

RECOMMENDED COURSES FOR THE MERCER UNIVERSITY TRANSFER PROGRAM

For All Majors (biomedical, computer, electrical, environmental, industrial, and mechanical engineering):

Core Curriculum Areas A - F:

- same as Regents' Engineering Transfer Program Engineering Courses21 hours
ENGR 2010, 2200, 2500, 3210, 3220, 2310, 3320
- Supporting Courses9 hours
COMM 1100, ENGL 3020, MATH 2150

RECOMMENDED COURSES FOR REGULAR TRANSFER TO THE UNIVERSITY OF GEORGIA

All Majors (agricultural engineering, biological engineering): Students should follow the recommended courses for Regents' Engineering Transfer Program, Mechanical Engineering.

DUAL DEGREE PROGRAM

The Dual Degree Program offers a student the opportunity to earn a Bachelor of Science degree from Valdosta State University and, in addition, a Bachelor of Science degree in engineering from the Georgia Institute of Technology within a total time period of approximately five years. Three-fourths of the Valdosta State University degree requirements are completed before transfer to the Georgia Institute of Technology (nominally three years), while the remaining Valdosta State University degree requirements and the remaining engineering degree requirements are completed at the Georgia Institute of Technology (nominally two years). The bachelor's degree from Valdosta State University may be awarded when the student has satisfied the degree requirements.

The major selected at Valdosta State University should be one that can easily incorporate the mathematics and science courses required in the first two years of the engineering field the student plans to enter, i.e., applied mathematics, computer science, physics, or chemistry. Other majors make the five-year time period unfeasible. The second degree at the Georgia Institute of Technology may be selected from any of the fields of engineering.

RECOMMENDED COURSES FOR THE DUAL-DEGREE PROGRAM

Major: See course requirements for VSU major. Students must complete at least 90 hours at VSU before transferring. See the Dual Degree Coordinator for additional requirements that must be satisfied before transferring.

Supporting Courses/Electives: Students take the following courses as they fit into the major requirements at VSU and the engineering requirements at Georgia Tech: ENGR 2010, 2200, 2310, 2500, 3210, 3220, 3320; MATH 2150, 3340.

The remaining 30 (or fewer) hours required for the VSU degree must be taken at Georgia Tech, to be accepted as transfer credit by VSU.

Department of English

*Dr. Mark Smith, Head
Room 207, West Hall*

The Department of English offers four programs of study that lead to a B. A. degree in English and two programs that lead to an M. A. degree in English. The Department also offers minors in Literature and Language, Journalism, Creative Writing and Contemporary Literature, and Professional Writing.

The programs in the English Department build upon the basic knowledge, skills, and values provided by the University Core Curriculum while preparing students for a wide range of careers as well as for graduate study in numerous fields. The Literature and Language Track provides a pre-law and pre-theology education as well as prepares students for graduate study in English. The Journalism Track prepares students for careers in print journalism, editing, and in-house news writing. The Creative Writing and Contemporary Literature Track prepares students for graduate study as well as careers in publishing and related fields. The Professional Writing Track also prepares students for graduate study as well as careers in law, business, advertising, and publishing. Students in every track are encouraged to gain work experience related to their major through internships or the VSU Cooperative Education Program. Each of the English Department’s tracks emphasizes the importance of critical thinking skills; encourages an appreciation of diverse cultural perspectives; and develops a greater understanding of the cognitive, emotive, and aesthetic dimensions of language as an avenue of self-knowledge, cultural understanding, and social responsibility.

SELECTED EDUCATIONAL OUTCOMES

Each program in the English Department has numerous desired outcomes. Examples of these outcomes include the following:

1. To develop a basic knowledge of British, American, and world literatures and an ability to respond to them critically.
2. To write and speak with clarity, precision, and sophistication.
3. To research carefully and systematically, utilizing the appropriate computer technology, and to apply that research to the study of language and literature.
4. To foster a greater understanding of the cultural and historical contexts of written communication.

EXAMPLES OF OUTCOME ASSESSMENTS

The English Department assesses the extent to which its program requirements create the desired outcomes by using a variety of techniques. Examples of these assessments (and the related educational outcome) include the following.

1. Students will submit a portfolio of written work.
2. Students will complete a five-page Undergraduate English Major Exit Questionnaire.

BACHELOR OF ARTS DEGREE WITH A MAJOR IN ENGLISH

REQUIREMENTS FOR THE BACHELOR OF ARTS WITH A MAJOR IN ENGLISH

Core Curriculum Areas A-E* (See VSU Core Curriculum)	42 hours
Core Curriculum Area F*.....	18 hours
ENGL 2060, ENGL 2080	6 hours

ENGL 2111, 2112, or 2113	3 hours
(Student may choose one of the above courses not taken in Area C.)	
Foreign Language and Culture through 2002	6-9 hours
(3 hours will count in Area C if student begins foreign language classwork at the 1001 level.)	
ART 1100, COMM 1100, MUSC 1100, THEA 1100, HIST 1011, HIST 1012, HIST 1013, PHIL 2010, PHIL 2020	0-6 hours

* All core classes with an ENGL prefix (ENGL 1101, ENGL 1102, ENGL 2060, ENGL 2080, ENGL 2111, ENGL 2112, ENGL 2113, and ENGL 2140) must be completed with a grade of “C” or better.

LITERATURE AND LANGUAGE TRACK

Senior College Curriculum . . . . .	.60 hours
Courses required for the Major	39 hours
ENGL 3110, ENGL 3120, ENGL 3210, ENGL 3215.	12 hours
ENGL 3060 (prerequisite or corequisite to all 4000-level courses).	3 hours
One British period course (ENGL 4110-4160)	3 hours
One American period course (ENGL 4210-4250)	3 hours
One critical focus course (ENGL 4310, 4320, 4330, 4340, or 4350)	3 hours
Four elective courses of 3 hours each at the 3000-level or above from ENGL, CWCL, JOUR, or LING (one of these courses must be ENGL 3010, 3020, 3030, 4600, 4610, 4620, 4630, 4640, or any course with a CWCL, JOUR, or LING prefix.)	
(1 foreign language literature course numbered 4000 or above may be substituted.) . . .	12 hours
ENGL 4900 Senior Seminar.	3 hours
Minor and/or Elective courses.	21 hours
Must include at least 6 hours of courses numbered 3000 or above in a single discipline outside of ENGL.	

Total hours required for the degree. 120 semester hours

or

JOURNALISM TRACK–NEWSPAPER EMPHASIS

Senior College Curriculum . . . . .	.60 hours
Courses Required for the Major	40-41 hours
ENGL 3110 or ENGL 3120	3 hours
ENGL 3210 or ENGL 3215	3 hours
JOUR 3080, JOUR 3510, JOUR 3540	9 hours
JOUR 3570, JOUR 4500, CWCL 3400	9 hours
JOUR 3520	1-2 hours*
JOUR 2500 and/or JOUR 4800	3 hours
JOUR 4510 or JOUR 4540	3 hours
JOUR 4520 or JOUR 4560	3 hours
JOUR 4550	3 hours
ENGL 4900.	3 hours

* English majors not pursuing cross-training certificate must take course for 2 hours to ensure exposure to skills for multimedia presentation .

Minor and/or elective courses 19-20 hours
Must include at least 6 hours of courses numbered 3000 or above in a single discipline outside of JOUR.

Total hours required for the degree. 120 semester hours

or

JOURNALISM TRACK–MAGAZINE EMPHASIS

Senior College Curriculum60 hours

Courses Required for the Major 40-41 hours

- ENGL 3110 or ENGL 3120 3 hours
- ENGL 3210 or ENGL 3215 3 hours
- JOUR 3080, JOUR 3510, JOUR 3540 9 hours
- JOUR 3570, JOUR 4500, CWCL 3400 9 hours
- JOUR 3520 1-2 hours*
- JOUR 2500 and/or JOUR 4800 3 hours
- JOUR 4510 or JOUR 4560 3 hours
- JOUR 4520 or CWCL 3420 3 hours
- JOUR 3560 3 hours
- ENGL 4900 3 hours

* English majors not pursuing cross-training certificate must take course for 2 hours to ensure exposure to skills for multimedia presentation.

Minor and/or elective courses 19-20 hours

Must include at least 6 hours of courses numbered 3000 or above in a single discipline outside of JOUR.

Total hours required for the degree. 120 semester hours

or

PROFESSIONAL WRITING TRACK

Senior College Curriculum.60 hours

Courses required for the Major 39 hours

- ENGL 3110 or ENGL 3120 3 hours
- ENGL 3210 or ENGL 3215 3 hours
- ENGL 3010, ENGL 3020, JOUR 4500 9 hours
- JOUR 3560 or JOUR 4510 3 hours
- CWCL 3400, CWCL 3420 6 hours
- ENGL 4600, ENGL 4620, ENGL 4630 9 hours
- ENGL 4640, ENGL 4900 6 hours

Minor and/or Elective Courses 21 hours

Must include at least 6 hours of courses numbered 3000 or above in a single discipline outside of ENGL.

Total hours required for the degree. 120 semester hours

or

CREATIVE WRITING AND CONTEMPORARY LITERATURE TRACK

Senior College Curriculum .....	.60 hours
Courses required for the Major	40 hours
ENGL 3110, ENGL 3120 .....	.6 hours
ENGL 3210, ENGL 3215 .....	.6 hours
ENGL 3060 (prerequisite or corequisite to all 4000-level courses) .....	.3 hours
ENGL 4150 or ENGL 4160 .....	.3 hours
ENGL 4240 or ENGL 4250 .....	.3 hours
One 4000-level ENGL course .....	.3 hours
CWCL 2500	1 hour
CWCL 3400 .....	.3 hours
One three-course CWCL sequence .....	.9 hours
CWCL 3440, CWCL 4440, CWCL 4410; or	
CWCL 3460, CWCL 4460, CWCL 4420; or	
CWCL 3420, JOUR 4520 or JOUR 3560, CWCL 4430	
ENGL 4900 .....	.3 hours
Minor and/or Elective courses	20 hours
Must include at least 6 hours of courses numbered 3000 or above in a single discipline outside CWCL.	
Total hours required for the degree	120 semester hours

Students should review the Arts and Sciences requirements for completion of the B.A. degree.

INSTITUTIONAL CROSS-TRAINING CERTIFICATE FOR JOURNALISM AND MASS MEDIA STUDENTS

To earn an institutional certificate, students who are earning a minor in print journalism or who are majoring in English with a journalism emphasis will be required to pass the following courses with a grade of “C” or better:

- **MDIA 3050** Broadcast Performance and Announcing
- **MDIA 3500** Broadcast News Writing
- **MDIA 4960** (1-2 hours) Performance and Production Workshop

To earn an institutional certificate, students who are earning a minor or major in mass media will be required to pass the following courses with a grade of “C” or better:

- **JOUR 3510** News Writing
- **JOUR 3520** (1 hr) Essential Reporting Skills
- **JOUR 4510 or 4520 or 4550** Feature Writing, Literary Journalism, Reporting

MINOR PROGRAMS

Minor in Creative Writing and Contemporary Literature	15 hours
CWCL 3400 .....	.3 hours
One two-course CWCL sequence .....	.6 hours
CWCL 3440 and CWCL 4440, <i>or</i>	
CWCL 3460 and CWCL 4460, <i>or</i>	
CWCL 3420 and JOUR 4520 or JOUR 3560	
Two ENGL electives at the 3000- or 4000-level .....	.6 hours

Minor in Literature and Language	15-18 hours
ENGL 2060 (if not taken in Area F)	0-3 hours
ENGL 3110, ENGL 3120, ENGL 3210, ENGL 3215.	12 hours
Elective numbered 3000 or above from ENGL, CWCL, JOUR, or LING	3 hours

Minor in Journalism	18 hours
JOUR 3080	3 hours
JOUR 3510, JOUR 3540, JOUR 3570, JOUR 4500	12 hours
One elective from the following list:	3 hours
JOUR 4510, JOUR 4520, JOUR 4540, JOUR 4550, or JOUR 4560	

Minor in Professional Writing.	18 hours
ENGL 3010, ENGL 3020, ENGL 4600, ENGL 4630.	12 hours
Two sequenced electives from the following list	6 hours
ENGL 4620 and ENGL 4640, <i>or</i>	
JOUR 3560 and JOUR 4510, <i>or</i>	
CWCL 3400 and CWCL 3420	

ENGLISH TO SPEAKERS OF OTHER LANGUAGES (ESOL) ENDORSEMENT

*Dr. Mark Smith, Head, Department of English
Room 207, West Hall*

*Dr. Victoria Soady, Head, Department of Modern and Classical Languages
Room 128, West Hall*

The English to Speakers of Other Languages (ESOL) Endorsement provides credentials to teach English as a second language in Georgia. An ESOL endorsement can be pursued by undergraduate or graduate students working toward or possessing certification in any teaching field or in the service field of communication disorders (speech and language pathology). An individual in any other service field or in the leadership field must have established a teaching field in order to pursue the ESOL endorsement. An individual with a permit in foreign language is also eligible to add the ESOL endorsement.

Requirements for the ESOL Endorsement

ESOL 4010 Applied Linguistics for ESOL Teachers	3 hours
ESOL 4020 Cultural Perspectives for ESOL Teachers.	3 hours
ESOL 4030 Methods and Materials for Teaching ESOL.	3 hours

Total Required for the ESOL Endorsement 9 semester hours

CERTIFICATE IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TESOL) (ONLINE)

*Dr. Victoria Soady, Head, Department of Modern and Classical Languages
Room 128, West Hall*

This online certificate prepares majors from any discipline to pursue teaching opportunities with English Language Learners (ELLs) in corporate settings and in private language schools in the United States and internationally. It combines a theoretical foundation in second-language acquisition with practical experience. No previous background in linguistics is required for admission. Some background in a second language is recommended. It may be combined with any degree program.

The courses are designed to accommodate different needs and learning styles through computer-based, online instruction using synchronous and asynchronous multimedia tools: Wimba voice boards, virtual classrooms, and online social environments such as Second Life. These approaches allow for flexibility in scheduling for students. Students will be trained in using all necessary technology and supported throughout the course by faculty.

This stand-alone certificate is available for students who are not currently enrolled at Valdosta State University, subject to application and successful admission. International students must demonstrate competence in English by meeting the TOEFL score prescribed by university admissions.

SELECTED EDUCATIONAL OUTCOMES

Students will

1. demonstrate an understanding of how to apply second-language acquisition theories, principles, and current research in creating instructional materials and in assessing ELLs.
2. demonstrate an understanding of the role that language transfer plays in teaching and learning processes with ELLs in order to plan lessons that address possible interference between English and other languages.
3. identify suitable ESOL assessment tools, administer assessments, and develop instructional materials to address specific literacy challenges of ELLs.

A grade of “C” or better is required in each course.

Requirements for the online Certificate in Teaching English to Speakers of Other Languages (TESOL)

*ESOL 4010, *ESOL 4020, *ESOL 4030	9 hours
ESOL 4040, ESOL 4050, ESOL 4060	9 hours

*Note: These three courses within the certificate fully satisfy the add-on ESOL Endorsement requirements for certified teachers in Georgia.

Health Professions

*Dr. Robert Gannon, Head, Department of Biology
Room 2035, Bailey Science Center*

*Dr. James T. Baxter, Head, Department of Chemistry
Room 3025, Bailey Science Center*

Most programs in the health professions require four years of study to complete the degree requirements that are prerequisite for eligibility to take licensing or certification exams. Valdosta State University provides two- or three-year pre-professional programs in the allied health fields listed below.

After completing one of these junior college curricula, students may qualify for the Associate of Arts degree from Valdosta State University and are eligible to apply for admission to an appropriate institution for completion of the professional training required for the baccalaureate degree.

Students interested in academic work listed below in preparation for admission to institutions where the professional training can be completed will be advised in the Department of Biology.

Community Health Nutrition	Dental Hygiene
Medical Records Administration	Medical Technology
Occupational Therapy	Optometry
Pathologist's Assistant	Physical Therapy
Physician's Assistant	Respiratory Therapy

PHARMACY

Students interested in pharmacy in preparation for admission to institutions where the professional training can be completed will be advised in the Department of Chemistry.

Department of History

*Dr. Paul Riggs, Head
Room 210, Ashley Hall North*

The Department of History provides an undergraduate program that leads to the Bachelor of Arts degree with a major in history. The Department also offers a minor in history. A graduate program leads to the Master of Arts degree with a major in history.

The undergraduate major and minor in the Department of History are designed to help students to further and to complete their general education by building upon the foundation that is afforded by the University's Core Curriculum. The programs also provide students with the basic knowledge, skills, and values required for professional careers in history and for advanced study in the field. The program is a flexible one that presents students with opportunities to supplement the major by taking one or two minors or even a second major.

History's scope is extremely broad, and people and their institutions form a particular focus of the discipline. The use of language and the ability to communicate skillfully also are concerns of history. Thus, the study of history prepares students for many different occupations and professions in which such qualities are essential.

Traditionally, teaching has been a career possibility, but, as well, graduates of the program in history are prepared to enter graduate school for further study; to seek employment in business or government, in museums and libraries, in publishing, journalism, and advertising; or to enter the military, politics, or theology. A degree in history is excellent preparation for business school or law school.

Students who are interested in the history major or who have questions about the vocational possibilities of the major should consult with members of the Department of History in Ashley Hall.

HONORS TRACK FOR HISTORY MAJORS

The Honors Track in history allows students the option of pursuing the major at a more challenging level. To enter the track, student must be history majors with an overall GPA of 3.0. They must have a 3.0 average in all history courses taken and must have completed HIST 3000 with a grade of "B" or higher. They must maintain an overall GPA of 3.0 and a GPA of 3.0 in the major.

Students must complete three courses from among the following options, with at least a grade of "B" in each:

- HIST 3030H Honors Topics in U. S. History;
- HIST 3040H Honors Topics in European History;
- HIST 3050H Honors Topics in World History;
- HIST 4800H Honors Directed Study: Thesis.

Students completing the Honors Track in history will have it noted on their transcript.

BACHELOR OF ARTS DEGREE WITH A MAJOR IN HISTORY

SELECTED EDUCATIONAL OUTCOMES

The Bachelor of Arts program with a major in history has numerous desired outcomes. Examples of the outcomes include the following:

1. Students will demonstrate knowledge of major political developments in history.
2. Students will demonstrate knowledge of major social developments in history.
3. Students will communicate effectively in writing and orally.
4. Students will demonstrate the ability to engage in critical analysis and historical interpretation.

EXAMPLES OF OUTCOME ASSESSMENTS

1. As a matter of established departmental policy, all upper division courses require written work in the form of essays, research papers, and other similar projects that help determine progress in written communication skills, analytical and interpretive skills, and mastery of course content.
2. Senior Seminar is designed to measure student progress in the program in the mastery of effective oral and written communication, the acquisition of skills in critical analysis and historical interpretation, and the ability to make effective use of library resources and computer and information technology.
3. When such information is available, the department will use as an assessment tool the results of University-wide collection of data that relate to the major and to History Department graduates.

REQUIREMENTS FOR THE B.A. WITH A MAJOR IN HISTORY

Core Areas A - E* (See VSU Core Curriculum)	42 hours
Core Area F*	18 hours
Foreign Language and Culture ¹	6 hours
HIST 2111 or HIST 2112.	3 hours
HIST 1011 (if taken in Area E, then elective from list below)	0-3 hours
HIST 1012 (if taken in Area E, then elective from list below)	0-3 hours
HIST 1013 (if taken in Area E, then elective from list below)	0-3 hours
Electives.	0-6 hours
Acceptable electives for Area E:	
ANTH 1102, CS 1000, ECON 1500, GEOG 1101, GEOG 1102,	
GEOG 1103, MATH 2620, PHIL 2010, POLS 2101, POLS 2401,	
POLS 2501, PSYC 2500, REL 2020, SOCI 1101, SOCI 1160	

* All courses with the HIST prefix taken in Areas E and F must be completed with a grade of “C” or better.
¹ Only two of three required courses in a single foreign language can be taken in Area F. The third course must be taken in Area C or as part of the Senior College Curriculum (see below).

Senior College Curriculum.	60 hours
HIST 3000.	3 hours
Upper division courses in History . . . . .	.24 hours
Courses numbered above 3000, including at least one each in:	
(a) European or British History;	
(b) United States History;	
(c) Latin American, African, Middle Eastern, or Asian History;	
(d) Additional course from categories (a) or (c), above.	
HIST 4950.	3 hours
Foreign Language and Culture (if not taken in Area C).	0-3 hours
Minor or Electives.	27-30 hours
Must include at least six (6) semester hours in courses numbered 3000 or above in a single discipline outside the history major.	

Total hours required for the degree. 120 semester hours

MINOR IN HISTORY

The Minor in History.	15 hours
Upper division history courses	15 hours

Department of Mathematics and Computer Science

Dr. Gregory Harrell, Head

Room 2072, Nevins Hall

The Department of Mathematics and Computer Science is a multidisciplinary department with programs leading to baccalaureate degrees in mathematics, applied mathematics, mathematics with computer science option, computer science, and computer information systems. The department also supports an interdisciplinary degree in conjunction with the College of Education and Human Services' program for secondary school teachers. Additionally, the department offers minors in mathematics, mathematics (statistics track), and computer science.

The programs in the department are designed to give the student the basic knowledge, skills, and values that build upon the foundation provided by the University Core Curriculum and that are required for professional careers in the mathematical and computing sciences. Moreover, through a series of sequenced courses, the department prepares the student for more advanced study, either at the graduate level or through company training programs. The requirements of the programs have been designed in keeping with national norms of excellence and according to well established model curricula where they exist. The major common feature shared by all the department's programs is the stress on critical thinking skills.

Students may gain work experience related to their major through the VSU Co-Op Program. Such experience may prove valuable in terms of career exploration, acquisition of new skills, and career development.

BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN APPLIED MATHEMATICS

SELECTED EDUCATIONAL OUTCOMES

1. Students will solve problems involving groups, rings, fields, and their applications.
2. Students will solve problems involving vector spaces, linear transformations, eigenvalues, and normed linear spaces.
3. Students will exhibit the logical reasoning skills and technical background necessary to do mathematical proofs by proving theorems in set theory, analysis, linear algebra, and abstract algebra.
4. Students will use mathematical software and modeling to solve problems in numerical analysis, operations research, and statistics.

REQUIREMENTS FOR THE B.S. DEGREE WITH A MAJOR IN APPLIED MATHEMATICS

Core Curriculum Areas A-E (See VSU Core Curriculum)	42 hours
(Applied Mathematics Majors are required to take Math 1113 in Area A and Math 2261 in Area D.)	
Core Curriculum Area F	18 hours
MATH 2261 “spillover” from Area D	1 hour
MATH 2262, MATH 2263.....	8 hours
CS 1301 (3 credits “spill over” into “Supporting Courses”)	1 hour
PHYS 2211K, PHYS 2212K	8 hours
Senior College Curriculum	60 hours
Courses Required for the Major	36 hours
MATH 2150, MATH 3600, MATH 4621	9 hours
MATH 3040, MATH 3340, MATH 4150.....	9 hours
MATH 4081, MATH 4260, MATH 4651	9 hours
MATH 4901, MATH 4910.....	6 hours
One of the following:	3 hours
MATH 4622, MATH 4630, MATH 4652, MATH 4902,	
PHYS 3100, PHYS 4111, PHYS 4211, PHYS 4411	
Supporting Courses	6-9 hours
CS 1301 “spillover” from Area F.....	3 hours
Foreign Language & Culture Requirement.....	3-6 hours
Electives.....	15-18 hours
Must include at least 6 hours of courses numbered 3000 or above in a single discipline outside the major.	

Additional Requirements and Notes

1. Students must complete 16 credits of laboratory science, including the calculus-based physics indicated in Area F.
2. A grade of “C” or better must be earned in all “Courses Required for the Major.” Also, a grade of “C” or better is required in MATH 1111, 1112, 1113, 2150, 2261, 2262, 2263, and CS 1301, if any of those courses are taken.
3. Students must complete a sequence of two courses in any foreign language, either in “Supporting Courses” or in a combination of Area C and “Supporting Courses.” Minimum acceptable grades in the language courses are the same as minimum acceptable grades in the Core Curriculum.

Total hours required for the degree. 120 semester hours

SECOND DEGREE IN MATHEMATICS

The B.S. degree with a major in applied mathematics is available as a second bachelor's degree for students receiving the B.S.Ed. with a major in secondary education in the teaching field of mathematics, by completing CS 1301, MATH 3340, MATH 4260, MATH 4621, MATH 4651, and either MATH 4901 or MATH 4910 (whichever course was not taken to fulfill the requirements for the B.S.Ed. degree), and 3 credit hours chosen from MATH 3900, MATH 4622, MATH 4630, MATH 4652, and MATH 4902.

The B.A. degree with a major in mathematics is available as a second bachelor's degree for students receiving the B.S.Ed. with a major in secondary education in the teaching field of mathematics, by completing MATH 3340, MATH 4260, MATH 4621, MATH 4980, and 6 credit hours chosen from MATH 3010, MATH 4082, MATH 4300, and MATH 4540.

Any of the following courses that are taken by the student must be completed with a grade of "C" or higher: MATH 1101, MATH 1111, MATH 1112, MATH 1113, MATH 1113H, MATH 2150, MATH 2261, MATH 2262, and MATH 2263, as well as all upper division MATH courses.

Students interested in graduating with the B.S.Ed. degree and either the B.S. degree with a major in applied mathematics or B.A. degree with a major in mathematics should consult the department head concerning the procedures to follow in applying for the second degree.

BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN COMPUTER SCIENCE

SELECTED EDUCATIONAL OUTCOMES

1. Students will design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
2. Students will demonstrate ability to use current techniques, skills, and tools necessary for computing practice.
3. Students will apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.

REQUIREMENTS FOR THE B.S. DEGREE WITH A MAJOR IN COMPUTER SCIENCE

Core Curriculum Areas A-E (See VSU Core Curriculum)	42 hours
Majors in Computer Science are required to take Precalculus (MATH 1113) in Area A and Analytic Geometry and Calculus I (MATH 2261) in Area D.	
Core Curriculum Area F	18 hours
CS 1301 and 1302 and 2620	11 hours
MATH 2261 “spillover” from Area D	1 hour
MATH 2262	4 hours
D.2.a Laboratory Science (with 2 hours “spilling” into Supporting Courses)	2 hours
Senior College Curriculum	60 hours
Courses Required for the Major	39 hours
CS 2800	3 hours
CS 3101, CS 3335, CS 3410	9 hours
CS 3520, CS 4345	6 hours
CS 4121, CS 4321, CS 4721, CS 4500, CS 4900	15 hours
Additional 3000-level or 4000-level courses in CS (except CS 4800)	3 hours
Additional 4000-level courses in CS (except CS 4800)	3 hours
Supporting Courses	11 hours
D.2.a Laboratory Science (“spillover” from Area F)	2 hours
MATH 2150 and MATH 3600, and MATH 4651 or MATH 4901	9 hours
Electives	10 hours

Additional Notes:

1. The 12-hour lab science requirement must include a two-course sequence. All three courses must be from Area D.2.a Students not completing these requirements in their Core Curriculum must complete them with elective courses.
2. Students must receive a “C” or better in all of the lower division mathematics and computer science courses completed to satisfy the degree requirements.

Total hours required for the degree. 120 semester hours

BACHELOR OF SCIENCE DEGREE WITH A MAJOR IN COMPUTER INFORMATION SYSTEMS

SELECTED EDUCATIONAL OUTCOMES

1. Students will design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
2. Students will demonstrate ability to use current techniques, skills, and tools necessary for computing practice.
3. Students will demonstrate an understanding of processes that support the delivery and management of information systems within a specific application environment.

REQUIREMENTS FOR THE B. S. DEGREE WITH A MAJOR IN COMPUTER INFORMATION SYSTEMS

Core Curriculum Areas A-E (See VSU Core Curriculum)	42 hours
Core Curriculum Area F.	18 hours
CS 1301, CS 1302, CS 2620.	11 hours
ACCT 2101-2102	6 hours
MATH 1261/1262 (or MATH 2261/2262)	1 hour
Note: There is a requirement in this program that a student complete a six-credit sequence of calculus. One credit in Area F can be devoted to these six credits of calculus.	
Senior College Curriculum.	60 hours
Courses Required for the Major.	33 hours
CS 3101, CS 3410, CS 4345	9 hours
One of CS 3300, CS 3320, CS 3335, CS 3340	3 hours
CS 4121, CS 4321, CS 4721	9 hours
One of CS 4122, CS 4322, CS 4722	3 hours
Two of any 3000-level or 4000-level course not required above	6 hours
(excluding CS 3000, CS 3001, and CS 4800)	
One of any CS 4000-level courses not required above (excluding CS 4800) ..	.3 hours
Supporting Courses.	17-20 hours
Completion of the calculus sequence, MATH 1261-1262 (or MATH 2261-2262)	2-5 hours
MATH 2620 or MATH 3600	3 hours
Choose one of the following areas:	12 hours
Business: ECON 2106, MGNT 3250, MGNT 3300 plus either FIN 3350 or MKTG 3050	
or Technical Communications: ENGL 3020, ENGL 3080, ENGL 3090, plus either	
COMM 1110 or COMM 2400	
Electives.	7-10 hours

Additional Requirements:

1. No more than 4 hours of electives may be taken in courses offered by the College of Business Administration.
2. A grade of "C" or better must be earned in all Area F courses and core curriculum lower-level math courses, all courses required for the major, and all supporting courses.

Total hours required for the degree.

120 semester hours

BACHELOR OF ARTS DEGREE WITH A MAJOR IN MATHEMATICS

SELECTED EDUCATIONAL OUTCOMES

1. Students will explain and produce mathematical proofs in set theory, algebra, and analysis to indicate that they have acquired the necessary logical reasoning, reading, and writing skills.
2. Students will prove statements, produce examples, and apply the appropriate theoretical results to a given problem to show understanding of various algebraic structures, including, but not limited to, groups, fields, rings, and vector spaces.
3. Students will prove statements, produce examples, and apply the appropriate theoretical results to a given problem to demonstrate understanding of the analytic structure necessary for the classical (real-valued function) calculus and its generalization.
4. Students will synthesize the results and techniques of the major branches of mathematics, demonstrated by presentation of mathematics in written and oral form.

REQUIREMENTS FOR THE B. A. DEGREE WITH A MAJOR IN MATHEMATICS

Core Curriculum Areas A-E (See VSU Core Curriculum)	42 hours
Mathematics majors are required to take Precalculus (MATH 1113) in Area A and Analytic Geometry and Calculus I (MATH 2261) in Area D.	
Core Curriculum Area F	18 hours
MATH 2261 “spillover” from Area D	1 hour
MATH 2262, 2263	8 hours
CS 1010 or CS 1301 or CS 1340 (1 credit spills over into “Supporting Courses”)	3 hours
Part of 3-course sequence in any foreign language	6 hours
Senior College Curriculum	60 hours
Courses Required for the Major	33 hours
MATH 2150, MATH 3600, MATH 4621	9 hours
MATH 3040, MATH 3340, MATH 4150	9 hours
MATH 4260, MATH 4081, MATH 4980	9 hours
Select 2 from: MATH 3010, MATH 3510, MATH 4082, MATH 4300, MATH 4540	6 hours
Supporting Courses	1 hour
CS 1301 “spillover” from Area F	1 hour
Electives	26 hours
Must include at least 9 hours of courses numbered 3000 or above.	

Additional Requirements and Notes

1. The foreign language courses in Area F must meet Arts and Sciences guidelines for the B.A. degree; furthermore, these courses, along with an additional language course either in Area C or in Electives, must constitute a 3-course sequence in any foreign language. Minimum acceptable grades in the language courses are the same as minimum acceptable grades in the Core Curriculum.
2. If taken, a grade of “C” or better is required in MATH 1111, MATH 1112, MATH 1113, MATH 2150, MATH 2261, MATH 2262, MATH 2263, CS 1010, CS 1301, and CS 1340.

Total hours required for the degree. 120 semester hours

MINORS

Minor in Computer Science.....	17 hours
CS 1301, CS 1302	8 hours
CS 3101, CS 3410	6 hours
Any CS course at the 3000-level or above (except CS 4800)	3 hours

All courses for the minor must be completed with a grade of “C” or better.

Minor in Mathematics.	16-17 hours
MATH 2262, MATH 3040.....	7 hours
Plus 3 courses from:	9-10 hours
MATH 2263, MATH 3340, MATH 3600, MATH 4150,	
MATH 4081, MATH 4082, MATH 4260, MATH 4300,	
MATH 4621, MATH 4622, MATH 4651, MATH 4652,	
MATH 4901, MATH 4902, or MATH 4910	

All courses for the minor must be completed with a grade of “C” or better.

EXAMPLES OF OUTCOME ASSESSMENTS

The department assesses the extent to which the program requirements create the desired outcomes by a variety of techniques. Examples of these assessments include the following:

1. The capstone courses are used to assess student progress since taking Area F courses. They determine if students have mastered effective oral and written communication skills, acquired critical analysis skills, and learned to use the library and technological resources in solving non-routine problems. Assessment methods include student projects and presentations.
2. Student examinations and samples of student work are kept in the department and are examined by the faculty to assess student content knowledge.
3. Available student and alumni survey data collected by the University will be examined to determine student satisfaction with their undergraduate preparation for further education or employment.