

CERTIFICATE PROGRAMS

Persons who may not initially want to follow a bachelor's degree program may enroll in one of the 19 certificate programs offered by University College (<http://adultdegrees.creighton.edu>). Those without prior college work may elect to complete a certificate program first and have the option of continuing with the complete degree program. Others who have previously completed a Bachelor's degree may want to enroll in a certificate program for personal enrichment or in order to show a concentration in another area of study.

Courses required in most of the certificate programs meet some of the major requirements in the degree programs. (The Certificate in Business Administration includes the introductory courses in Accounting, Business, Economics, Finance, Management, Marketing, and Management Information Systems.) The certificate programs are:

Applied Computer Science	Irish Literature and Culture
Atmospheric Sciences	Liturgy
Business Administration	Mathematics
Computer Science	Ministry
Corporate Communication	Organizational Communication
Creative Writing	Pre-Health Sciences
Environmental Science	Psychology
Health Administration and Policy	Spirituality
Human Resources Administration	Theology
Interpersonal Communication	

To be eligible for a certificate, students must complete all required courses with grades of "C" or better. Courses completed with grades below "C" must be repeated. Unless otherwise stated, at least half of the course work must be completed at Creighton. Students who complete courses required for a certificate may also use these courses to meet degree requirements.

Individuals who want to follow a certificate program should complete the Application for Admission available in the Dean's Office or at <http://adultdegrees.creighton.edu>.

Certificate Program in Applied Computer Science (24 credits)

A *Certificate in Applied Computer Science* will be awarded to students who complete the following requirements, a total of 24 semester hours:

CSC 221	Computer Programming I	3 credits
CSC 222	Computer Programming II	3 credits
CSC 444	Human Computer Interaction	3 credits
CSC 452	Windows Programming	3 credits
CSC 538	Network LAN and NOS	3 credits
CSC 542	Relational Database Design	3 credits
CSC 548	Object Oriented Programming	3 credits
CSC 551	Web Programming	3 credits

Certificate Program in Atmospheric Sciences (38 credits)

Atmospheric Sciences 113 is a prerequisite for most upper division courses in Atmospheric Sciences.

Advanced placement is available to students who qualify, particularly for those with meteorological training with the aviation industry, the National Weather Service, or branches of the military. For information contact the Atmospheric Sciences Chair.

A *Certificate of Atmospheric Sciences* will be awarded to students who complete the following courses:

ATS 113	Introduction to Atmospheric Sciences	3 credits
ATS 553	Tropical Meteorology	3 credits
ATS 555	Meteorological Remote Sensing	3 credits
ATS 561	Synoptic Meteorology	4 credits

ATS 562	Synoptic Meteorology II	3 credits
ATS 571	Dynamic Meteorology I	3 credits
ATS 572	Dynamic Meteorology II	3 credits
MTH 245	Calculus I	4 credits
MTH 246	Calculus II	4 credits
PHY 211	General Physics I and Lab	4 credits
PHY 212	General Physics II and Lab	4 credits

Certificate Program in Business Administration (31 credits)

A student enrolled outside the College of Business Administration who does not plan to earn a bachelor's or master's degree from the College of Business Administration, may earn a Certificate of Business Administration.

A certificate in Business Administration prepares a non-business student for graduate work in a Master of Business Administration Program. The certificate courses are the majority of the foundation courses, which along with a bachelor's degree in any discipline, are required for a student seeking admission to the M.B.A. and M.S.-I.T.M. programs.

A *Certificate of Business Administration* will be awarded to students who successfully complete the following requirements, a total of 31 semester hours:*

ACC 201	Introduction to Financial Accounting	3 credits
ACC 202	Introduction to Managerial Accounting	3 credits
BUS 201	Legal Environment of Business	3 credits
BUS 229	Statistical Analysis	4 credits
ECO 203	Introductory Microeconomics	3 credits
ECO 205	Introductory Macroeconomics	3 credits
FIN 301	Managerial Finance	3 credits
MGT 301	Managerial Process and Org. Behavior	3 credits
MIS 253	Management Information Systems	3 credits
MKT 319	Principles of Marketing	3 credits

***Please Note:** The 31 required certificate hours is the maximum number of credits in which a non-business administration student may enroll in the College of Business Administration.

While no specific mathematics courses are required for the certificate, successful completion of BUS 229 will necessitate mathematical proficiency equivalent to MTH 201 (Applied Mathematics) and either MTH 141 (Applied Calculus) or MTH 245 (Calculus I).

Of the 31 required hours, at most 12 hours of transfer credits can be applied toward the Business Certificate. Once a student has matriculated to Creighton, only 6 of the 12 transfer hours allowed may be taken as transient study. In addition, the student must attain a cumulative GPA of 2.0 or better in all business administration courses.

Degree seeking students who have completed the requirements of the certificate will be awarded the Certificate of Business Administration at the time of graduation. Non-degree seeking students will be awarded the certificate upon completion of the requirements of the certificate.

Certificate Program in Computer Science (24 credits)

A *Certificate in Computer Science* will be awarded to students who complete the following:

CSC 221	Computer Programming I (Required)	3 credits
CSC 222	Computer Programming II (Required)	3 credits
CSC 309	Discrete Structures	3 credits
CSC 414	Introduction to Computer Organization	3 credits
CSC 427	Data Structure and Algorithm Analysis	3 credits

Three additional 400-level-or-above computer science courses are required.

Certificate Program in Corporate Communication (27 credits)

A *Certificate of Corporate Communication* will be awarded to the students who successfully complete a total of 27 semester hours from the following courses:

Required for Admission: 2.25 GPA and COM 152

COM 202	Communication Theories	3 credits
COM 203	Introduction to Communication Research Methods	3 credits
COM 321	Persuasion	3 credits
COM 352	Advanced Presentational Forms	3 credits
COM 362	Small Group Communication	3 credits
COM 496	Communication Internship	3 credits
JMC 323	Principles of Public Relations	3 credits

(One of the following electronic communications courses:)

JMC 325	Digital Video Photography	3 credits
JMC 379	Print Design	3 credits
JMC 381	Computer Illustration	3 credits
JMC 382	Web Design	3 credits
JMC 423	Interactive Multimedia Design	3 credits

Three additional hours of 300-level or above COM courses. 3 credits

Certificate Program in Creative Writing (21 credits)

A *Certificate in Creative Writing* will be awarded to the students who successfully complete a total of 21 semester hours from the following courses:

ENG 300	Introduction to Creative Writing	3 credits
ENG 301	Narrative Forms	3 credits
ENG 302	Poetic Forms	3 credits
ENG 403	Seminar in Creative Writing	6 credits

Two literature courses chosen in consultation with major advisor.

Students are strongly encouraged to take ENG 254 Writing About Literature as one of the required literature courses.

Prerequisite: Entry to the Certificate program requires evidence of prior achievement in creative writing in the form of a submitted manuscript (6-8 pages of poetry or 10-15 pages of fiction), to be judged by the Director of Creative Writing and/or a full-time member of the creative writing faculty.

Certificate Program in Environmental Science (60 credits)

A *Certificate in Environmental Science* will be awarded to students who complete the following requirements, a total of 60 semester hours:

EVS 113	Introduction to Atmospheric Sciences	3 credits
EVS 114	Introduction to Atmospheric Sciences Lab	1 credit
BIO 211, 212	General Biology I and II	8 credits
CHM 203/204	General Chemistry I with lab	4 credits
CHM 205/206	General Chemistry II with lab	4 credits
EVS 390	Environmental Science	3 credits
EVS 491	Senior Seminar	2 credits
EVS 533	Inadvertent Climate Modification	3 credits
EVS 555	Meteorological Remote Sensing	<u>3 credits</u>

Total Core Hours 31 credits

Area of Specialization Requirements

Students take a minimum of 14 credit hours from one of the following tracks:

I—Global-Environmental Systems

EVS 341	General Botany	4 credits
EVS 435	Coastal and Estuarine Ecology	4 credits
EVS 440	Field Biology of the Desert Southwest	4 credits
EVS 443	Environmental Geology	4 credits
EVS 460	Terrestrial Remote Sensing	4 credits

EVS 481	Terrestrial Ecology	4 credits
EVS 485	Marine and Freshwater Ecology	3 credits
EVS 486	Freshwater Ecology Laboratory	1 credit
EVS 487	Marine Ecology Laboratory	2 credits
EVS 544	Hydrology	3 credits
EVS 553	Tropical Meteorology	3 credits
EVS 556	Introduction to Physical Oceanography	3 credits

II—Environmental Pollution

CHM 315	Quantitative Analysis	4 credits
CHM 321/322	Organic Chemistry I and Lab	4 credits
CHM 323/324	Organic Chemistry II and Lab	4 credits
CHM 456	Instrumental Analysis	3 credits
CHM 466	Instrumental Analysis Laboratory	2 credits
CHM 506	Environmental Chemistry and Natural Resources	3 credits
EVS 443	Environmental Geology	4 credits
EVS 523	Environmental Toxicology	3 credits
EVS 544	Hydrology	3 credits
EVS 552	Boundary Layer Meteorology	3 credits
EVS 556	Introduction to Physical Oceanography	3 credits

Requisite Courses: MTH 245, PHY 211 and PHY 212.

III—Organismal and Population Ecology

EVS 335	Zoology	4 credits
EVS 341	General Botany	4 credits
EVS 351	Microbiology	4 credits
EVS 435	Coastal and Estuarine Ecology	4 credits
EVS 440	Field Biology of the Desert Southwest	4 credits
EVS 443	Environmental Geology	4 credits
EVS 460	Terrestrial Remote Sensing	4 credits
EVS 481	Terrestrial Ecology	4 credits
EVS 483	Vertebrate Natural History Lecture	3 credits
EVS 484	Vertebrate Natural History Laboratory	1 credit
EVS 485	Marine and Freshwater Ecology	3 credits
EVS 486	Freshwater Ecology Laboratory	1 credit
EVS 487	Marine Ecology Laboratory	2 credits
EVS 512	Microbial Ecology	3 credits
EVS 549	Environmental Physiology	3 credits
EVS 561	Entomology	4 credits
EVS 571	Animal Behavior	3 credits
EVS 572	Animal Behavior Laboratory	2 credits
EVS 581	Evolution	4 credits

IV—Environmental Policy and Society (14 credits with at least one course from Group B)

Group A:

EVS 307	Demography: World Population Issues	3 credits
EVS 333+	Environmental Politics and Policy	3 credits
EVS 354	Environmental Ethics	3 credits
EVS 355	Environment and Society	3 credits

Group B:

EVS 443	Environmental Geology	4 credits
EVS 523	Environmental Toxicology	3 credits
EVS 541	Atmospheric Diffusion	3 credits
CHM 456	Instrumental Analysis	3 credits
CHM 466	Instrumental Analysis Laboratory	2 credits

Total Area of Specialization Hours 15 credits

***Special Courses:** (These courses are available to all students in the EVS Program as additional electives. They do not substitute for any course requirements for the major).

EVS 480	Environmental Science Internship	1-3 credits
EVS 493	Directed Independent Readings	1-3 credits
EVS 495	Directed Independent Study	1-3 credits
EVS 497	Directed Independent Research	1-3 credits

NOTE: Transfer hours are accepted; however, a minimum of thirty (30) semester hours of the certificate program must be completed at Creighton University.

For more information, call University College, (402) 280-2424 or 1-800-637-4279.

Certificate Program in Health Administration and Policy (24 credits)

A *Certificate of Health Administration and Policy* will be awarded to the students who successfully complete a total of 24 semester hours from the following courses:

Required Courses (12 hours)

HAP 200	Introduction to Health Administration	3 credits
HAP 215	Healthcare, Society and Culture	3 credits
HAP 334	Public Policy and Health Care	3 credits
HAP 350	The Essentials of Public Health	3 credits
HAP 390	Health Communication	3 credits
Nine credits chosen from upper-division HAP courses.		9 credits

Certificate Program in Human Resources Administration (27 credits)

A *Certificate of Human Resources Administration* will be awarded to the students who successfully complete a total of 27 semester hours from the following courses:

Required for Admission: 2.25 GPA and COM 152

COM 202	Communication Theories	3 credits
COM 203	Introduction to Communication Research Methods	3 credits
COM 352	Advanced Presentational Forms	3 credits
COM 362	Small Group Communication	3 credits
COM 370	Human Resource Administration	3 credits
COM 463	Organizational Assessment	3 credits
COM 464	Organizational Training and Development	3 credits
COM 496	Communication Internships	3 credits
Three additional hours of 300-level or above COM courses.		3 credits

Certificate Program in Interpersonal Communication (27 credits)

A *Certificate of Interpersonal Communication* will be awarded to the students who successfully complete a total of 27 semester hours from the following courses:

Required for Admission: 2.25 GPA and COM 152

COM 202	Communication Theories	3 credits
COM 203	Introduction to Communication Research Methods	3 credits
COM 321	Persuasion	3 credits
COM 352	Advanced Presentational Forms	3 credits
COM 361	Interpersonal Communication	3 credits
COM 362	Small Group Communication	3 credits
COM 461	Advanced Interpersonal Communication	3 credits
COM 496	Communication Internship	3 credits
Three additional hours of 300-level or above COM courses.		3 credits

Certificate Program in Irish Literature and Culture (36 credits)

A Certificate of Irish Literature and Culture will be awarded to students who complete the following requirements, a total of 36 semester hours beyond CORE courses. Students complete the following:

English Core Courses:

ENG 150	Rhetoric and Composition	3 credits
Six semester hours of basic literature requirement		6 credits
(All of the following:)		
ENG 254	Writing About Literature	3 credits
ENG 330	Introduction to Irish Literature	3 credits
ENG 340	English Literature I: Medieval/Early Renaissance	3 credits
ENG 341	English Literature II: Late Renaissance/Neo-Classical	3 credits
ENG 342	English Literature III: Romantic/Victorian	3 credits
ENG 409	Shakespeare	3 credits
ENG 421	History of the English Language	3 credits
ENG 432	The Irish Renaissance	3 credits
ENG 433	Contemporary Irish Literature	3 credits

Students complete three additional Irish literature courses, including one Irish Period or Genre course, one Irish Author course, and one Senior Seminar chosen in consultation with the major advisor.

Certificate Program in Liturgy (25 credits)

This certificate program in Liturgy is a program open to persons of all denominations who desire a curriculum with a solid theological base and practical application in liturgy. A *Certificate in Liturgy* will be awarded to participants who successfully complete the following requirements:

(All of the following:)

One class in New Testament	THL 205, 207, 208, 209, 210 or 212	3 credits
One class in Old Testament	THL 201, 202, 203	3 credits
THL 250	Theological Foundations for Ethical Understanding	3 credits
THL 338	Eucharist: Liturgical Theology and Practice	3 credits
THL 339	Theology of Church and Sacraments	3 credits
THL 491	Seminar in Liturgy/Ministry/Spirituality/Theology	1 credit
THL 544	Christian Celebration: The Liturgical Year	3 credits
THL 561	Finding God in Daily Life: Prayer and Discernment	3 credits

(One of the following:)

THL 325	Catholicism: Creed and Question	3 credits
THL 335	Jesus Christ: Yesterday and Today	3 credits

Certificate Program in Mathematics (30 credits)

A *Certificate in Mathematics* will be awarded to students who successfully complete the following requirements, (30 semester hours).

MTH 245	Calculus I	4 credits
MTH 246	Calculus II	4 credits
MTH 347	Calculus III	4 credits
MTH 529	Linear Algebra	3 credits
MTH 581	Modern Algebra I	3 credits
MTH 545	Differential Equations	3 credits
MTH 591	Analysis I	3 credits
MTH 561	Mathematical Statistics I	3 credits
MTH 562	Mathematical Statistics II	3 credits

Certificate Program in Ministry (25 credits)

This certificate program in Ministry is a program open to persons of all denominations who desire a curriculum with a solid theological base and practical application in church ministry. A *Certificate in Ministry* will be awarded to participants who successfully complete the following requirements (25 semester hours):

Required Courses:

One class in New Testament	(THL 205, 207, 208, 209, 210 or 212)	3 credits
One class in Old Testament	(THL 201, 202, 203)	3 credits
THL 250	Theological Foundations for Ethical Understanding	3 credits
THL 392	Practicum in Ministry	3 credits
THL 491	Seminar in Liturgy/Ministry/Spirituality/Theology	1 credit
THL 560	Theology of Ministry	3 credits
THL 561	Finding God in Daily Life: Prayer and Discernment	3 credits

(Two of the following:)

THL 325	Catholicism: Creed and Question	3 credits
THL 335	Jesus Christ: Yesterday and Today	3 credits
THL 339	Theology of Church and Sacraments	3 credits

Certificate Program in Organizational Communication (27 credits)

A *Certificate of Organizational Communication* will be awarded to the students who successfully complete a total of 27 semester hours from the following courses:

Required for Admission: 2.25 GPA and COM 152

COM 202	Communication Theories	3 credits
COM 203	Introduction to Communication Research Methods	3 credits
COM 352	Advanced Presentational Forms	3 credits
COM 360	Organizational Communication Theories	3 credits
COM 362	Small Group Communication	3 credits
COM 460	Advanced Organizational Communication	3 credits
COM 463	Organizational Assessment	3 credits
COM 496	Communication Internships	3 credits

Three additional hours of 300-level or above COM courses.

Certificate Program in Pre-Health Sciences (24 credits)

A *Certificate in Pre-Health Sciences* will be awarded to students who successfully complete a minimum of 24 hours chosen from the following courses*

BIO 211	General Biology: Molecular and Cellular	4 credits
BIO 212	General Biology: Organismal and Population	4 credits
CHM 203, 204	General Chemistry I and Lab	4 credits
CHM 205, 206	General Chemistry II and Lab	4 credits
CHM 321, 322	Organic Chemistry I and Lab	4 credits
CHM 323, 324	Organic Chemistry II and Lab	4 credits
PHY 211	General Physics I and Lab	4 credits
PHY 212	General Physics II and Lab	4 credits
MTH 245	Calculus I	4 credits

Plus electives chosen from other courses recommended by the pre-health sciences advisory committee.

*A minimum of 18 hours must be completed at Creighton.

Certificate Program in Psychology (34 credits)

A Certificate of Psychology will be awarded to students who successfully complete the following requirements: all courses in Group A, at least one course each from of Groups B-E, one additional course from Groups B-E, and three additional PSY courses, a total of 34 hours.*

(All of the following:)

PSY 111	Introductory Psychology	3 credits
PSY 313	Research Methods and Statistics I	3 credits
PSY 315	Research Methods and Statistics II	3 credits
PSY 316	Research Methods and Statistics II-Lab	1 credit

(Foundational Courses: At least one course, but no more than two, from each of the following three groups totaling fifteen credits:)

Group B: Experimental/Mechanistic Approaches to Psychology

PSY 431	Cognitive Psychology	3 credits
PSY 434	Learning: Basic Processes	3 credits
PSY 436	Sensation and Perception	3 credits
PSY 437	Physiological Psychology	3 credits

Group C: Humanistic Approaches

PSY 341	Infant and Child Development	3 credits
<i>Or</i>		
PSY 342	Adolescent and Adult Development	3 credits
PSY 343	Psychology of Personality	3 credits
PSY 344	Social Psychology	3 credits
PSY 351	Abnormal Psychology	3 credits

Group D: Capstone

PSY 424	History and Systems of Psychology	3 credits
PSY 326	Undergraduate Internship in Psychology	3-4 credits
PSY 428	Multicultural Issues in Psychology	3 credits
<i>Or</i>		
PSY 473	Psychology of Gender	3 credits
PSY 465	Advanced Behavioral Research	3 credits
<i>Or</i>		
PSY 491	Honors Seminar	3 credits

Elective Courses: Students must also take nine additional credits of PSY elective courses. SWK 261 or BIO 571 also count as electives. 9 credits

Certificate Program in Spirituality (25 credits)

This certificate program in Spirituality is a program open to persons of all denominations who desire a curriculum with a solid theological base and practical application.

A *Certificate in Spirituality* will be awarded to participants who successfully complete the following requirements (25 semester hours):

(All of the following:)

One class in New Testament	(THL 205, 207, 208, 209, 210 or 212)	3 credits
One class in Old Testament	(THL 201, 202, 203)	3 credits
THL 250	Theological Foundations for Ethical Understanding	3 credits
THL 491	Seminar in Liturgy/Ministry/Spirituality/Theology	1 credit
THL 561	Finding God in Daily Life: Prayer and Discernment	3 credits
THL 544	Christian Celebration: The Liturgical Year	3 credits
THL 575	Foundations of Christian Spirituality	3 credits

(Two of the following:)

THL 325	Catholicism: Creed and Question	3 credits
THL 335	Jesus Christ: Yesterday and Today	3 credits
THL 339	Theology of Church and Sacraments	3 credits

Certificate Program in Theology (25 credits)

This certificate program in Theology is a program open to persons of all denominations who desire a curriculum with a solid theological base.

A *Certificate in Theology* will be awarded to participants who successfully complete the following requirements (25 semester hours):

(All of the following:)

One class in New Testament	(THL 205, 207, 208, 209, 210 or 212)	3 credits
One class in Old Testament	(THL 201, 202, 203)	3 credits
THL 250	Theological Foundations for Ethical Understanding	3 credits
THL 491	Seminar in Liturgy/Ministry/Spirituality/Theology	1 credits
THL 561	Finding God in Daily Life: Prayer and Discernment	3 credits

(Two of the following:)

THL 325	Catholicism: Creed and Question	3 credits
THL 335	Jesus Christ: Yesterday and Today	3 credits
THL 339	Theology of Church and Sacraments	3 credits

Two 300-500 level electives chosen in consultation with advisor.

OTHER PROGRAMS OF STUDY

Many of the courses required for the following programs may be completed at night:

Pre-Health Sciences Program

- Certificate in Pre-Health Sciences. See page 296.
- Pre-Dental and Pre-Medical Programs. See page 237.
- Pre-Pharmacy Program. See page 238.
- Pre-Occupational Therapy Program. See page 239.
- Pre-Physical Therapy Program. See page 240.

Teacher Certification

Consult with an advisor in the Department of Education, Room 106 in the Communication Arts Building, for information on certification/endorsement requirements. Telephone (402) 280-2820.

INDEPENDENT STUDY PROGRAM

Director—Dean Braden

All students are eligible to register for correspondence courses in Creighton's Independent Study Program (<http://www.creighton.edu/isp>). The Independent Study Program offers students the opportunity for access to undergraduate core courses developed by Creighton faculty members. Communication is the key to receiving the personalized instruction that is ordinarily given in the traditional college classroom. The Independent Study Program maintains the same high degree of instructional quality that is maintained in on-campus courses at Creighton.

The minimum course completion time is 12 weeks, and the maximum is six months from the date of enrollment. Tuition is \$894 per course, except for NUR 223 (2 credits), which is \$596. Textbook and supplementary course material costs are in addition to tuition. Independent Study Program information is online at <http://www.creighton.edu/isp> or available from the University College Office, B-11, College of Business Administration, (402) 280-1253 or 1-800-637-4279. Students may register for an Independent Study Program course any time during the year.