

# WALLA WALLA COLLEGE

1987-88



# Graduate Bulletin

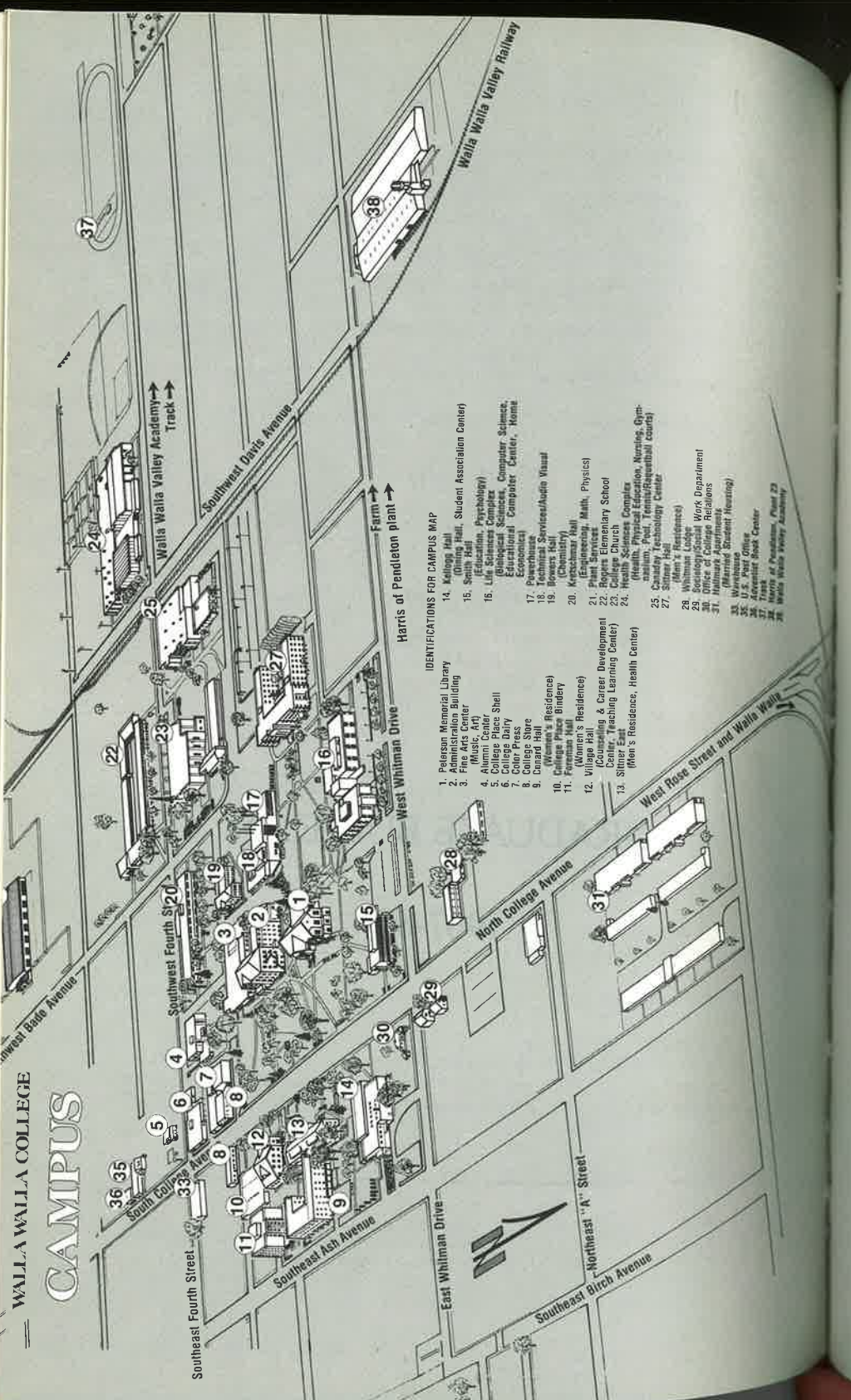
BIOLOGICAL SCIENCES • EDUCATION / COUNSELING



GRADUATE BULLETIN

1987-88

# WALLA WALLA COLLEGE CAMPUS



### IDENTIFICATIONS FOR CAMPUS MAP

1. Pleasun Memorial Library
2. Administration Building
3. Fine Arts Center (Music, Art)
4. Alumni Center
5. College Place Shell
6. Student Center
7. Color Press
8. Collegic Store
9. Conard Hall (Women's Residence)
10. Foreman Hall (Men's Residence)
11. Foreman Hall (Binery)
12. Village Hall (Counseling & Career Development, Teaching Learning Center)
13. Slinger East (Men's Residence, Health Center)
14. Kellogg Hall (Dining Hall, Student Association Center)
15. Smith Hall (Psychology)
16. Life Sciences Center (Biological Sciences, Computer Science, Educational Computer Center, Home Economics)
17. Physical Education Center
18. Technical Services/Audio Visual (Chemistry)
20. Ketchikan Hall (Elementary Math, Physics)
21. Plant Services
22. Rogers Elementary School
23. College Church
24. Health Services Center (Health, Physical Education, Nursing, Gymnasium, Pool, Tennis/Recreational courts)
25. Cassidy Technology Center
27. Slinger West (Residence)
28. Whitman Lodge
29. Sociological/Social Work Department
30. Office of College Relations
31. Married Student Center
32. Warehouse
33. Student Center
34. Accredited Book Center
35. Warehouse
36. Warehouse
37. Track
38. Walla Walla Valley Academy

**Walla Walla College is accredited by**  
The Northwest Association of Schools and Colleges  
Seventh-day Adventist Board of Regents  
The Washington State Board of Education

**Walla Walla College offers programs accredited by**  
Council on Social Work Education  
Department of Baccalaureate and Higher Degree Programs of the National League  
for Nursing  
Engineering Accreditation Commission of the Accreditation Board for Engineering  
and Technology, Inc.  
National Association of Schools of Music

is a **member of**  
American Association of Colleges for Teacher Education  
American Association of Collegiate Registrars and Admissions Officers  
American Council on Education/National Commission on Accreditation  
American Society for Engineering Education  
Council of Member Agencies, Department of Baccalaureate and Higher De-  
gree Programs of the National League for Nursing  
National Association of Independent Colleges and Universities  
National Association of Student Financial Aid Administrators  
National Association of Summer Sessions

is **approved by**  
The Attorney General of the United States for nonimmigrant students  
State Approving Agency for the training of veterans under the U.S. Code,  
Title 38, Chapters 31, 32, 34 and 35  
Washington State for training in Vocational Rehabilitation

### **Equal Opportunity Commitment**

Walla Walla College maintains a policy of equal educational opportunity for all applicants without regard to sex, race, color, handicap, national and/or ethnic origin, and in administration of its educational and admissions policies, financial affairs, employment programs, student life and services, or any other college-administered program.

**Information contained** in this publication is hereby certified as true and correct in content and policy as of the date of publication, in compliance with the Veterans Administration DVB Circular 20-76-84 and Public Law 94-502.

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## FOR INFORMATION

**ADMISSIONS** . . . . . 509/527-2327

Application Blanks  
Bulletins

**RECORDS** . . . . . Orpha Osborne, Dean

Academic Information Academic Records  
General Information 509/527-2811  
Transcripts *or*  
Transfer Student Information 509/527-2812

**FINANCES** . . . . . Cassie Ragenovich, Director

General Financial Information Student Financial Services  
Work Opportunities 509/527-2815  
Financial Aid  
Financial Planning  
Loans and Grants  
Payment Arrangements

**RESIDENCE HALL LIVING** . . . Lynn Prohaska, Dean of Men

General Information Sittner Hall  
Room Reservations 509/527-2111

*or*

Ilo Hutton, Dean of Women  
Foreman/Conard Hall  
509/527-2532

*or*

Carol Pifer, Residence Hall Dean  
Portland Campus  
503/251-6118

**STUDENT AFFAIRS** . . . . . Walter Meske, Vice President

Automobile Registration Student Administration  
Off-Campus Housing 509/527-2511  
Student Life

**COLLEGE ADDRESS** . . . . . Walla Walla College

Portland Campus College Place, WA 99324  
10355 S.E. Market  
Rosario Marine Station Portland, OR 97216  
174 Rosario Beach  
Anacortes, WA 98221

### GENERAL TELEPHONE NUMBER

. . . . . 509/527-2615  
Toll Free (Washington state) 1-800-572-8964  
Toll Free (Continental U.S.A.) 1-800-541-8900  
Portland Campus 503/251-6115  
Rosario Marine Station 206/293-2326

### RESIDENCE HALL TELEPHONE NUMBERS

Foreman/Conard . . . . . 509/527-2532  
Sittner Hall . . . . . 509/527-2111  
Sittner East . . . . . 509/527-2661  
Portland Campus Residence Hall . . . . . 503/251-6118

Administrative offices are closed from Friday noon until Monday morning and on legal holidays. The administrative officers are available on Sundays by appointment.

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# WALLA WALLA COLLEGE ACADEMIC CALENDAR 1987-88

## AUTUMN QUARTER

September 29	T	Registration
30	W	Instruction Begins
October 7	W	Last Day to Register
12	M	*Graduate Record Examinations
14	W	Last Day for Registered Students to Add a Class or Change to Audit
November 24	T	Last Day to Withdraw from Classes
25	W	Thanksgiving Vacation Begins (noon)
29	S	Thanksgiving Vacation Ends (10:00 p.m.)
December 14	M	*Graduate Record Examinations
13, 14, 15, 16	SMTW	Final Exams

## WINTER QUARTER

January 4	M	Registration
5	T	Instruction Begins
13	W	Last Day to Register
20	W	Last Day for Registered Students to Add a Class or Change to Audit
February 3	W	Snow Frolic
8	M	*Graduate Record Examinations
23	T	Last Day to Withdraw from Classes
Mar. 13, 14, 15, 16	SMTW	Final Exams

## SPRING QUARTER

March 22	T	Registration
23	W	Instruction Begins
30	W	Last Day to Register
April 5	T	Last Day to File Master's Degree Order Form
6	W	Last Day for Registered Students to Add a Class or Change to Audit
11	M	*Graduate Record Examinations
May 4	W	Campus Day
10	T	Last Day to Withdraw from Classes
30, 31, June 1	MTW	Final Exams
5	S	Commencement (10:00 a.m.)

## SUMMER QUARTER

June 6	M	*Graduate Record Examinations
12	S	Registration
12	S	Last Day to File Master's Degree Order Form
July 17	S	G.R.E. — Full Testing
22	F	Last Day to Complete Final Master's Exam
August 6	Sa	Commencement (9:00 p.m.)

\*Registration with the Counseling and Guidance Center for Graduate Record Examinations must be made at least eight weeks prior to test date.

# WALLA WALLA COLLEGE

## BOARD OF TRUSTEES

Bruce Johnston, *Chair*

Jack Bergman, *Secretary*

## ADMINISTRATION

H.J. Bergman, Ph.D., *President*

Alden Thompson, Ph.D., *Provost and Dean for Academic Administration*

Manford Simcock, M.A., *Vice President for Financial Administration*

Walt Meske, M.A., *Vice President for Student Administration*

Paul Turpel, B.A., *Vice President for College Advancement*

Robert Gardner, Ph.D., *Associate Dean for Academic Administration*

## ADMINISTRATIVE STAFF

### ACADEMIC ADMINISTRATION

Chair, Department of Art, Thomas J. Emmerson, M.F.A.

Chair, Department of Biology, Ronald L. Carter, Ph.D.

Chair, Department of Business, Robert C. Schwab, Ph.D.

Chair, Department of Chemistry, \_\_\_\_\_.

Chair, Department of Communications, Loren Dickinson, Ph.D.

Chair, Department of Computer Science, C. Michael Bell, M.S.E.E.

Chair, (Acting), Department of Education and Psychology, Dale A. Johnson, Ph.D.

Chair, Department of English, Beverly G. Beem, Ph.D.

Chair, Department of Health, Physical Education and Recreation, Gary M. Ham-  
burgh, Ph.D.

Chair, Department of History Roland Blaich, Ph.D.

Chair, Department of Home Economics, Merlene L. Olmsted, M.A.

Chair, Department of Industrial Technology, Chester D. Blake, Ed.D.

Chair, Department of Library Science, Eldwood L. Mabley, M.S.L.S.

Chair, Department of Mathematics, Melvin S. Lang, Ph.D.

Chair, Department of Modern Languages, Reinhard Czeratzki, M.A.

Chair, Department of Music, Dan M. Shultz, M.Mus.

Chair, (Acting), Department of Office Administration, Nancy Cleveland, M.Ed.

Chair, Department of Physics, Gordon O. Johnson, Ph.D.

Chair, Department of Sociology/Social Work, Wilma M. Hepker, Ph.D.

Dean, School of Graduate Studies, Hollibert E. Phillips, Ed.D.

Dean, School of Engineering, Rodney Heisler, Ph.D.

Dean, School of Nursing, Frances L. Fickess, D.N.Sc.

Assistant Dean, School of Nursing, Carol Brown, Ph.D.

Dean, School of Theology, John C. Brunt, Ph.D.

### MARINE STATION

Ronald L. Carter, Ph.D., *Director*

## GRADUATE COUNCIL

Ronald L. Carter, *ex officio*  
Dale A. Johnson, *ex officio*  
Orpha Osborne, *ex officio*  
Hollibert E. Phillips, *ex officio, chair*  
Alden Thompson, *ex officio*  
Rodney Heisler, P, 1987-88  
Wilma Hepker, P, 1988-89  
Lawrence McCloskey, P, 1987-88  
Gail Rittenbach, P, 1987-88  
Larry Veverka, P, 1988-90  
Kenneth Wiggins, P, 1988-90

## THE FACULTY

### BIOLOGY

Ron Carter, *Chair and Associate Professor of Biology* (1984)  
B.A. 1969, Columbia Union College  
Ph.D. 1976, Loma Linda University

\*Susan C. Dixon, *Assistant Professor of Biology* (1980)  
B.S. 1974; M.S. 1976, Walla Walla College

Joseph G. Galusha, *Professor of Biology* (1975)  
B.S. 1968, Walla Walla College  
M.A. 1971, Andrews University  
D.Phil. 1975, Oxford University

Albert E. Grable, *Associate Professor of Biology* (1963)  
B.S. 1959, Loma Linda University  
M.S. 1962; Ph.D. 1964, University of Minnesota

Lawrence R. McCloskey, *Professor of Biology* (1971)  
B.A. 1961, Atlantic Union College  
M.A. 1965; Ph.D. 1967, Duke University

Donald W. Rigby, *Professor of Biology* (1958)  
B.A. 1950, Loma Linda University  
M.A. 1956, Walla Walla College  
Ph.D. 1967, Loma Linda University

### EDUCATION AND PSYCHOLOGY

Dale A. Johnson, *Acting Chair, Professor of Education and Psychology* (1976)  
B.A. 1964, Union College  
M.A. 1967, University of Nebraska  
Ph.D. 1978, University of California, Riverside

\*On leave

R. Gary Brendel, *Professor of Education and Psychology* (1980)

B.A. 1966, Union College  
M.A. 1969, University of Denver  
Ed.D. 1985, University of Denver

Harold T. Ochs, *Professor of Education and Psychology* (1969)

B.A. 1950, Walla Walla College  
M.Ed. 1957, Eastern Washington State College  
Ed.D. 1972, University of Idaho

Hollibert E. Phillips, *Professor of Philosophy and Education* (1970)

B.A. Hons. 1960, University of London  
M.A. 1964, Andrews University  
Ed.D. 1970, Boston University

Gail S. Rittenbach, *Assistant Professor of Education* (1986)

B.A. 1970, Pacific Union College  
M.Ed. 1980, University of Washington  
Ph.D. 1986, University of Washington

Verlie Y. Ward, *Assistant Professor of Education* (1983)

B.S. 1971, Union College  
M.A. 1977, Andrews University  
Doctoral Candidate 1985, Washington State University

## SPECIALIZATION AREAS (Secondary), CHAIRS

Beverly G. Beem, *Professor of English* (1976)

B.A. 1967, Union College  
M.A. 1969, Andrews University  
Ph.D. 1974, University of Nebraska

Roland D. Blaich, *Professor of History* (1968)

B.A. 1966; M.A. 1967, California State College at Los Angeles  
Ph.D. 1975, Washington State University

Chester D. Blake, *Professor of Industrial Technology* (1966)

B.S. 1963, Walla Walla College  
M.A. 1968, San Jose State College  
Ed.D. 1980, Washington State University

Ronald L. Carter, *Associate Professor of Biology* (1984)

B.A. 1969, Columbia Union College  
Ph.D. 1976, Loma Linda University

Nancy Cleveland, *Assistant Professor of Office Administration* (1987)

B.A. 1976, Walla Walla College  
M.Ed. 1978, Walla Walla College

Reinhard Czeratzki, *Associate Professor of Modern Languages* (1967)

B.A. 1964, Atlantic Union College  
MA. 1967, Middlebury College

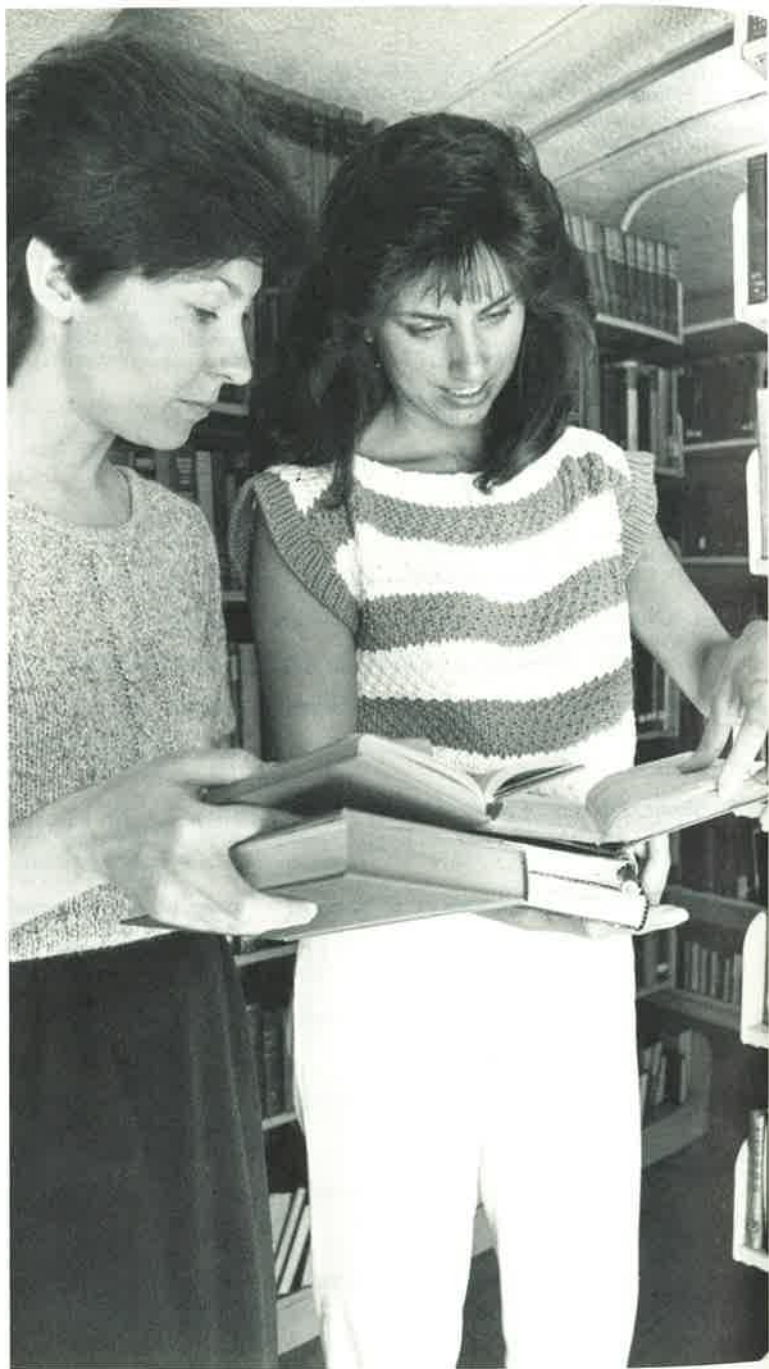
Loren Dickinson, *Professor of Communications* (1962)

B.A. 1957, Union College  
M.A. 1960, University of Nebraska  
Ph.D. 1968, University of Denver

Thomas J. Emmerson, *Associate Professor of Art* (1976)

B.A. 1972, Walla Walla College  
B.F.A. 1974; M.F.A. 1979, Otis Art Institute of Los Angeles County

- Gary M. Hamburg, *Professor of Health, Physical and Recreational Education* (1972)  
 B.A. 1971, Loma Linda University  
 M.A. 1974, California State University at Fresno  
 Ph.D. 1985, University of Oregon
- Wilma M. Hepker, *Professor of Sociology and Social Work* (1973)  
 B.A. 1953, Union College  
 M.A. 1966; Ph.D. 1976, University of Nebraska
- Gordon O. Johnson, *Professor of Physics* (1974)  
 B.S. 1966, Walla Walla College  
 M.S. 1967; Ph.D. 1972, California Institute of Technology
- Melvin S. Lang, *Professor of Mathematics* (1967)  
 B.S. 1957, Valley City State Teachers College  
 M.A. 1958, Colorado State College  
 Ph.D. 1972, University of Northern Colorado
- Elwood L. Mabley, *Associate Professor of Library Science and Director of Libraries* (1968)  
 B.A. 1948, Walla Walla College  
 M.S.L.S. 1959, University of Southern California
- Merlene L. Olmsted, *Assistant Professor of Home Economics* (1977)  
 B.A. 1969, Walla Walla College  
 M.A. 1975, Loma Linda University
- Robert Charles Schwab, *Associate Professor of Business* (1985)  
 B.A. in Bus. Adm. 1971, Atlantic Union College  
 M.B.A. 1975, Andrews University  
 Ph.D. 1980, University of Oregon
- Dan M. Shultz, *Professor of Music* (1979)  
 B.S. 1962, Atlantic Union College  
 M.Mus. 1967, Andrews University
- Chair, Department of Chemistry



# GENERAL INFORMATION

Walla Walla College is a Christian institution of higher learning operated by the Seventh-day Adventist Church. It is committed to equal opportunity for all students and extends the rights, privileges, programs and activities generally accorded or made available to all members of the college community. Walla Walla College does not discriminate on the basis of handicap, sex, race, color, national and/or ethnic origin in administration of its admissions, educational, financial, employment and student life programs and policies, or any other college-administered program.

The College is located in the City of College Place in the historic, fertile Walla Walla Valley of southeastern Washington. The old Oregon Trail near the campus leads to the site of the old mission which was directed by Marcus Whitman from 1836 to 1847, and which has been reconstructed by the federal government as the Whitman Mission. The scenic Blue Mountains to the east are but a few minutes' drive from the campus and offer unusual opportunities for recreation and relaxation.

The principal objectives of the College are the fostering of an intelligent understanding of the devotion to Christian ideals, loyalty to God and service to humanity, and the offering of an educational experience encouraging the formation of character marked by a full, harmonious development of the intellectual, physical and spiritual powers.

The Seventh-day Sabbath is observed at Walla Walla College from sunset Friday to sunset Saturday. No instructional activities are conducted during these hours.

## DEGREES OFFERED

The College offers courses of study leading to the Master of Arts (M.A.), Master of Education (M.Ed.) and Master of Science (M.S.) degrees. The M.A. and M.S. degrees are thesis programs and the M.Ed is a nonthesis program.

## ADMINISTRATION

The master's degree programs are directed and supervised by the Graduate Council, which is the legislative body responsible for the formulation of all graduate academic policies and curricula.

## GRADING SYSTEM

The following system of grades and grade-point values is used in graduate studies:

- A — 4 grade points per quarter hour
- B — 3
- C — 2
- D — 1
- F — 0

Other symbols are:

- Au — Audit
- I — Incomplete
- IP — In Progress
- S — Satisfactory (C or better)
- W — Withdrawal

The I (incomplete) is only given for special circumstances and must be made up the following quarter. Permission for an incomplete is granted by the instructor. Students with incompletes should calculate those hours into their course loads for the following quarter. Individuals who leave college prior to removal of the incomplete will have the I show on their transcripts until the work is finished.

The IP (in progress) is given by the instructor for independent work such as Fieldwork, Research and Thesis which extend and continue naturally past the regular quarter term. The IP designation is changed by the instructor to a letter grade upon completion of the specific independent experience or research.

The W (withdrawal) is given by the instructor when a student officially drops a course at least three weeks prior to the end of the quarter.

An Au (Audit) is assigned for class attendance and participation generally excluding tests and outside of class assignments. Arrangements for an audit may be made with the instructor.

Grades of all courses on the graduate program, excluding deficiencies, will be computed in the grade-point average. Deficiencies may not be made up by audit, and a grade of S will not be acceptable except for courses that have a mandatory S/NC grading.

## UNIFORM COURSE NUMBERS

Certain course numbers are reserved for classes that are of such a general nature as to be found in many departments. The prefix assigned to the number designates the discipline. The following are courses that carry uniform numbers through this bulletin:

### 400 TOPICS

Each academic department may offer topics courses in specialized or experimental areas on either the lower division or advanced level. These courses are conducted through regular class activities and are approved by the Curriculum Committee as a one-time offering. See the *Class Schedule* for all approved Topics courses. One to four hours per quarter (except marine-oriented courses taken at the Marine Station). 1-4; 6

### 459 SUPPLEMENTAL STUDIES

Through a directed study program the student may supplement previous course work where it is judged that portions of a required course on the major or minor have been omitted. Ordinarily this will occur only with transfer students or within a program that has undergone 1-2; 2



a major curriculum change. A study proposal is to be outlined in consultation with the instructor of the course being supplemented and approved by the department and the Graduate Council. May not be substituted for existing course.

**469 ADVANCED STUDY** 1-3; 3

Through advanced directed study the student may enhance his major or minor in breadth or depth in topics not covered by the department curriculum. The study proposal must be approved by the department faculty and the Graduate Council and should indicate the methods of evaluation. May not be substituted for existing courses in the major or minor.

**474 WORKSHOPS** 1-4; 6

**479 DIRECTED RESEARCH/PROJECT** 1-3; 6

Allows the student to do research in the literature, and/or the laboratory, or technical project in the major. (Some departments may allow this course on the minor.) A project proposal is required to define the scope of the work and the method of reporting. Requires permission of the departmental faculty with a copy of the proposal sent to the office of Academic Affairs. See individual departments for specific course description.

**490 DIRECTED FIELD WORK/PRACTICUM/EXPERIENCE** 2-16

**495 COLLOQUIUM** 0

**496, 497, 498 SEMINAR** 1-4; 4

**500 TOPICS** 1-4; 6

## GRADUATE FACILITIES

### Life Sciences Complex

The facilities of the department of Biology in the Life Sciences Complex include staff and graduate student offices, classrooms and teaching laboratories, controlled environment rooms and chambers, radioisotope laboratory, animal and greenhouse complexes, photographic darkroom, museum and a shop.

### Marine Station

Additional Department of Biology facilities occupy 40 acres of beach and timberland at Rosario Beach adjoining Deception Pass State Park, Anacortes, Washington. The physical plant includes two laboratory buildings a cafeteria, an assembly hall, shops and 29 cabins for student and staff housing.

### Smith Hall

The Department of Education and Psychology is housed in a modern, air-conditioned, three-story building. Facilities include offices for staff and graduate assistants, laboratories for testing and psychology, observation rooms and a curriculum library.

### Peterson Memorial Library

The library is a vital part of the educational program at Walla Walla College. Reading room accommodations, an open-shelf system, seminar and conference rooms, a periodical room and a listening/viewing facility contribute to the study and enjoyment of learning materials. Microreaders make accessible microforms of scholarly material. The curriculum library, located in Smith Hall, contains a large selection

of textbooks, children's literature books, a collection of mounted pictures, filmstrips, tapes and phonorecords. The library on the Portland campus serves specifically the students of nursing assigned there to obtain their clinical practice. The combined libraries contain approximately 145,000 volumes. There are about 925 currently received periodicals. Periodical indexes and other bibliographical aids are also available. Resources in other libraries are available to graduate students and faculty members through the library's membership in the Pacific Northwest Bibliographic Center, which serves as a clearinghouse for interlibrary loans.

## FINANCIAL AND OTHER INFORMATION

### Board Actions

Actions voted by the College Board, Faculty, or Finance Committee at any time shall have equal force or, if necessary, supersede statements published in this bulletin.

### Payments Required to Register

An advance payment of \$2,900 plus any balance due from a previous quarter shall be paid at the time of registration. Part-time students shall pay the full tuition charge in advance if less than \$2,900.

### Tuition

1 - 12 quarter hours — \$178 per quarter hour

The tuition includes all laboratory fees.

### General Fee

A general fee of \$25 per quarter is charged students registered for six or more quarter hours which provides student association membership and ID card.

### Special Fees

Application Fee, new students (nonrefundable)	\$20.00
Audit Class	One-half Regular Tuition
Change of Program (class added or dropped), each	3.00
Classes with numerous or extended field trips	Special Fee
Degree, Master's	
Diploma	15.00
In absentia charge	15.00
M.A. and M.S. thesis binding (two copies)	35.00
Academic Regalia (gown, hood)	Actual cost
I.D. Card Replacement	5.00
Late Registration	20.00
	(plus \$2 per day from published registration date)
Transcript (must be requested in writing)	
First copy	Free
Additional copies, each	2.00

### Refunds

A student withdrawing from classes during the quarter will receive the following tuition refunds (general fee not refundable):

- \*Tuition: 100% through the fourth day of classes after regularly scheduled registration on the Walla Walla College Campus
- 75% second week
- 50% third and fourth weeks
- No tuition is refunded after the fourth week

\*Students dropping all classes during this period will be charged a processing fee of \$50 or 5% of tuition, whichever is less.

Room Rent: 90% during first week of quarter  
80% during second week of quarter  
70% during third week of quarter  
60% during fourth week of quarter  
50% during fifth week of quarter  
40% during sixth week of quarter  
30% during seventh week of quarter  
20% during eighth week of quarter

The beginning of the quarter will be considered to be the first day of class instruction

When a student withdraws during a quarter, no refund will be made until 30 days after the close of the month in which he/she withdrew. STUDENTS WHO LEAVE THE COLLEGE WITHOUT COMPLETING WITHDRAWAL PROCEDURES WILL BE CHARGED UNTIL PROPER ARRANGEMENTS ARE MADE.

### **Past Due Accounts**

A finance charge computed at a periodic rate of one percent per month is assessed against a past due account. This is an annual percentage rate of 12 percent.

### **Statements**

Statements will be issued each month giving an account for the previous month. Tuition, room rent, and minimum board charges for dorm students will be charged in advance at the beginning of each quarter. Food service charges above the minimum are billed at the close of each month. Village students may obtain their statements from the cashier in the Accounting Office.

It is expected that statements will be paid within ten days from time of mailing. The College operates on a cash basis and is dependent upon prompt payment of accounts.

### **Remittances**

Checks, drafts and money orders should be made payable to Walla Walla College and should be sent to Walla Walla College Accounting Office, College Place, Washington 99324.

### **Student Insurance**

Walla Walla College provides injury and accident insurance on a mandatory basis at an estimated cost to the student of \$30 per year. Students enrolling winter, spring, or summer quarters will play a reduced premium. In addition, students may elect to purchase sickness insurance at an additional estimated cost of \$180 per year. Married students may also purchase similar coverage for spouse and dependent children. A detailed brochure will be available at registration time.

No changes or refunds are allowed on the sickness insurance after the information has been sent to the insurance company (two weeks after the first day of classes). The accident insurance is not refundable if a student drops after the fourth day of classes.

### **Student Health Center**

Clinical facilities are available for students requiring medical attention. Prescriptions and other medicines are available at special prices. In case of serious illness or surgery, the Walla Walla General Hospital provides complete service to students. Financial arrangements must be made directly with the hospital.

### **Apartments**

The College own 50 units of one- and two-bedroom apartments which are available for married students. These apartments rent for reasonable amounts. Apartments in the community, furnished and unfurnished, are also available for married students. For information, write to the Director of College Rentals.

### **Academic Computer Center**

Walla Walla College offers computer services to a wide variety of college users through its Academic Computer Center. Personal computers in classroom settings are available for instructional use by all faculty, staff and students. Terminals to a mini-computer are located in several cluster areas on campus.

### **Release of Transcripts or Degrees**

By action of the board of trustees of the College, a diploma or transcript of credit, official or unofficial, may not be released until the student's account is paid in full.

To expedite the release of transcripts, diplomas and other legal documents, the student should send a *money order* or *certified check* to cover the balance of his account when requesting transcripts, et cetera. Requests for transcripts must be in writing.

### **Loans, Assistantships**

The following loan funds are recommended and applications may be obtained from the Financial Aid Office.

**The Guaranteed Student Loan Program (GSLP).** This allows a student to borrow directly from commercial lenders and credit unions. These loans are available to students who are citizens or nationals of the United States, or those in the country for other than a temporary purpose. These loans, which have an annual interest rate of 9 percent, do not have to be repaid until six months after student status has terminated. For graduate students, the annual loan limit is \$5,000; the aggregate limit is \$25,000, including undergraduate loans.

**National Direct Student Loan.** The National Direct Student Loan is made available through the United States Department of Education and Walla Walla College. To qualify, the students must have financial need as evidenced by submission of a WWC application for financial aid and Financial Aid Form (FAF) by April 1. Priority in awarding this aid is given to students with the greatest financial needs. Repayments begin after the applicant's student status terminates. Applications and FAF are available through the college Financial Aid office.

### **Graduate Assistantships**

A limited number of graduate assistantships is available to provide students with an opportunity for professional experiences in their chosen fields of specialization or in activities that may be valuable in preparing them more fully for their future occupational roles.

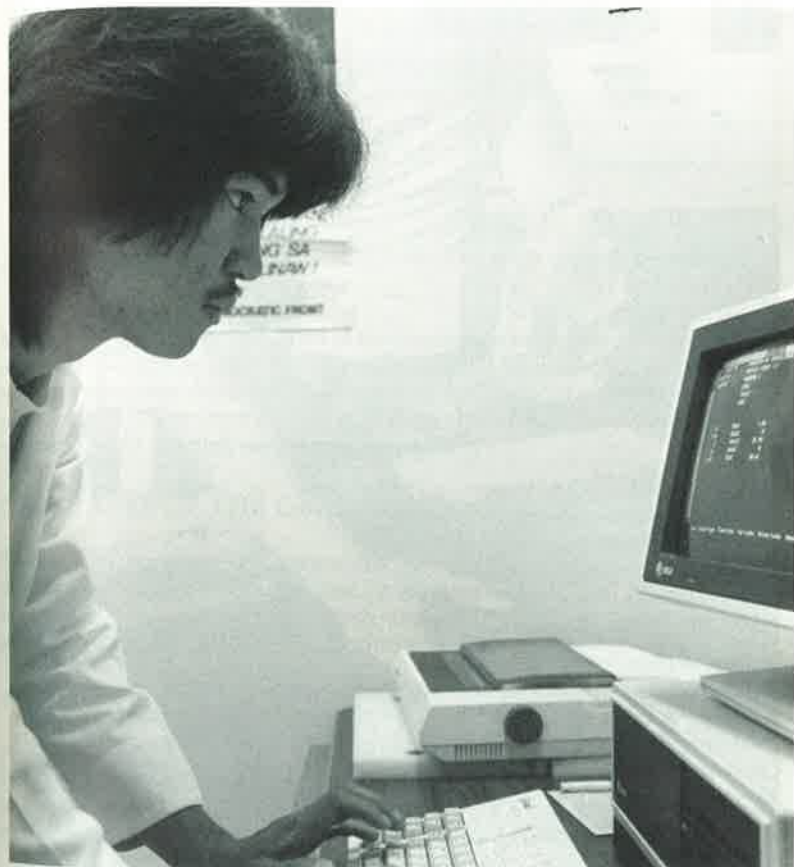
Assistantships are open to students with evidence of sufficient maturity and potential to benefit from the program. Applications will be considered from prospective graduate students, postgraduates and those already admitted as regular graduate students. The stipends are awarded for periods up to 12 months, plus full remission of tuition and fees for approved courses during the period of the assistantship.

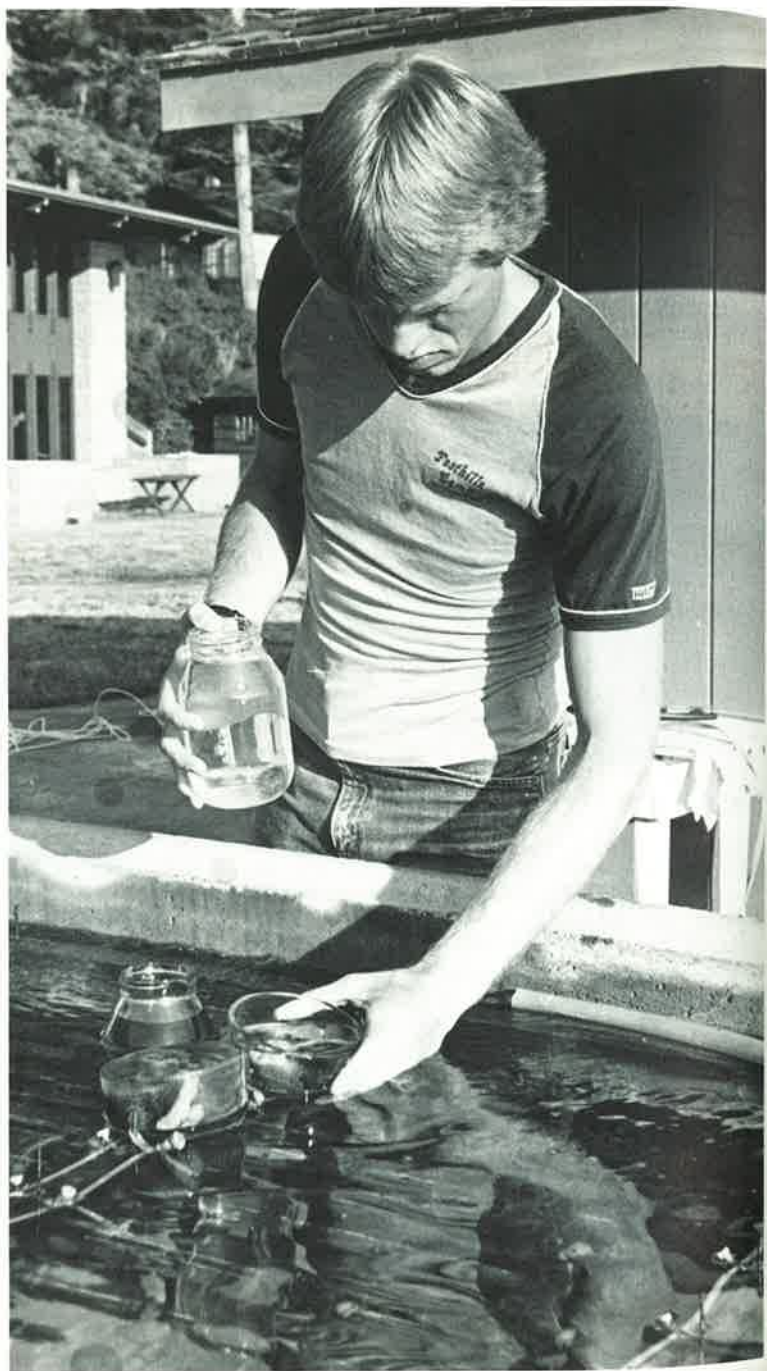
Duties of an assistant may include participation in research, instructional, and guidance services, and professional activities. Application forms for graduate assistantships may be obtained by writing directly to the chairman of the Department of Biology or to the chairman of the Department of Education and Psychology. Applications

for biology assistantships must be submitted before *April 15*, while the deadline for applications for education and psychology assistantships is *February 1*.

### **The Dean's Award Endowment**

Prior to each spring and summer graduation, master's candidates with exceptionally good academic and professional records are considered by the faculties of Biology and Education and Psychology for the Dean's Award. This award, made at graduation from an endowment fund established in 1984 and designated the Dean's Award, consists of: (1) a certificate of distinction and (2) a cash amount of one hundred dollars (\$100). Normally, only one award may be made per graduation.





# GRADUATE PROGRAM

Master's degree programs are offered in the Department of Biology and in the Department of Education and Psychology. Graduate study is planned in reference to the student's experience, future objectives, personal qualifications and previous academic preparation. The importance of careful planning and close cooperation between the student and his assigned adviser is emphasized.

## OBJECTIVES OF THE GRADUATE PROGRAM

The program provides an atmosphere which stimulates intellectual curiosity and independent thinking. It strives to develop an appreciation of the value of research and an acquaintance with basic research techniques. It endeavors to strengthen the professional competence of the individual in an area of specialization.

## ADMISSION TO GRADUATE STUDY

Applicants for admission to graduate study shall have been graduated from a recognized four-year college or university and should have completed a basic background of undergraduate work in the proposed field of graduate study. Applicants without such a background should expect to make up deficiencies.

The applicant shall file completed graduate application forms and two official transcripts of all work taken on the collegiate level with the Admissions Office of the College at least three months prior to the quarter in which graduate study is to commence. Failure to do so may result in delay in admission and registration. All forms and transcripts submitted for admission become the property of the College and are not returned. Admission forms are available from the Admissions Office.

Eligibility for admission as a graduate student is determined by the Graduate Council of the College upon the recommendations of the Biology or Education and Psychology departments.

### **Admission Requirements for the Master's Degree Program**

Applicants must have the following:

1. A baccalaureate degree from an accredited college and a minimum cumulative grade-point average of 2.75 on the last 96 credits of the degree or on the total undergraduate program;
2. Satisfactory scores on the *Graduate Record Examination*, both general and subject, as established by the departments and approved by the Graduate Council.

The subject test must be taken in the area of proposed graduate study — biology, education, etc. Students who intend to pursue a *counseling specialization*, or whose undergraduate major was psychology, may elect to substitute the subject test in psychology for the subject test in education.

An applicant whose undergraduate grade-point average is below 2.75 may be admitted if there is other evidence of ability to pursue the graduate degree. Such evidence must include one or more of the following: strong professional recommendations, acceptable postgraduate work at a recognized institution, experience in areas related to the desired graduate specialization, or other criteria established by the departments concerned.

### **Postgraduate Study**

A graduate of an accredited college, *not admitted* into the master's program, may register as a postgraduate student and may take courses toward certification. A student who registers *only* as a postgraduate has no assurance that credit earned will later apply toward the master's degree.

### **Graduate Credit for Seniors**

Seniors who wish to take graduate numbered (500) courses must submit for evaluation an approved senior outline and transcript to the Graduate Council. Approval to register for a course is given only after determination of eligibility for admission to the Graduate School.

## **GENERAL DEGREE REQUIREMENTS**

### **Responsibilities of the Student**

The graduate student is responsible for a knowledge of all regulations and procedures as published in this bulletin. The student must assume the initiative in such matters as arranging for required tests and examinations, securing approval of his program of study, and following all procedures in their proper sequence. Failure to do so may result in unnecessary delay or interruption of graduate study.



### **Residence and Time Requirements**

A minimum of 45 quarter hours is required, at least 33 of which must be earned while in residence.

Credit older than six calendar years usually is not used to satisfy degree requirements. However, a student may submit a request to Graduate Council for validation of an outdated course if its content is comparable to a current course and if the student is knowledgeable in it. These judgments shall be made by persons with expertise in the respective disciplines.

### **Transfer of Graduate Credit**

A maximum of 12 quarter hours of graduate work taken at other recognized institutions may be approved for transfer toward the master's degree. A GPA of 3.00 must be maintained on all course work taken in residence. The transfer credit may be by extension if acceptable toward the master's degree at the school offering the extension work. It is the responsibility of the student to provide such documentation. Correspondence credit or credit by examination is not accepted.

### **Course Requirements and Scholarship**

The completion of a minimum of 45 quarter hours of approved graduate courses with a cumulative grade-point average of at least 3.00 is required. A GPA of 3.00 must be maintained on all course work taken in residence. Grades of all courses on the graduate program, excluding deficiencies, will be computed in the grade-point average.

Courses numbered 500 or above are primarily for graduate students. A minimum of 24 quarter hours must be earned in courses number 500 or above for the Master of Arts and Science degrees. A minimum of 30 quarter hours is required in courses numbered 400 or above for the Master of Education degree. Courses numbered 400 to 499 are open to both undergraduate and graduate students. Usually, not more than six quarter hours of topics (400) or workshop (474) courses will be included in a program. Courses numbered 350-399 may be included in the graduate program on approval of the Graduate Council.

### **Course Load**

The normal load is 12 hours per quarter. Any course load above this amount must be approved by the Graduate Council.

### **Departmental Requirements**

Candidates for a master's degree must also satisfy additional departmental requirements as listed in this bulletin under the section Departments of Instruction.

### **Changes in Registration**

Students withdrawing from college or individual courses must file an official drop voucher with the Records Office. Withdrawal slips must be signed by the adviser and the instructor involved. The final date for dropping a class is indicated in the academic calendar. Students doing passing work prior to withdrawal will receive a W (withdrawal). Students withdrawing from all classes during the quarter will receive Ws.

### **Second Master's Degree**

The second master's degree requires a minimum of 30 additional quarter hours approved by the Graduate Council. All M.A. and M.S. degree programs must include a thesis.

## Bulletin

The student's degree candidacy must be based on the graduate bulletin in effect at the time the proposed program for graduate study is approved by the Graduate Council.

## PROGRAM OF STUDY

Prior to registering for the first quarter of study, all students admitted for a master's degree program must consult with the chair of their department for assistance in selecting courses. An adviser and/or advisory committee will subsequently be appointed to guide the student in planning a program of study to complete the degree. All course selection and program changes must be made in conference with the adviser. (See Changes in Program below).

Toward the end of the quarter in which the student is about to complete his first nine-15 quarter hours of approved graduate study (exclusive of deficiencies), application must be made for advancement to degree candidacy. Since a minimum of 30 quarter hours should be earned after advancement to candidacy has been granted any delay in filing this application may result in a loss of earned credit.

## ADVANCEMENT TO DEGREE CANDIDACY

Advancement to master's degree candidacy is the responsibility of the Graduate Council. A student may be advanced to master's degree candidacy by fulfilling the following conditions:

1. Complete nine to 15 quarter hours of approved graduate study with a minimum grade-point average of 3.00.
2. Submit to the chair of the department the completed application form, Degree Candidacy and Program Approval, outlining a full program of study for the master's degree with deficiencies, if any, included.

Approval of the program and advancement to master's degree candidacy will be officially acknowledged by a letter from the chair of the Graduate Council. The degree is granted only after successful completion of the approved program of studies within the regulations of the College.

### Changes in Program

Changes in the proposed program may not be made without the prior approval of the department chair, director of records and chair of the Graduate Council. More than two changes must be approved by the Graduate Council.

## THESIS REQUIREMENT

A thesis demonstrating ability to conduct research in a systematic and scholarly manner must be presented by candidates for the Master of Arts and Master of Science degrees. The thesis is planned with and approved by the student's advisory committee. Completion of the thesis must be in accordance with the requirements of each department.

Approved copies of the completed thesis are kept on permanent file in the college library and in the respective departments.

## EXAMINATIONS

Master's degree candidates must pass a written and/or oral examination administered by an examining committee. The nature of further examination, if required, is to be determined by the examination committee. A representative of the Graduate Council, who is not a member of the candidate's advisory committee, attends each oral examination.

### Examination Regulations

1. It is the candidate's responsibility to schedule written and/or oral examinations with the department chair.
2. The examinations are coordinated by the chair of the department and/or the candidate's advisory committee. Success or failure of the examinations is determined by the examination committee.
3. Questions in the examination will be based upon the candidate's areas of study and/or thesis.
4. The time allowed for the oral examination is ordinarily not more than two hours. Written examinations may take considerably longer.
5. Any candidate who fails either written or oral examinations may be granted only one opportunity by the examination committee to retake the respective examination after a lapse of at least one quarter.
6. Final examinations should be completed at least two weeks before commencement.

## CONFERMENT OF DEGREE

The candidate must file in duplicate the order form for the master's degree and academic regalia with the Office of the Dean of the School of Graduate Studies. Consult the academic calendar for the last day to file the order form prior to the beginning of the final quarter.

Students are required to participate in the graduation exercise. In special cases permission to receive the master's degree *in absentia* may be granted by the president of the College.



# DEPARTMENTS OF INSTRUCTION

## BIOLOGICAL SCIENCES

The Department of Biology offers a Master of Science degree in biology. Courses are offered in zoology and botany on the main campus and at the Marine Station near Anacortes, Washington. The program of coursework and research developed for each graduate student takes into account the future goals, present interests and academic background of the student. In addition to a basic course in biology (zoology and botany), specific background courses, or their equivalents, should include genetics, development, physiology and ecology. An adequate preparation in chemistry (inorganic and organic), physics (general physics) and mathematics (algebra, trigonometry, some calculus) will complete the necessary foundation upon which an individualized graduate program may be built. There is sufficient flexibility to allow a student to propose a program of a more interdisciplinary nature if desired. Because of the spectrum of biological and interdisciplinary opportunities presented at the Marine Station, all graduate students are expected to attend one summer term.

The specific objectives of the Department of Biology applicable to the graduate program are:

1. To increase the competence of secondary schoolteachers, especially those in the Seventh-day Adventist educational system.
2. To prepare students for positions in institutions of higher education by giving them a firm foundation for work toward the doctorate.
3. To provide a preparation for research careers.

BIOLOGICAL SCIENCES

- BIOL 401 PLANT PHYSIOLOGY** 4  
 A study of the principles of plant physiology. One laboratory per week. Prerequisites: BIOL 360; BIOL 392.
- BIOL 403 ORNITHOLOGY** 4  
 Systematic study of native birds of North America, with emphasis on identification, migration, geographical distribution, habits and life histories. Two laboratories per week.
- BIOL 405 GENERAL ENTOMOLOGY** 4  
 Study of insect morphology, physiology, ecology and classification. One laboratory per week.
- BIOL 412 PLANT ANATOMY** 4  
 Study of the microscopic anatomy of plant tissues with emphasis on their origin and development. Emphasizes the vascular plants. Recommended: BIOL 360. One laboratory per week.
- BIOL 424 HERPETOLOGY** 4  
 Systematic study of amphibians and reptiles with emphasis on natural history and ecology. Two laboratories per week.
- BIOL 426 SYSTEMATIC BOTANY** 4 or 5  
 Study of the principles of plant classification, together with a systematic survey of vascular plants, with emphasis on natural history and ecology. Two laboratories per week. One weekend field trip required. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.)
- BIOL 429 LIMNOLOGY** 4  
 Study of the factors responsible for the presence and distribution of animals and plants in fresh water. Field work includes trips to a number of lakes and streams for collection of living specimens as well as habitat analysis. Two laboratories per week.
- BIOL 444 MAMMALOLOGY** 4  
 Systematic study of mammals with emphasis on natural history and ecology. Two laboratories per week.
- BIOL 446 GENERAL ECOLOGY** 4  
 Study of the relationship of plants and animals, both as individuals and assemblages, to their physical and biological environment. Field studies designed to examine ecological principles are part of the laboratory work. Two laboratories per week. Biostatistics, genetics and a minimum of one field natural history course recommended.
- BIOL 447 PARASITOLOGY** 5  
 Systematic study of the morphology, life cycle and host-parasite relationships of protozoan, helminth and arthropod parasites. Two laboratories per week. Prerequisite or corequisite: CHEM 321, 322, 323.
- BIOL 449 VERTEBRATE HISTOLOGY** 4  
 Study of the microscopic anatomy of vertebrate cells, tissue and organs, including reference to their functions. Two laboratories per week.
- BIOL 451 INVERTEBRATE ZOOLOGY** 5  
 Study of the biology of the invertebrates with emphasis on their ecology, morphology and physiology. Two laboratories per week.
- BIOL 455 RESEARCH METHODS V** 1  
 Methods of writing and orally presenting a scientific paper. Students present the results of their senior thesis in a seminar and submit a written manuscript of their senior thesis (see BIOL 251; BIOL 352; BIOL 353; BIOL 354).
- BIOL 458 PSYCHOBIOLOGY** 4  
 Readings in, and discussion of, current concepts of the biological bases of behavior in animals and man. Material is of a comparative nature with emphasis on human behavior. One laboratory per week. Prerequisites: BIOL 101, 102, 103 or BIOL 201, 202 and PSYC 130 or permission of instructor. Recommended: BIOL 374.

**BIOL 465 BACTERIOLOGY**

5

Principles of morphology and function of bacteria. Laboratory work, including unknowns, points out techniques employed in their study. Two laboratories per week. Prerequisite or corequisite: CHEM 321, 322, 323.

**BIOL 466 IMMUNOLOGY**

4

Study of the immune mechanism with reference to applied areas. Emphasizes laboratory techniques used to solve immunological problems. One laboratory per week. Prerequisites: BIOL 392 or BIOL 465 and CHEM 321, 322, 323.

**BIOL 483 PHILOSOPHY OF ORIGINS AND SPECIATION**

3

Comparison of the various theories on the origin and history of living organisms in light of present scientific knowledge in biochemistry, paleontology, morphology, geology, genetics and other related areas. For majors and minors only. Recommended for senior year.

**BIOL 490 TECHNIQUES IN FIELD BIOLOGY**

1-6; 6

Study of the techniques used in the collection and preservation of biological specimens for museum purposes. Emphasizes the recording and preservation of ecological data obtained with the collections of specimens. Topics vary depending on the instructor; credit will be given at the rate of one quarter hour for each week spent working in the field.

**BIOL 495 COLLOQUIUM**

0

A lecture series designed to expose students to modern scientific research and researchers. Each lecture is normally given by a visiting scientist. Six quarters required of all junior, senior and graduate biology majors. Graded S or NC.

**BIOL 501 RESEARCH IN BIOLOGY**

2-4; 8

Individual work in a topic of original research carried out under the direction of one of the instructors. Two to four hours per quarter; maximum, eight.

**BIOL 503 GENETICS AND SPECIATION**

3

A study of the nature and function of the genetic material as it relates to population and species variability and change. Prerequisite: BIOL 261.

**BIOL 510 GRADUATE SEMINAR**

1; 6

Presentation of topics and discussion of current research in specific areas of biology. One credit each quarter; minimum of five, and maximum of six quarters. Spring quarter normally involves a Research Plan and Progress Report for first-year graduate students. See Biology Department for alternate options.

**BIOL 511 BIOSYSTEMATICS**

4

A study of the process of speciation and its relationship to currently used taxonomic methods and rules of nomenclature.

**BIOL 518 SYSTEMATIC ENTOMOLOGY**

4

A study of the principles of classification of insects. Laboratory work emphasizes recognition of orders and families with special problems on the specific level. Recommended prerequisite: BIOL 405. Two laboratories per week.

**BIOL 521 PRINCIPLES OF ECONOMIC ENTOMOLOGY**

3

An evaluation of the various methods of controlling economically important species. Prerequisite: BIOL 405.

**BIOL 522 CELLULAR BIOLOGY**

5

Current knowledge and research in the areas of cell physiology, biochemical genetics, bacteriological genetics and radiation biology will be considered. Two laboratories per week. Prerequisite: BIOL 392.

READING COURSES

A maximum of six quarter hours may be selected from Reading Courses.

**BIOL 540 READINGS IN BIOLOGY** 2; 6

Analysis of classical and current literature in specific areas of biology. Areas of concentration may include disciplines such as biostatistics, development, ecology, ethology, genetics, natural history, philosophy of biology, or physiology. Requires reports and conferences with a staff member. A maximum of four quarter hours in any one area.

**BIOLOGY COURSES: Marine Station**

BIOL 101, 102, 103 or equivalent is prerequisite for all courses listed below.

**BIOL 460 MARINE ECOLOGY\*** 5

Study of interspecific, intraspecific and community relationships demonstrated by marine organisms.

**BIOL 462 ICHTHYOLOGY\*** 5

Systematic study of the fishes found in Puget Sound, with a survey of the fishes of other waters.

**BIOL 463 MARINE BOTANY\*** 5

Systematic study of plants found in Puget Sound, with a survey of marine plants from other areas.

**BIOL 467 INTRODUCTION TO OCEANOGRAPHY\*** 5

A physical, chemical and geological study of the oceans and ocean basins as a habitat for life, emphasizing the mutual interaction between the oceanic biosphere and its environment.

**BIOL 468 COMPARATIVE PHYSIOLOGY** 5

Comparative study of the physiology and life processes of animals with emphasis on invertebrates. Prerequisite: BIOL 392.

**BIOL 470 MARINE BIOPHYSICS** 5

Introduction to the physical aspects of living organisms studied by the experimental and conceptual methods of physics with application to marine life.

**BIOL 475 MARINE INVERTEBRATES\*** 5

A study of the biology of selected groups of marine invertebrates.

**BIOL 508 PHYSIOLOGY OF THE ALGAE** 5

A comparative study of the physiology of representative members of the major algal groups. Collection and growth of pure cultures of single-celled forms and related metabolic processes, nutritional factors, light requirements, synchronization and growth will be emphasized.

**BIOL 514 SYMBIOSIS** 5

A study of sharply defined associations between organisms. Selected examples of the viruses, bacteria, plants and animals are used to illustrate varying degrees of relationships. Prerequisite: Course work in one group of animals or plants or microbes or parasitology. Chemistry courses through organic are highly recommended.

**BIOL 516 BEHAVIOR OF MARINE ORGANISMS** 5

A study of inter- and intraspecific behaviors of marine animals and their behavioral responses to the physical environment. The course involves laboratory experiences, field observations and a research project. Prerequisites: BIOL 374 or BIOL 458 or PSYC 130 and background in organismal biology and permission of the instructor.

\*Qualifies as a marine-oriented course.





## EDUCATION AND PSYCHOLOGY

The Department of Education and Psychology offers two master's degree programs — the Master of Education, a nonthesis program; and the Master of Arts, a thesis program. These programs permit professional enrichment through liberal course selection in the areas listed below under Areas of Specialization.

The Graduate Programs of the Department of Education and Psychology support the general objectives of the School of Graduate Studies by:

1. Teaching research skills and techniques;
2. Focusing on research in emerging policy, practice, and professional life;
3. Addressing contemporary issues, needs, and trends in Education and Psychology, and by
4. Providing supervised practicums and field experiences in areas of specialization.

In addition to these objectives, the Graduate Programs seek to assist the student in the development of a philosophy of Christian service and education supportive of his/her professional development.

### MASTER OF EDUCATION (M.Ed.)

The master of education degree, a nonthesis program, provides for a variety of specialized options designed to enhance professional competence.

By careful planning, a qualified candidate may coordinate many of the requirements for the degree with preparation for state certification. Since completion of minimum degree requirements does not necessarily satisfy requirements for certification, students pursuing a certificate must consult with the credential adviser early in their program.

#### General Prerequisites Applicable to all M.Ed. Programs

Deficiencies may be removed after admission to graduate study, but the credit earned will not apply to the minimum degree requirements. Candidates for the M.Ed. degree must have the following:

1. Professional education courses: 30 qtr. hrs.

*Courses from any department will satisfy the intent of the term "professional education" if the emphasis is on instructional-learning principles, pupil characteristics, teaching methodology, curriculum materials or the role of various school personnel.*

2. Verified, satisfactory educational work experience: 9 months full-time minimum

The work experience must fall within the range of professional or paraprofessional activities provided by schools or other educational service agencies. Activities such as classroom teaching, school administration, library work, counseling or work as a dormitory dean will be considered if pertinent to the candidate's chosen area of specialization. A maximum of 30 quarter hours for the master's degree may be earned prior to the work experience, but a minimum of 15 quarter hours must be earned thereafter.

Verification of the experience must be by letter from an administrator under whom the experience was gained. The letter should attest to the time spent, the nature of the activities, and the quality of performance. It is the responsibility of the candidate to obtain this verification.

Other specific prerequisites should also be noted for each area of specialization.

### Requirements Applicable to all M.Ed. Programs

The M.Ed. program comprises a minimum of 45 quarter hours, 30 of which must be in courses 400 numbered and above, and must include basic as well as professional education courses as indicated below. Unless specifically approved by the Graduate Council, courses numbered below 350 do not carry graduate credit. All courses included in the degree program must be approved by an assigned adviser in the Education and Psychology department.

Basic courses:	10
EDUC 561 Methods of Research (before advancement to candidacy)	3
EDUC 522 Philosophy of Education (before advancement to candidacy)	3
EDUC 500 Graduate Seminar	1
PSYC 521 Psychology of Learning	3
or	3
EDUC 525 Education in the Twentieth Century	10
*Professional Education Courses: (see definition on page 32)	11
Specialization and Approved Electives:	24
Total	45
	minimum

All candidates who do not already qualify for a certificate must complete the academic requirements for state certification as a teacher, principal or educational staff associate before the degree is granted. It is not necessary to be in possession of the certificate before graduation, but eligibility must be established in all respects excepting that of citizenship. Preparation for the certificate will normally be according to Washington state requirements for either the initial or continuing level. Candidates from out-of-state may produce evidence of qualifying in the state, province or country of their intended educational employment if a specific certification program exists there. Otherwise, they must meet the Washington state requirements.

### Areas of Specialization

Programs of specialization are sufficiently flexible to meet individual needs while at the same time providing a basic core of substantive fifth-year experience applicable to various state certificates.

Specializations may be planned in the following approved areas:

School Administration	Secondary Instruction in:
Counseling and Guidance	Biology, Biophysics, Business,
School Counseling	Chemistry, English, History,
Special Education Counseling	Industrial Arts, Language
Elementary Instruction	Arts, Mathematics, Physical
Special Education	Education, Physics, Social
Junior High Instruction	Sciences

A candidate wishing to pursue a specialization in an area other than any listed above may submit for consideration by the department and the Graduate Council an individualized self-planned proposal itemizing at least 24 quarter hours in the chosen specialization area. Additional supporting credit as needed to complete the degree will be selected in harmony with all other specified degree requirements. It is essential that this type of program be planned in consultation with an assigned adviser in the Department of Education and Psychology.

### School Administration

**Specialization Prerequisites:** Three years of satisfactory certificated classroom teaching. Must have acquired all qualifications for a state-approved teaching certificate.

**Specialization Requirements:**

Basic Courses, (see page 33):	10
Specialization Courses:	21

(Must be related to school administration, supervision, curriculum and counseling and must include the following unless they were a part of the undergraduate sequence):

EDUC 504	Elementary School Curriculum	3
or		
EDUC 508	Secondary School Curriculum	3
EDUC 526	School Finance	3
EDUC 544	Administration of the Elementary School	3
or		
EDUC 551	Administration of the Secondary School	3
EDUC 539	Supervision	3
EDUC 550	School Law	3
EDUC 556	Curriculum Planning	3
PSYC 444	Social Psychology	3
		21

Electives in Administration:	3
Other Approved Electives:	<u>11</u>
Total	45

Note: EDUC 560 Administrative Practicum does not apply toward the minimum of 45 quarter hours.

## Counseling and Guidance (50 quarter hours minimum)

*Specialization Prerequisites:*

EDUC 210	Foundations of Education
PSYC 215	Psychology of Childhood and Adolescence
PSYC 220	Educational Psychology
PSYC 350	Elementary Statistics
PSYC 430	Psychological Testing

*Specialization Requirements:*

Basic Courses (see page 33):		10
Core Courses:		17
EDUC 426	Principles and Procedures of Guidance	3
PSYC 410	Behavior Modification	3
PSYC 431	Psychology of Exceptional Individuals	3
PSYC 489	Vocational Development Theory	3
PSYC 515	Counseling Theories and Techniques	3
PSYC 518	Group Counseling	2
		<u>17</u>

## Emphases — Options I and II

Option I: Special Education Emphasis 23

PSYC 533	Assessment and Instruction of Exceptional Students	4
EDUC 537	Instruction of Exceptional Students	4
PSYC 538	Counseling Exceptional Students and Parents	3
PSYC 563	Field Experience	3
PSYC 565	Practicum	6
Approved Electives		3
		<u>23</u>

## Option II: School Counseling Emphasis

PSYC 534	Assessment of the Individual	2
PSYC 563	Field Experience	3
PSYC 565	Practicum	6
Approved Electives		12
		<u>23</u>

Total	<u>50</u> minimum
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The degree in counseling requires completion of the Educational Staff Associates initial certification program as approved by the state of Washington.

## EDUCATION AND PSYCHOLOGY

### Elementary Instruction

**Specialization Prerequisites:** A major in elementary education or an equivalent concentration of 45 quarter hours.

**Specialization Requirements:**

Basic Courses (see page 33):	10
Professional Education Courses (see definition on page 32):	11
Academic Content Courses:	15
(Must be from departments other than Education and Psychology and must be in subject-matter areas relevant to the content of the elementary curriculum.)	
Approved Electives:	9
Total	45
	minimum

### Junior High Instruction

**Specialization Prerequisites:**

Majors and/or minors in *two content areas*, or two equivalent subject-matter concentrations with a minimum of 27 quarter hours in each. Content areas must be in academic subjects commonly taught at junior high level.

**Specialization Requirements:**

Basic Courses (see page 33):	10
Professional Education Courses (see definition on page 32):	11
Academic Content Courses:	15
Academic content courses must be from two departments other than education and psychology and must be in the same general areas as the two prerequisite content areas specified above.	
Approved Electives:	9
Total	45
	minimum

### Special Education

This course of study is designed to meet the requirements for a Washington State supporting endorsement in special education.

**Specialization Prerequisites:**

Washington State Certification or an equivalent concentration of professional education courses.

**Specialization Requirements:**

Basic Courses (see page 33):	10	
Core Courses:	25	
PSYC 431	Psychology of Exceptional Individuals	3
SPED 530	Issues and Trends in Special Education	3
SPED 533	Assessment of Exceptional Students	4
SPED 537	Instruction of Exceptional Students	4
SPED 538	Counseling Exceptional Students and Their Parents	3

SPED 578	Field Work — Teaching in Special Education	8
PETH 324	Adapted Physical Education and Recreation (required for endorsement, not graduate credit)	(3)
		25
Approved Electives		10
		45
		minimum

Secondary Instruction

*Specialization Prerequisites:*

A major in the area of content specialization or an equivalent concentration of 45 quarter hours.

*Specialization Requirements:*

Basic Courses (see page 33):	10
Professional Education Courses (see definition on page 32):	11
Academic Content Courses:	24

Academic content courses must be chosen in consultation with adviser.

- (a) In specializations where only one content area is emphasized, e.g., English, up to six of the 24 quarter hours may be selected from not more than two supporting departments other than the major area of emphasis.
- (b) In interdisciplinary areas, indicated below by the asterisk (\*), courses must be distributed among areas listed in parentheses according to the needs and interests of the candidates.

Total	45
	minimum

The approved areas of specialization are:

- Biology
- \*Biophysics (biology, chemistry, engineering, mathematics, physics)
- Chemistry
- Business Teacher Education
- English
- History
- Industrial Arts
- \*Language Arts (English, communications, journalism, library science)
- Mathematics
- Physical Education
- Physics
- \*Social Science (history, political science, sociology)

## MASTER OF ARTS — IN EDUCATION (M.A.)

In the master of arts program, candidates with appropriate backgrounds may specialize within an approved general area of education according to their interests. The inclusion of a thesis requirement provides an opportunity for the development of scholarly research and reporting skills. It particularly serves those wishing to contribute to knowledge through research or those aspiring toward a higher degree beyond the master's.

By careful planning, a qualified candidate may coordinate many of the requirements with preparation for state or denominational certification. Since completion of minimum degree requirements does not necessarily satisfy certification requirements, students pursuing a certificate must consult with the credential adviser early in their program.

### Prerequisites Applicable to all M.A. Programs

In addition to admission requirements for the master's degree program, as described elsewhere in this bulletin, an M.A. candidate must meet the prerequisites listed under the chosen area of specialization. Unless specifically noted, there are no requirements with respect to work-experience or certification either prior to or during the degree program.

Deficiencies may be removed after admission to graduate study, but the credit earned thereby will not apply to the minimum degree requirements. A plan for the removal of all deficiencies must be submitted prior to advancement to degree candidacy.

### Requirements Applicable to all M.A. Programs

Unless otherwise indicated, a M.A. program comprises a minimum of 45 quarter hours of credit. A minimum of 24 quarter hours for the M.A. degree must be from courses numbered 500 or above.

All courses included in the degree program must be approved by an assigned adviser in the Education and Psychology Department.

Basic Courses and Thesis:		15
EDUC 500	Graduate Seminar	1
EDUC 522	Philosophy of Education (before advancement to candidacy)	3
EDUC 561	Methods of Research (before advancement to candidacy)	3
EDUC 509	Thesis	8
		15

Area of Specialization: 18  
 (Additional credits may be necessary if certification is also being sought.)

Approved Electives: 12  
 Total 45  
 minimum:



## Areas of Specialization:

## School Administration

*Specialization Prerequisites:* Three years of satisfactory, certified classroom teaching.

*Specialization Requirements:*

Basic Courses and Thesis (see page 38):	15
Administration and Supervision Courses:	18
Approved Electives:	12
Total	<u>45</u>
	minimum

## Curriculum and Instruction

*Specialization Prerequisites:* 30 quarter hours professional education courses and work experience as defined for all M.Ed. programs (see pages 32 and 33).

*Specialization Requirements:*

Basic Courses and Thesis (see page 38):	15
Professional Education Courses (see definition on page 32):	18
Supporting Academic Content Courses:	12
These courses must be from departments other than education and psychology and must be in subject-matter clearly related to the area of emphasis chosen to the area specialization. On the junior or higher level, supporting courses must be from <i>not more than two</i> content areas.	
Total	<u>45</u>
	minimum

## Educational Foundations

*Specialization Prerequisites:* A minor in psychology or sociology, or an equivalent concentration of 28 quarter hours in one of these areas. Six quarter hours in philosophy and three quarter hours in educational psychology. These quarter hours may be an inclusive part of, and not necessarily additional to, the minor prerequisite stated above.

*Specialization Requirements:*

Basic Courses and Thesis (see page 38):	15
Foundations Courses	18
These must be chosen from <i>not more than two</i> of the following areas: historical, philosophical, sociological and psychological foundations of education. Candidates specializing in psychological foundation should choose courses having to do with learning, development, measurement and statistics.	
Approved Electives:	<u>12</u>
Total	45
	minimum

**Counseling and Guidance**

**Specialization Prerequisites:** A minor in psychology or an equivalent 28 quarter hours including elementary statistics and a course in child and adolescent development. Fifteen quarter hours in professional education, as defined on page 32 of this bulletin.

**Specialization Requirements:**

Basic Courses and Thesis (see page 38)	15
Counseling, Psychology and Guidance Courses	18
These courses must include counseling and measurement theories and techniques and assessments skills.	
Practicum in Counseling, PSYC 565	6
Approved Electives	11
Total	50
	minimum

**Religious Education**

**Specialization Prerequisites:** A major or minor in Theology or Religion, or 30 approved hours of religion courses with a minimum of nine at the upper division level.

**Specialization Requirements:**

Basic Courses and Thesis (see page 38):	15
Other Education courses:	5
Religious Studies:	20
Approved Electives:	5
Total	45
	minimum

These hours must include at least two classes in the area of Biblical studies, three in the area of theology and ethics and one in the area of religious education methods.

**Individualized Option**

A candidate wishing to pursue a specialization in an area other than any listed above may submit for consideration by the departmental staff and the Graduate Council an individualized self-planned proposal itemizing at least 18 quarter hours in a chosen specialization area with appropriate prerequisites. Additional supporting credits, as needed to complete the degree, will be selected in harmony with all other specified degree requirements. It is essential that this type of program be planned in consultation with an assigned adviser in the Department of Education and Psychology.

**TEACHING CERTIFICATION**

Walla Walla College is a state-approved teacher education institution. As such, it is authorized to recommend graduates to the Washington State Department of Education for the initial and continuing certificates.

The course offerings also provide for teaching certificates currently available from the General Conference Department of Education. Information concerning specific certificates is available in the regular bulletin and/or from the certification consultant.

**The Continuing Certificate**

Requirements:

1. *Teaching Experience.*

The applicant for a Continuing Certificate must have completed three years

of educational service at least two of which must have been as a teacher in grades K-12 while holding a valid state teaching certificate.

2. A minimum of 45 quarter credits of course work must be completed after the bachelor's degree, distributed as follows:
  - a. Credits as required in each of the following five generic standard areas:
    - i. Staff development and supervision.
    - ii. Professional development and scholarship.
    - iii. Research and evaluation.
    - iv. Referral agencies and resource personnel.
    - v. Knowledge of alternate grade level.
  - b. A minimum of 15 quarter hours in an area of specialization. (These hours may contribute to a second endorsement as required under 3 c below.)
  - c. Elective credits including a minimum of 12 hours in academic courses. Credits may be taken in any field when approved by the Department of Education adviser. The academic course credits required in this section may be a part of the specialization above.
3. *Other Requirements.*
  - a. Twenty-one quarter credits must be earned *after* at least one year of teaching, which may include substitute teaching. (Candidates who hold a master's degree are exempt from this requirement.)
  - b. Beginning August 31, 1988, all Continuing Certificate candidates must have at least *two endorsements*.
  - c. A minimum of 23 hours of course work must be taken at Walla Walla College.
  - d. Grades lower than C are not acceptable in courses required for the Continuing Certificate.
  - e. Course work must be upper division or graduate level and taken through a regional accredited four-year institution. Exceptions regarding course level for individuals working for and securing a second area of endorsement may be made if approved by the Education Department Adviser.
  - f. All *education* course credits must be earned through a state approved four-year teacher education college or university.
  - g. A maximum of five quarter credits of correspondence study may be approved.
  - h. Education courses taught in Washington by out-of-state institutions or agencies are not acceptable for the Continuing Certificate unless approved by the State of Washington Certification Office.
  - i. Each person shall be required to complete 150 clock hours of continuing education or 15 quarter hours of college credit every five years to keep the certificate valid. (One quarter hour equals ten clock hours.)
  - j. Recipients of a Continuing Certificate shall be restricted to teaching in the areas in which endorsement has been received.

## GRADUATE COURSES — *Education*

EDUC 500 TOPICS 1-3

EDUC 510 GRADUATE SEMINAR 1; 3

Discussion periods in which faculty and students explore significant issues through the examination and analysis of research and appropriate literature in the area of education. One quarter hour; maximum, three.

- EDUC 504 ELEMENTARY SCHOOL CURRICULUM** 3  
 A study of the elementary school curriculum, including objectives, essentials of a good program, varying curriculum patterns and appraisal of current practices.
- EDUC 508 SECONDARY SCHOOL CURRICULUM** 3  
 Overview of the secondary school curriculum, with emphasis on the various subject fields; organization of the school for curriculum development; educational objectives; the courses of study; evaluation of the secondary school curriculum.
- EDUC 522 PHILOSOPHY OF EDUCATION** 3  
 A study of the basic philosophies and development of educational thinking resulting in the formulation of aims and objectives of education for today's schools.
- EDUC 525 EDUCATION IN THE TWENTIETH CENTURY** 3  
 Intended to help a student become conversant with significant problems, issues, trends and proposals affecting the theory and practice of education today.
- EDUC 526 SCHOOL FINANCE** 3  
 A course designed for administrators, emphasizing origins and disbursement of school funds.
- EDUC 527 SCHOOL PLANNING AND CONSTRUCTION** 3  
 A survey of how to plan and build schools, including the involvement of the lay citizen. Selection of site, trends in design, function of buildings and plant, costs and obligations will be studied.
- EDUC 535 CORRECTIVE READING** 3  
 Analysis, correction and prevention of reading problems are studied along with refinement of group and informal testing. Supervised practicum with pupils having mild disabilities in reading. Prerequisite: EDUC 362.
- EDUC 539 SUPERVISION** 3  
 For principals, classroom teachers or those planning to be supervisors. Identifies duties of both teacher and supervisors, and suggests methods for the improvement of teachers in service through a comprehensive supervision program.
- EDUC 544 ADMINISTRATION OF THE ELEMENTARY SCHOOL** 3  
 Organization, supervision and administration of elementary schools.
- EDUC 550 SCHOOL LAW** 3  
 This course is designed to acquaint the student with the legal basis for public and parochial school operation in the United States.
- EDUC 551 ADMINISTRATION OF THE SECONDARY SCHOOL** 3  
 Problems and procedures in the organization and administration of secondary schools.
- EDUC 556 CURRICULUM PLANNING** 3  
 The relation of curricular materials to educational outcomes in terms of personal and social values. A brief review of curriculum investigations and their significance in the selection and evaluation of school materials and activities. Current practices in curriculum revision.
- EDUC 558 SCHOOL ACTIVITIES** 3  
 Designed to acquaint the student with a range of the school activities program; to define the purpose of such activities; to provide him with the valid basis for evaluating existing or proposed activities; and to provide opportunity for intensive study of one activity.
- EDUC 560 ADMINISTRATIVE PRACTICUM** 5  
 Professional laboratory experience for candidates for an administrative credential. The course is designed to involve each candidate in a variety of practical administrative experiences and to assist in his successful induction into school leadership. By permission of the department chairman.
- EDUC 561 METHODS OF RESEARCH** 3  
 Procedures in the selection and evaluation of research projects and techniques in the analysis of research data.
- EDUC 567 COMPARATIVE EDUCATION** 3  
 A comparison of systems and philosophies of education in various parts of the world; emphasis on the role of cultural impacts.
- EDUC 575 READINGS IN EDUCATION** 2-4  
 Advanced study confined to topic areas where the student can demonstrate a considerable degree of expertise due to previous formal studies and/or experience. To be done under the guidance and direction of a faculty member. The student will engage in an analysis of current literature. Written and/or oral reports will be required. By permission of the department chairman.
- EDUC 581 PROFESSIONAL PROJECT** 2-4, 6; 6  
 Selected areas of advanced study involving reading and research. Formal report required. Prerequisite: consent of department chairman and graduate standing. Two, four or six hours any quarter; maximum, six.

EDUC 590 THESIS

4, 8; 8

**GRADUATE COURSES — Special Education**

- SPED 530 ISSUES AND TRENDS IN SPECIAL EDUCATION** 3  
A study of current literature and legislation pertaining to special education and models for the delivery of these services.
- SPED 533 ASSESSMENT OF EXCEPTIONAL STUDENTS** 4  
Examination and administration of assessment measures for exceptional students. Prerequisite: PSYC 431.
- SPED 537 INSTRUCTION OF EXCEPTIONAL STUDENTS** 4  
Development and implementation of individualized instructional programs.
- SPED 538 COUNSELING EXCEPTIONAL STUDENTS AND THEIR PARENTS** 3  
Discussion and practice of counseling techniques with parents and students regarding academic, behavioral and vocational concerns.
- SPED 578 FIELD WORK AND TEACHING IN SPECIAL EDUCATION** 8

**GRADUATE COURSES — Psychology/Counseling**

- PSYC 501 STATISTICS IN RESEARCH** 3  
An introduction to sampling theory, probability and statistical inference as applied to research analysis and hypothesis testing. Includes simple multivariate techniques and selected distribution-free tests of significance. Prerequisite: PSYC 350 or equivalent.
- PSYC 515 COUNSELING THEORIES AND TECHNIQUES** 3  
A study and application of the theories and techniques for counseling. Professional relationships and ethics are considered.
- PSYC 518 GROUP COUNSELING** 2  
Theories and techniques of counseling in group situations. Prerequisite: PSYC 515.
- PSYC 521 PSYCHOLOGY OF LEARNING** 3  
The physiological and psychological bases for functional learning are discussed, and the experimental evidence supporting psychological hypotheses is reviewed.
- PSYC 532 INDIVIDUAL TESTING — Intelligence** 4  
Supervised experience in the administration, interpretation and writing of psychological reports. Several intelligence instruments will be reviewed. Major emphasis, however, will center on Binet and Wechsler Intelligence Scales. Prerequisite: PSYC 430 and permission of the instructor.
- PSYC 534 ASSESSMENT OF THE INDIVIDUAL** 2  
Methods applicable to comprehensive assessment for describing behavior. Experience in the collection and analysis of data will be provided. Prerequisite: PSYC 532.
- PSYC 563 FIELD EXPERIENCE** 3  
Designed to provide a broad spectrum of experience in actual field settings under supervised direction. Permission of the instructor required.
- PSYC 565 PRACTICUM IN COUNSELING** 2; 6  
Professional experience in the counseling function. Prerequisites: PSYC 515; PSYC 534 and permission of the instructor.

**GRADUATE COURSES — Religion**

Approval of RELT 500, Advanced Issues in Bioethics, 3 hours as a topics course for the spring and summer of 1987. Description: An advanced study of moral issues in human biology and medicine from the perspective of Christian ethics. Discusses topics such as euthanasia, abortion, eugenics, and human experimentation. Prerequisite: One course in ethics or permission of instructor.

FACULTY SENATE 11/15/87

SUPPORTING COURSES

- RELH 508 THE OLD TESTAMENT IN SOCIAL AND CULTURAL PERSPECTIVE** 3  
 Study of recent interpretations of the Old Testament from sociological and anthropological perspectives. Included is a discussion of how western culture has affected the study of the Old Testament.
- RELH 502 STUDIES IN ADVENTIST HISTORY** 3  
 A study of selected aspects of Adventist history and theology. Key aspects are as follows: Theological and doctrinal development, the history of Adventist institutions, and the theory and practice of missions and evangelism.
- RELH 511 READINGS IN SPIRITUAL CLASSICS** 3  
 A study of writers known for their contribution to the understanding of Christian life and experience. Among such authors are Augustine, Teresa of Avila, John of the Cross, John Wesley and George Fox.
- REL 515 PRACTICUM IN RELIGIOUS EDUCATION** 2-6; 6  
 Supervised practicum in Religious education. Will take place in school or instructional church settings. Permission of School of Theology required.
- REL 510 FOUNDATIONS OF RELIGIOUS EDUCATION** 3  
 A survey of the scriptural, historical, philosophical and psychological bases of religious education.
- RELT 521 SELECTED THEMES IN THE HISTORY OF CHRISTIAN ETHICS** 3  
 Themes will include war and violence, sexual ethics, economics, and the relation of Christians to secular government.
- RELT 541 STUDIES IN CHRISTIAN SYSTEMATIC THEOLOGY** 3  
 Examination of selected issues, such as atonement, Christology, creation, eschatology, Sabbath, salvation, with emphasis on implications for the doctrine of the church.

**SUPPORTING COURSES — Education**

- EDUC 361 ELEMENTARY CURRICULUM AND INSTRUCTION: LANGUAGE ARTS** 3  
 Study of the development of language skills. Speaking, thinking, listening, reading and writing skills are studied. Attention will be given to materials and instructional resources. Involvement in elementary classrooms will be required. Prerequisite: Acceptance into Phase II.
- EDUC 362 ELEMENTARY CURRICULUM AND INSTRUCTION: READING** 4  
 Study of current theory relating to the nature of reading and effective instructional procedures and resources. Activities in the elementary school will include administration of Informal Reading Inventories. Prerequisite: Acceptance into Phase II.
- EDUC 373 ELEMENTARY CURRICULUM AND INSTRUCTION: MATHEMATICS** 4  
 Survey of the content, media and approaches used in teaching mathematics in the elementary school, including software evaluation for CAI; emphasis on research-based strategies. Prerequisites: Acceptance into Phase II; MATH 115 or 121.
- LIBR 374 LIBRARY MATERIALS FOR CHILDREN** 3  
 See the Library Science section of the undergraduate bulletin.
- ENGL 374 LITERATURE IN THE ELEMENTARY SCHOOL** 3  
 See the English section of the undergraduate bulletin.
- ENGL 375 LITERATURE IN THE SECONDARY SCHOOL** 3  
 See the English section of the undergraduate bulletin.
- EDUC 375 CLASSROOM MANAGEMENT** 2  
 Introduction to varied structuring of the learning environment and the special considerations required in small schools and multigrade classrooms. Explores the human relations within the teaching profession.
- EDUC 381 ELEMENTARY CURRICULUM AND INSTRUCTION: RELIGION** 2  
 Study of materials, strategies and relationships that provide effective Bible instruction in the elementary school. Prerequisite: Acceptance into Phase II.
- EDUC 382 ELEMENTARY CURRICULUM AND INSTRUCTION: SOCIAL STUDIES** 2  
 Study of strategies for the implementation of the social studies curriculum in the elementary school. Instruction will be given in appropriate uses of resources and materials. Prerequisite: Acceptance into Phase II.

- EDUC 383 ELEMENTARY CURRICULUM AND INSTRUCTION: SCIENCE** 2  
A study of teaching of science in the elementary school with emphasis on the nature of science as a process of inquiry. Prerequisite: Acceptance into Phase II.
- EDUC 390 EDUCATIONAL EVALUATION** 3  
Introduction to principles and techniques of evaluating classroom elementary and secondary schools.
- HLED 395 METHODS OF SCHOOL HEALTH INSTRUCTION** 3  
See the Health, Physical Education and Recreation section of the undergraduate bulletin.
- PETH 395 METHODS OF TEACHING SECONDARY PHYSICAL EDUCATION** 3  
See the Health, Physical Education and Recreation section of the undergraduate bulletin.
- EDUC 404 HISTORY OF EDUCATION** 2  
Survey of the history of education.
- EDUC 426 PRINCIPLES AND PROCEDURES OF GUIDANCE** 3  
Introduction to the philosophy, functions, organization, and evaluation of the school guidance programs.
- INDS 428 HANDWORK ACTIVITIES** 3  
Study of handwork activities as applied to the elementary grades and recreational activities; emphasizes methods of application, materials and processes.
- SOCI 444 SOCIOLOGY OF EDUCATION** 3  
See the Sociology and Social Work section of the undergraduate bulletin.
- PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL** 3  
See the Health, Physical Education and Recreation section of the undergraduate bulletin.
- EDUC 474 WORKSHOP** 1-3; 6  
Workshop in selected areas of educational concern. Designed for both experienced teachers and those preparing to enter the teaching profession. One to three quarter hours; maximum, six quarter hours.
- EDUC 475 TEACHING READING SKILLS IN CONTENT AREAS** 3  
Introduction to diagnosis, vocabulary, comprehension skills, rate variation, management and study skills in junior high and secondary reading.
- EDUC 478 ELEMENTARY MICROTACHING** 3  
A teaching laboratory to prepare elementary teachers in skills necessary to effective teaching. Students present brief demonstration lessons to a small class of children. Self-evaluation is supplemented by evaluation of supervisors, practicing teachers and peers, along with video recordings. Prerequisite: Admission into Phase II and two methods courses.
- EDUC 479 SECONDARY MICROTACHING** 3  
Teaching procedures which are applicable at any level are considered. Laboratory practice in certain teaching skills will be provided following the microteaching model. The class will meet one night each week and each student will participate weekly in an afternoon teaching laboratory. Prerequisite: Admission into Phase II and one methods course in the student's major or minor area of study.
- EDUC 492 EDUCATION OF THE GIFTED** 3  
Introduction to the design of learning opportunities for gifted children in the light of their psychological characteristics.
- EDUC 493 SYSTEMS OF THOUGHT** 3  
Intensive study of various aspects of philosophical thinking and their bearing upon education. Emphasizes current writing in education.
- EDUC 495 ELEMENTARY SCHOOL GUIDANCE** 3  
Study of the rationale for elementary school guidance with emphasis upon current research and issues. Focuses the tools and techniques of both classroom and out-of-class guidance functions and services.

### SUPPORTING COURSES — *Psychology*

PSYC 130 is prerequisite to all other courses in psychology.

EDUCATION AND PSYCHOLOGY

<b>PSYC 350 ELEMENTARY STATISTICS</b>	4
Introduction to fundamental procedures for summarizing and interpreting quantitative data from tests and research in the social sciences.	
<b>PSYC 360 SMALL GROUP PROCEDURES</b>	3
Study of small group process by the use of simulations, confrontation techniques and role playing. Especially useful for teachers, ministers, nurses and social workers.	
<b>PSYC 375 EXPERIMENTAL PROBLEMS</b>	3
Advanced study of experimental design with application to an individual research project. Prerequisite: PSYC 350 or equivalent.	
<b>PSYC 400 TOPICS IN PSYCHOLOGY</b>	1-3
The study of advanced topics through class activities. One to three hours per quarter.	
<b>PSYC 405 PSYCHOLOGY OF ORGANIZATIONAL CHANGE</b>	3
Exploration of the characteristics of social organizations, their structure and systems of communication with particular emphasis on the problems of bringing about change within social organizations (i.e., churches, communities, schools, businesses, etc.)	
<b>PSYC 410 BEHAVIOR MODIFICATION</b>	3
Study of the principles and processes of learning with special emphasis on the shaping and changing of human behavior.	
<b>PSYC 415 DYNAMICS OF BEHAVIOR</b>	3
Introduction to the dynamic mechanisms of human adjustment and behavior.	
<b>PSYC 420 INTRODUCTION TO CLINICAL PSYCHOLOGY</b>	3
Introduction to the application of psychological theories and techniques as used in the clinical setting. Surveys various approaches to treatment of emotional problems in clinical practice, hospital and community settings.	
<b>PSYC 425 PSYCHOLOGY AND RELIGION</b>	3
Examination of psychological concepts and human behavior from a biblical and theological perspective.	
<b>PSYC 430 PSYCHOLOGICAL TESTING</b>	3
Study of the principles of test selection, administration and interpretation; consideration of the contributions and limitation of the major types of standardized tests and inventories used in the behavioral sciences.	
<b>PSYC 431 PSYCHOLOGY OF THE EXCEPTIONAL INDIVIDUAL</b>	3
Study of the characteristics, development and problems of the exceptional individual. Emphasis will be given to the years these individuals are in elementary and secondary school.	
<b>PSYC 442 MOTIVATION</b>	3
Study of basic drives and causes of behavior in organisms with emphasis upon human behavior.	
<b>PSYC 444 SOCIAL PSYCHOLOGY</b>	3
Study of the dynamics of social interaction and interpersonal behavior with application to contemporary society.	
<b>PSYC 445 SOCIAL PSYCHOLOGY LABORATORY</b>	1
Corequisite: PSYC 444.	
<b>PSYC 446 PSYCHOLOGY OF PERSONALITY</b>	3
Study of theories concerning personality development, assessment and adjustment.	
<b>PSYC 449 MENTAL HEALTH</b>	3
Study of physiological and psychological factors related to emotional maturity; individual mental health, classroom climate, patterns of acceptance and rejection.	
<b>PSYC 460 CHILDHOOD LEARNING DISORDERS</b>	3
Introduction to play therapy and psychoeducational programs with emphasis on perceptual, sensory and motor areas. Designed for teachers and counselors of young children in both early childhood and elementary school levels. Prerequisite: PSYC 215.	
<b>PSYC 464 COUNSELING RELATIONSHIPS</b>	3
Introduction to psychological theory and skills essential for developing effective and helping relationships with individuals and groups.	
<b>PSYC 465 COUNSELING SEMINAR</b>	1; 3
Group discussions of counseling experiences for students planning on counseling careers. Prerequisite: PSYC 464 or permission of the instructor.	



<b>PSYC 489 VOCATIONAL DEVELOPMENT THEORY</b>	3
Study of theories of vocational choice and methods of studying occupations and occupational information as they relate to educational and vocational guidance.	
<b>PSYC 490 ABNORMAL PSYCHOLOGY</b>	3
Study of behavioral disturbances, therapeutic measures and theories.	
<b>PSYC 495 ANALYSIS OF PSYCHOLOGICAL EXPERIMENTS</b>	2
Experience in the analysis of psychological research.	

### SUPPORTING COURSES — *General*

Selected courses are available, with advisement, from the following departments: Art, Biology, Business, Chemistry, Communications, English, Health, Industrial Technology, Physical and Recreational Education, History, Home Economics, Library Science, Mathematics, Modern Languages, Music, Office Administration, Physics, Sociology and Social Work.



## SUPPORTING COURSES

See the undergraduate bulletin for course descriptions and prerequisites:

### ART

ART 364, 365, 366 SCULPTURE	2, 2, 2
ART 400 TOPICS IN ART	1-3
The study of advanced topics through class activities. One to three hours per quarter.	
ART 479 DIRECTED RESEARCH/PROJECT	1-3; 6
One to three hours any quarter; maximum, six.	

### BIOLOGICAL SCIENCES (See pages 25-29)

### BUSINESS

400 TOPICS IN BUSINESS	1-3
The study of advanced topics through class activities. One to three hours per quarter.	
ACCT 421 ADVANCED ACCOUNTING	4
ACCT 423 CPA REVIEW	4
ACCT 427 FUND ACCOUNTING	4
ACCT 430 AUDITING CONCEPTS	3
ACCT 431 AUDITING PRACTICES	3
BUED 474 WORKSHOP IN BUSINESS EDUCATION	2
BUED 479 DIRECTED RESEARCH/PROJECT	1-3; 6
Permission of chair of department required. One to three hours per quarter; maximum, six.	
BUED 491 PRINCIPLES OF BUSINESS EDUCATION	2
BUED 496 SEMINAR IN BUSINESS EDUCATION	2
ECON 441 MONEY AND BANKING	4
ECON 443 COMPARATIVE ECONOMIC SYSTEMS	4
ECON 455 PUBLIC FINANCE	4
FINA 451 INVESTMENTS	4
FINA 453 CREDIT ADMINISTRATION	4
MGMT 379 COMPENSATION MANAGEMENT	3
MGMT 475 HEALTH CARE ORGANIZATION AND MANAGEMENT	2
MGMT 476 MOTIVATION AND LEADERSHIP	4
MGMT 479 BUSINESS STRATEGY AND POLICIES	4
MKTG 481 PUBLIC RELATIONS	4
MKTG 485 RETAIL STORE OPERATION AND MANAGEMENT	4

### CHEMISTRY

CHEM 351, 352, 353 PHYSICAL CHEMISTRY	3, 3, 3
CHEM 354, 355, 356 PHYSICAL CHEMISTRY LAB	1, 1, 1
CHEM 400 TOPICS IN CHEMISTRY	1-3
CHEM 427 ORGANIC STRUCTURES AND MECHANISMS	3

CHEM 428 ORGANIC SYNTHESIS	3
CHEM 431, 432 BIOCHEMISTRY	3, 3
CHEM 433, 434 BIOCHEMISTRY LABORATORY METHODS	1, 1
CHEM 461 ANALYTICAL INSTRUMENTAL METHODS II	4
CHEM 479 DIRECTED RESEARCH/PROJECT	1-3; 6

## COMMUNICATIONS

JOUR 400 TOPICS IN JOURNALISM	1-3
JOUR 412 SCRIPT WRITING	3
JOUR 479 DIRECTED RESEARCH/PROJECT	1-3; 6
SPCH 395 METHODS OF TEACHING SPEECH COMMUNICATION	3
SPCH 400 TOPICS IN COMMUNICATION	1-3
SPCH 401 INTRODUCTION TO GENERAL SEMANTICS	2
SPCH 443 PERSUASIVE SPEAKING	4
SPCH 453 RHETORIC OF WESTERN THOUGHT	3
SPCH 479 DIRECTED RESEARCH/PROJECT	1-3; 6
SPPA 372 AUDIOMETRY	3
SPPA 385 LANGUAGE DISORDERS	4
SPPA 461 DIAGNOSIS IN SPEECH-LANGUAGE PATHOLOGY	3
SPPA 473 CLEFT PALATE	3
SPPA 475 VOICE DISORDERS	3

## ENGLISH

ENGL 354 ROMANTIC ENGLISH LITERATURE	4
ENGL 355 VICTORIAN LITERATURE	4
ENGL 356 TWENTIETH-CENTURY ENGLISH LITERATURE	4
ENGL 364 ROMANTIC AMERICAN LITERATURE	4
ENGL 365 AMERICAN REALISM AND NATURALISM	4
ENGL 366 TWENTIETH-CENTURY AMERICAN LITERATURE	4
ENGL 374 LITERATURE IN THE ELEMENTARY SCHOOL	3
ENGL 375 LITERATURE IN THE SECONDARY SCHOOL	3
ENGL 394 DIRECTED READING	1-2
ENGL 395 METHODS OF TEACHING HIGH SCHOOL ENGLISH	3
ENGL 444 MAJOR AUTHOR	3
ENGL 445 SHAKESPEARE	3
ENGL 454 LITERATURE OF THE BIBLE	4
ENGL 455 CLASSICAL BACKGROUNDS	3
ENGL 464 DEVELOPMENT OF ENGLISH DRAMA	3

SUPPORTING COURSES

ENGL 466 LITERARY AND CRITICAL THEORY	3
ENGL 479 DIRECTED RESEARCH/PROJECT	1-3; 6
ENGL 484 HISTORY OF THE ENGLISH LANGUAGE	3
ENGL 496, 497 SEMINAR	1, 2

**HEALTH, PHYSICAL AND RECREATION**

PETH 363, 364, 365 COACHING OF TEAM ACTIVITIES	3, 3, 3
PETH 395 METHODS OF TEACHING SECONDARY PHYSICAL EDUCATION	3
PETH 400 TOPICS IN PHYSICAL EDUCATION	1-3
PETH 426 PHYSIOLOGY OF EXERCISE	4
PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL	3
PETH 479 DIRECTED RESEARCH/PROJECT	1-3; 6
PETH 484 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION AND RECREATION	3
PETH 493 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION	3
PETH 496 SEMINAR	1

**HISTORY AND POLITICAL SCIENCE**

HIST 400 TOPICS IN HISTORY	1-3
HIST 479 DIRECTED RESEARCH/PROJECT	1-3; 6
HIST 496, 497 SEMINAR	0, 3

**American History**

HIST 424 THE AMERICAN FRONTIER	4
HIST 445 CIVIL WAR AND RISE OF INDUSTRIAL AMERICA, 1850-1900	4
HIST 448 TWENTIETH CENTURY AMERICA	4
HIST 457 SOCIAL AND INTELLECTUAL HISTORY OF THE U.S.	4

**European History**

HIST 435 HISTORY OF MODERN GERMANY	4
HIST 463 THE MIDDLE AGES	4
HIST 465 RENAISSANCE AND REFORMATION	4
HIST 466 ENLIGHTENMENT AND REVOLUTION	4
HIST 467 THE MODERN TRANSITION, 1815-1919	4
HIST 468 CONTEMPORARY EUROPE, 1918 TO THE PRESENT	4

**Political Science**

PLSC 400 TOPICS IN POLITICAL SCIENCE	1-3
PLSC 426 AMERICAN POLITICAL THOUGHT	4
PLSC 427 AMERICAN DIPLOMATIC HISTORY	4
PLSC 434 INTERNATIONAL RELATIONS	4

PLSC 454 WESTERN POLITICAL AND SOCIAL THOUGHT	4
PLSC 455 WESTERN POLITICAL AND SOCIAL THEORY	4

## HOME ECONOMICS

FDNT 412 FOOD IN CULTURES OF THE WORLD	3
FDNT 422 EXPERIMENTAL COOKERY	3
FDNT 437 COMMUNITY NUTRITION	3
FDNT 441 ADVANCED NUTRITION	3
FDNT 443 DIET IN DISEASE	4
HMEC 395 METHODS OF TEACHING HOME ECONOMICS	3
HMEC 400 TOPICS IN HOME ECONOMICS	1-3
HMEC 403 ADVANCED WEAVING	3
HMEC 424 HOUSING AND INTERIORS	3
HMEC 461 TAILORING	3
HMEC 479 DIRECTED RESEARCH/PROJECT	1-3; 6
HMEC 496 SEMINAR	1

## INDUSTRIAL TECHNOLOGY

ELCT 361 LINEAR INTEGRATED CIRCUITS	5
ELCT 362 DIGITAL INTEGRATED CIRCUITS	5
ELCT 363 RADIO COMMUNICATIONS	4
ELCT 381, 382 TELEVISION SYSTEMS AND CIRCUITS	4, 4
GRPH 355 ADVANCED PHOTOGRAPHY	3
GRPH 358 PHOTO ASSIGNMENTS	1
INDS 376 TECHNICAL FACILITY PLANNING	3
INDS 381, 382, 383 MACHINE TOOL OPERATION	3, 3, 3
INDS 386 OIL HYDRAULICS	3
INDS 395 METHODS OF TEACHING TECHNOLOGY	4
INDS 400 TOPICS IN INDUSTRIAL EDUCATION AND TECHNOLOGY	1-3
INDS 428 HANDWORK ACTIVITIES	3
INDS 479 DIRECTED RESEARCH/PROJECT	1-3; 6
INDS 499 SENIOR PROBLEM	1
PRNT 421, 422 COLOR SEPARATIONS	3, 3

## LIBRARY SCIENCE

LIBR 385 SELECTION AND ACQUISITION OF LIBRARY MATERIALS	3
LIBR 395 METHODS OF LIBRARY INSTRUCTION	3
LIBR 400 TOPICS IN LIBRARY SCIENCE	1-3
LIBR 456 ADMINISTRATION OF SCHOOL LIBRARIES	3

SUPPORTING COURSES

LIBR 479 DIRECTED RESEARCH/PROJECT	1-3; 6
LIBR 490 DIRECTED LIBRARY EXPERIENCE	4-6; 6
LIBR 496 SEMINAR IN SCHOOL LIBRARY PROBLEMS	3

**MATHEMATICS**

MATH 395 METHODS OF TEACHING MATHEMATICS	3
MATH 400 TOPICS IN MATHEMATICS	1-3
MATH 442 ADVANCED NUMERICAL ANALYSIS	4
MATH 451, 452, 453 ADVANCED CALCULUS	3, 3, 3
MATH 461, 462, 463 MODERN ALGEBRA	4, 4, 4
MATH 479 DIRECTED RESEARCH/PROJECT	1-3; 6

**MODERN LANGUAGES**

FREN 404 FRENCH DIRECTED READING	1-3; 6
FREN 407 17TH AND 18TH CENTURY FRENCH LITERATURE	4
FREN 408 19TH CENTURY FRENCH LITERATURE	4
FREN 409 20TH CENTURY FRENCH LITERATURE	4
GRMN 411 GERMAN DIRECTED READING	1-3; 6
GRMN 421 18TH CENTURY GERMAN LITERATURE	4
GRMN 422 19TH CENTURY GERMAN LITERATURE	4
GRMN 423 20TH CENTURY GERMAN LITERATURE	4
SPAN 414 SPANISH DIRECTED READING	1-3; 6
SPAN 424, 425, 426 CONTEMPORARY SPANISH LITERATURE	2, 2, 2
SPAN 431, 432, 433 SURVEY OF LATIN-AMERICAN LITERATURE	3, 3, 3
MDLG 395 METHODS OF TEACHING MODERN LANGUAGES	3
MDLG 400 TOPICS IN MODERN LANGUAGES	1-3
MDLG 479 DIRECTED RESEARCH/PROJECT	1-3; 6

**MUSIC**

MUCT 425 ORCHESTRATION	3
MUCT 426 COUNTERPOINT	3
MUCT 434 ADVANCED COMPOSITION	1-3; 3
MUED 354 VOCAL TECHNIQUES AND METHODS	3
MUED 395 ELEMENTARY MUSIC METHODS	3
MUED 396 SECONDARY MUSIC METHODS	3
MUED 400 TOPICS IN MUSIC	1-3; 6
MUED 479 DIRECTED RESEARCH/PROJECT	1-3; 6
MUPF 361 BASIC CONDUCTING	2
MUPF 362 INSTRUMENTAL CONDUCTING TECHNIQUES AND MATERIALS	3
MUPF 363 CHORAL CONDUCTING TECHNIQUES AND MATERIALS	3

## OFFICE ADMINISTRATION

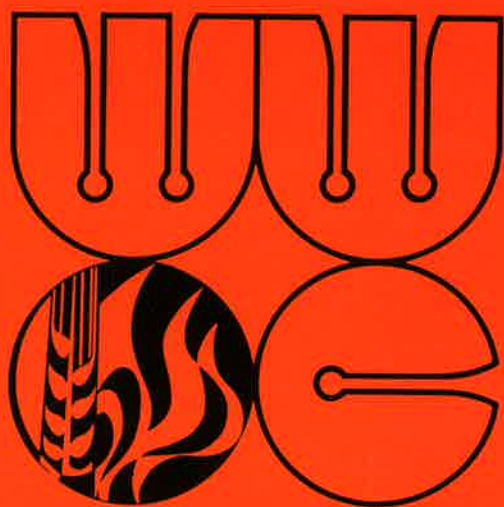
OFAD 395 METHODS OF TEACHING BUSINESS EDUCATION SUBJECTS	4
OFAD 400 TOPICS IN OFFICE ADMINISTRATION	1-3
OFAD 454 LEGAL OFFICE PROCEDURES	4
OFAD 456 MEDICAL OFFICE PROCEDURES	4
OFAD 457 MEDICAL TERMINOLOGY AND TRANSCRIPTION	3, 5; 5
OFAD 459 THE ADMINISTRATIVE ASSISTANT	4
OFAD 466 OFFICE ETHICS AND RELATIONS	3
OFAD 479 DIRECTED RESEARCH/PROJECT	1-3; 6
OFAD 496 OFFICE ADMINISTRATION SEMINAR	1-3

## PHYSICS

PHYS 352, 353 RADIOISOTOPE TECHNIQUES	2, 2
PHYS 395 METHODS OF TEACHING PHYSICAL SCIENCE	3
PHYS 400 TOPICS IN PHYSICS	1-3
PHYS 414, 415, 416 EXPERIMENTAL PHYSICS	1, 1, 1
PHYS 417, 418, 419 PHYSICS SEMINAR II	1, 1, 1
PHYS 479 DIRECTED RESEARCH/PROJECT	1-3; 6

## SOCIOLOGY AND SOCIAL WORK

CORR 365 LAW, POLICY AND SOCIETY	2
CORR 385 CRIMINOLOGY	3
CORR 387 JUVENILE DELINQUENCY	3
CORR 487 PERSPECTIVES ON THE TREATMENT OF OFFENDERS	3
SOWK 371 SOCIAL WORK PRACTICE WITH INDIVIDUALS	4
SOWK 372 SOCIAL WORK PRACTICE WITH SMALL GROUPS	4
SOWK 373 SOCIAL WORK PRACTICE WITH MARRIAGE AND FAMILY	3
SOWK 375 SOCIAL WORK IN COMMUNITY SERVICES	3
SOWK 464 SOCIAL WORK WITH CHILDREN	3
SOWK 465 POLICY, PLANNING AND ADMINISTRATION	3
SOWK 466 COMPARATIVE THEORIES OF SOCIAL WORK PRACTICE	3
SOWK 479 DIRECTED RESEARCH/PROJECT	1-3; 6
SOWK 490 FIELD WORK	2-14



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