independent Study Agreement. May be repeated for credit up to 15 credits. Attribute: Upper-Division. Class not open to freshmen and sophomores.

GS 4930 Leadership Practicum (1–10) Registration approval: Director of residence life. Prerequisite: Admission to the minor. Supervised practicum in student-leadership positions under advising of the Office of Student Life or the Office of Campus Ministries. Includes learning contract, readings and assignments to enable students to deepen leadership skills. May be repeated for credit up to 10 credits. Attribute: Upper-Division. Class not open to freshmen.

Geopolitics

See Political Science

German

See Languages

Health Sciences, School of

Marston Hall
(206) 281-2233
www.spu.edu/depts/hsc/

Lucille Kelley, *Dean of the School of Health Sciences*

Ruby Englund, Mary Fry, Theresa Granger, Chris Henshaw, Emily Hitchens, Donna Hoffert, Barbara Innes, Lyle Melton, Linda Pedersen, Kathy Stetz, Elizabeth Torrence, Martha Worcester

Lydia Green Nursing Program

The bachelors of science with a major in nursing prepares graduate to assume entry-level practice and leadership roles in a variety of settings, while seeking to implement the University's desire to graduate people of competence, character and wisdom. The aim is to foster the development of self-understanding, caring, collaboration, ethical thought and action, intellectual curiosity, critical thinking and judgment, as well as the integration of Christian faith with scientific knowledge and clinical expertise.

Curriculae is offered for those with no previous college preparation, those with advanced standing, and registered nurses from associate degree or diploma nursing programs.

The nursing program is approved by the state of Washington and accredited by the Commission for Collegiate Nursing Education. Upon completion of the degree, the graduate is eligible to take the national examination required for licensure as a registered nurse (NCLEX).

Admission to the Major Process

Students interested in professional nursing must apply through the Office of Admissions and be accepted by the University. High school preparation for nursing includes two years minimum of laboratory science, one of which should be chemistry. Those who indicate an interest in nursing can request a nursing faculty advisor after the first quarter of the freshman year.