COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences is a diverse community of educators, students, and researchers from across the country and around the world who work together to advance the boundaries of human knowledge, foster critical thinking skills, promote intellectual inquiry, and develop an understanding of different human cultures necessary to become engaged global citizens.

These goals compel a commitment to creativity and inquiry free of bias and based upon the principles of objective scholarship. They require a responsibility to promote and convey those elements of the liberal arts and sciences that must be essential components of the educational goals of all units of the university. The college seeks richness through diversity of its programs and strength through erudition.

The College of Arts & Sciences is the university's largest and oldest; it teaches the most students, and provides the backbone for Troy University's educational and research missions. As a result, you will find a broad array of academic programs that will pre-

pare you for careers in public and private sectors as well as postgraduate and professional schools. These programs emphasize the core values of a classic liberal arts education, as well as the skills and flexibility one will need to meet the challenges of the 21stcentury workplace.

A degree from the College of Arts & Sciences is much more than preparation for a career—it is preparation for a complete, rich, and rewarding life.

In addition to general studies courses, major courses and minor courses, sufficient free electives should be chosen to total at least 120 hours.

As part of ongoing planning and evaluation, the College of Arts and Sciences regularly evaluates student learning outcomes for each degree program.

ACCELERATED LAW CURRICULUM (58 HOURS)

- Students interested in the Accelerated Law Curriculum must complete the requirements for the General Social Science Concentration and the courses outlined in Area V of General Studies by the end of the third year of study at Troy University (or semester prior to attending partnered institution).
- Students interested in the Accelerated Law Curriculum must meet the admission requirements and be accepted to a partnered institution. Students must take the LSAT exam as part of the admissions requirement.
- Students must successfully complete 30 semester hours of law courses outlined by the partnered institution in order to receive Troy University credit.
- Students are strongly recommended to take PHI 2204 Ethics and Modern World within Area II of General Studies.
- 5. Upon the successful completion of the designated 30 semester hours of courses at the partnered institution, students may be awarded a Bachelor of Science in Social Science with a minor in Legal Studies.

For additional information, interested students should see the chair of the Department of Social Science and interested students must meet with the Pre-Law Advisor.

Area V

IS 2241	(3)	Computer Concepts & Applications
TROY 1101	(1)	University Orientation

Requirements for the Major (15 hours)

Kequireme	nis jor ine	Mujor (13 nours)
SS 3375	(3)	Introduction to Social Science Inquiry
SS 3376	(3)	Statistical Applications of Social Science
		Inquiry
SS 3377	(3)	Spatial Applications of Social Science
		Inquiry
SS 4498	(3)	Social Science Theory
SS 4499	(3)	Senior Seminar

General Social Science Concentration:

Select at least 21 hours of additional 3000/4000-level courses from anthropology, economics, geography, history, political science, psychology, sociology criminal justice, or as approved by department chair. Six (6) hours may be used from ECO 2251, ECO 2252, GEO 2210, ANT 2200, POL 2241, or SOC 2275 in at least three disciplines.

Legal Studies Minor (Accelerated Law Curriculum) Required Courses (9 hours)

LGĹ 2200	(3)	Introduction to Legal Studies
LGL 3300	(3)	Legal Research and Writing
LGL 4400	(3)	Seminar in Legal Studies

The remaining nine (9) hours of Legal Studies Minor will consist

of courses successfully completed in Law School.

AIR FORCE ROTC/AEROSPACE STUDIES MINOR (18 HOURS)

AS 3312	(3)	Air Force Leadership Studies I
AS 3313	(3)	Air Force Leadership Studies II
AS 4412	(3)	National Security Affairs/Preparation for
		Active Duty I
AS 4413	(3)	National Security Affairs/Preparation for
	. ,	Active Duty II

Select two three-hour courses from upper-level political science (POL) courses, or substitute upper-level courses from history (HIS), geography (GEO), or social science (SOC) courses with the approval of the Department of Aerospace Studies chair.

*Students pursuing an Air Force ROTC Commission must also take the following Labs:

AS L312	(1)	Leadership Laboratory I
AS L313	(1)	Leadership Laboratory II
AS L412	(1)	Leadership Laboratory I
AS L413	(1)	Leadership Laboratory II

ANTHROPOLOGY MAJOR (36 HOURS)

Area IV

Anthropology majors should take Area IV electives appropriate for their major.

Major Requirements:

ANT 3305	(3)	Introduction to Archaeology
ANT 3310	(3)	Cultural Anthropology
ANT 3311	(3)	Physical Anthropology
ANT 3340	(3)	Language in Culture and Society
ANT 4499	(3)	Anthropology Theory
SS 3376	(3)	Statistical Applications of Social Science
		Inquiry

Select at least 18 hours of additional 3000/4000 level anthropology courses as approved by your faculty adviser

ANTHROPOLOGY MINOR (18 HOURS)

ANT 3310	(3)	Cultural Anthropology
ANT 3311	(3)	Physical Anthropology

Select at least 12 hours of additional 3000/4000-level anthropology courses as approved by your faculty adviser.

AVIATION OPERATIONS MINOR (18 HOURS)

Rotary Emphasis and Fixed Wing Emphasis – Equivalent credit toward the completion of the Aviation Operations minor/Rotary emphasis and the Aviation Operations minor/Fixed Wing emphasis may be earned through Federal Aviation Administration (FAA) certification and licensure in such areas as private pilot, commercial pilot and flight instruction.

For information regarding the Rotary emphasis and Fixed Wing emphasis of the Aviation Operations minor, contact the Dean of Undergraduate and First Year Studies in 117 Eldridge Hall, Troy Campus.

AVIATION OPERATIONS MINOR (18 HOURS)

Unmanned Aerial Systems Emphasis (18 hrs.)			
Required Co	ourses:		
AFT 2200	(3)	Unmanned Aerial Systems Overview	
AFT 2202	(3)	Principles of UAS Design	
AFT 2204	(3)	Principles of UAS Sensors & Sensing	
		Systems	
AFT 2206	(3)	Human Factors In UAS Operations &	
		Accidents	
AFT 2208	(3)	Legal & Ethical Considerations for	
		UAS Operations	

Select 3 semester hours from the following:

AFT 2210	(3)	UAS Real World Applications
AFT 2212	(3)	UAS Piloting Familiarization

BACHELOR OF APPLIED SCIENCE: RESOURCE AND TECHNOLOGY MANAGEMENT MAJOR (36 HOURS)

Area III	Requirements
----------	--------------

SCI 2233	(3)	Physical Science
SCI L233	(1)	Physical Science Lab

Area IV Requirements

ECO 2251	(3)	Principles of Macroeconomics
ECO 2252	(3)	Principles of Microeconomics

Area V Requirements (24 hours)

Area r Keyu	nemen	is (24 hours)
TROY 1101	(1)	University Orientation
IS 2241	(3)	Computer Concepts & Applications
GEO 2210	(3)	World Regional Geography
POL 2260	(3)	World Politics
PSY 2200	(3)	General Psychology
SOC 2275	(3)	Introduction. to Sociology
SCI 2234	(3)	Earth and Space Science
SCI L234	(1)	Earth and Space Science Lab
Electives (5 h	ours)	

RESOURCE & TECHNOLOGY MANAGEMENT MAJOR (36 HOURS)

Required Core courses (18 hours)

Required Co.	re cour	ses (10 nours)
BIO 4465	(3)	Occupational Safety and Health
MKT 3300	(3)	Principles of Marketing
MGT 3300	(3)	Principles of Management
SCI 3365	(3)	Principles of Applied Science
SOC 3370	(3)	Society and Environment
SS 3375	(3)	Introduction To Social Science Inquiry
Select a mini	mum oj	f 18 semester hours from the courses
listed below:		
BIO 4460	(3)	Critical Issues of Environmental Mgmt
CJ 3335	(3)	Private & Public Security Administration
00.2210	(2)	E 1.: 60 . 6:

listed below:	•	
BIO 4460	(3)	Critical Issues of Environmental Mgmt.
CJ 3335	(3)	Private & Public Security Administration
CS 3310	(3)	Foundations of Computer Science
PSY 4410	(3)	Business and Industrial Science
SCI 3366	(3)	Survey of Electronic Technology
SCI 3370	(3)	Toxic, Radioactive, & Hazardous Material
SCI 4450	(3)	Science in a Regulatory Environment
SOC 4413	(3)	Minorities in U.S. Social Structure

OR

Transfer of *Specialized technical courses. (not to exceed 18 semester hours.)

*Specialized technical courses.

Credit will be awarded for specialized technical knowledge based upon American Council of Education (A.C.E.) credit recommendations or transfer work from regionally accredited (Southern Association of Colleges and Schools, Middle States Association of Colleges and Schools, etc.) post-secondary community college, or technical schools as approved by the Academic Council Specializations are not available in fields of study that are offered through Troy University as majors, programs, or minors, e.g., nursing, computer science, information systems, or education. Exceptions to the use of a Troy University minor are the programs in Aviation Operations and Advanced Professional Flight. Program requirements for either minor may be used to satisfy the 18 hours of specialized technical courses.

Eligibility

Eligibility for enrollment in one of the applied science degree programs is dependent upon prior education and/or experience. Before enrollment in one of the programs, official documentation of prior learning must be submitted to determine eligibility. All post-secondary technical school transfer students must complete all courses required in the institution's curriculum and earn (if appropriate) a diploma or certificate before being granted admission into the resources management degree program. No additional credit will be awarded for the possession of a license (i.e., all credit awarded is based on documentation of training and evaluation leading to the issue of a license, not the mere possession of a license). All credit from the Community College of the Air Force (CCAF), accredited post secondary technical schools, and/or American Council on Education (ACE) recommendations will be considered junior college credit except where specifically recommended by ACE for upper-division credit. No credit will be awarded until six semester hours of academic credit has been earned at Troy University. At least 50 percent of the degree program must be traditional academic credit at the 3300/4400 level. Curriculum: The academic curricula taught by the university have been developed to supplement, not duplicate, the vocational/technical training or other experiential learning the individual may possess in a manner designed to provide these individuals greater career opportunities.

BIOLOGY EDUCATION

Students seeking Alabama teacher certification should select biology as a first major and education as a second major. Students should consult with their advisers concerning all certification requirements.

BIOLOGY MAJOR (44 HOURS)

*Special Topics in Biology (BIO 4476), Guided Independent Studies (BIO 4491/4492) and Guided Independent Research (BIO 4493, 4494) may only be taken for a maximum of 6 semester bours.

Specialized General Studies Requirements

General studies requirements for the biology, environmental science, biomedical sciences, and marine biology programs and the biology major total 64 semester hours. See the General Studies section of this catalog for complete general studies information.

Area III

BIO 1100	(3)	Principles of Biology
BIO L100	(1)	Principles of Biology Lab
CHM 1142	(3)	General Chemistry I
CHM L142	(1)	General Chemistry I Lab
MTH 1125	(4)	Calculus I

Area V Requirements

BIO 1101	(3)	Organismal Biology
BIO L101	(1)	Organismal Biology Lab
CHM 1143	(3)	General Chemistry II
CHM L143	(1)	General Chemistry II Lab
IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation

Select one sequence:

PHY 2252	(3)	General Physics I

PHY L252	(1)	General Physics I Lab			-level adviser-approved biology course and its	
PHY 2253 PHY L253	(3)	General Physics II	corresponding lab.			
OR L233	(1)	General Physics II Lab		BIOL	OGY MINOR (18-20 HOURS)	
PHY 2262	(3)	Physics I with Calculus	Lectures and	the cor	responding labs must be taken together: Organismal Biology Organismal Biology Lab	
PHY L262	(1)	Physics I with Calculus Lab	BIO 1101	(3) (1) (3)	Organismal Biology	
PHY 2263	(3)	Physics II with Calculus	BIO 2220	$\binom{1}{3}$	Principles of Cell Biology	
PHY L263	(1)	Physics II with Calculus Lab	BIO L220	(1)	Principles of Cell Biology Lab	
b			level (3300 o	to 12 c r ahove	Principles of Cell Biology Principles of Cell Biology Principles of Cell Biology Lab additional semester hours of approved upper- biology courses with corresponding labs.	
Major Requ			10701 (00000	. 40070	, ciologi, com ses mun con espenante, mesi	
BIO 2220 BIO L220	(3) (1)	Principles of Cell Biology Principles of Cell Biology Lab		BIOLO	OGY PROGRAM (56 HOURS)	
BIO 2229	(3)	General Ecology	*Special To	nics in	Biology (BIO 4476), Guided Independent	
BIO L229	(1)	General Ecology Lab	Studies (BIÓ	4491/4	(492) and Guided Independent Research (BIO	
BIO 3320	(3)	Genetics	4493, 4494)	may onl	y be taken for a maximum of 6 semester hours	
BIO L320	(1)	Genetics Lab	C	~	Construction of the construction	
BIO 4484	(1)	Senior Seminar in Biological &	Specializea (Area III	senerai	Studies Requirements	
CHD 4 22.42	(2)	Environmental Sciences	BIO 1100	(3)	Principles of Biology	
CHM 3342 CHM L342	(3) (1)	Organic Chemistry I Organic Chemistry I Lab	BIO L100	(1)	Principles of Biology Lab	
CHM 3343	(3)	Organic Chemistry II	CHM 1142	(3)	General Chemistry I	
CHM L343	(1)	Organic Chemistry II Lab	CHM L142	(1)	General Chemistry I Lab	
MTH 2210	(3)	Introductory Statistics	MTH 1125	(4)	Calculus I	
	()	3	Anna IV Daga		40	
	e botan	y course with its corresponding lab:	Area V Requ IS 2241	(3)	Computer Concepts and Applications	
BIO 3325	(3)	Plant Form and Function	TROY 1101	(1)	University Orientation	
BIO L325	(1)	Plant Form and Function Lab	BIO 1101	(3)	Organismal Biology	
BIO 4425	(4)	Field Botany	BIO L101	(1)	Organismal Biology Lab	
			CHM 1143	(3)	General Chemistry II	
		gy course with its corresponding lab:	CHM L143	(1)	General Chemistry II Lab	
BIO 3307	(3)	Invertebrate Zoology	Complete of	ne seai	uence (physics sequence not required for	
BIO L307	(1)	Invertebrate Zoology Lab	medical tech	nology	concentration):	
BIO 4405 BIO L405	(3) (1)	Entomology Entomology Lab	PHY 2252	(3)	General Physics I	
BIO 4420	(4)	Field Vertebrate Zoology	PHY L252	(1)	General Physics I Lab	
BIO 4447	(3)	Ornithology	PHY 2253	(3)	General Physics II	
BIO L447	(1)	Ornithology Lab	PHY L253 <i>OR</i>	(1)	General Physics II Lab	
BIO 4471	(3)	Parasitology	PHY 2262	(3)	Physics I with Calculus	
BIO L471	(1)	Parasitology Lab	PHY L262	(1)	Physics I with Calculus Lab	
			PHY 2263	(3)	Physics II with Calculus	
Complete on	ie ecolog	gy/environmental course with its	PHY L263	(1)	Physics II with Calculus Lab	
correspondi					-	
BIO 4413	(3)	Limnology	Requirement		D: :1 (C 11 D: 1	
BIO L413	(1)	Limnology Lab	BIO 2220	(3)	Principles of Cell Biology	
BIO 4416	(3)	Microbial Ecology	BIO L220 BIO 2229	(1)	Principles of Cell Biology Lab General Ecology	
BIO L416 BIO 4421	(1) (3)	Microbial Ecology Lab Population Ecology	BIO L229	(3)	General Ecology General Ecology Lab	
BIO L421	(1)	Population Ecology Lab	BIO 3320	(3)	Genetics	
BIO 4479	(3)	Environmental Assessment	BIO L320	(1)	Genetics Lab	
BIO L479	(1)	Environmental Assessment Lab	BIO 4484	(1)	Senior Seminar in Biological &	
					Environment Sciences	
Complete	one pi	hysiology/cell/molecular course with its	CHM 3342	(3)	Organic Chemistry I	
correspondi BIO 3347	(3)	Human Anatomy and Physiology I	CHM L342	(1)	Organic Chemistry I Lab	
BIO L347	(1)	Human Anatomy and Physiology I Lab	CHM 3343 CHM L343	(3) (1)	Organic Chemistry II Organic Chemistry II Lab	
BIO 3348	(3)	Human Anatomy and Physiology II	MTH 2210	(3)	Introductory Statistics	
BIO L348	(1)	Human Anatomy and Physiology II Lab			five concentrations shown below (biomedical	
BIO 3372 BIO L372	(3) (1)	Microbiology Microbiology Lab			, general biology, or medical technology):	
BIO 3382	(3)	Immunology	v			
BIO L382	(1)	Immunology Lab			s Concentration:	
BIO 3386	(3)	Hematology	BIO 3347	(3)	Human Anatomy and Physiology I	
BIO L386 BIO 4414	(1) (3)	Hematology Lab Food Microbiology	BIO L347 BIO 3348	(1) (3)	Human Anatomy and Physiology I Lab Human Anatomy and Physiology II	
BIO L414	(1)	Food Microbiology Food Microbiology Lab	BIO 1348	(1)	Human Anatomy and Physiology II Lab	
BIO 4451	(3)	Toxicology	BIO 3372	(3)	Microbiology	
BIO L451	(1)	Toxicology Lab	BIO L372	(1)	Microbiology Lab	
BIO 4480 BIO L480	(3) (1)	Histology Histology Lab	BIO 4482	(3)	Molecular Biology	
BIO 4482	(3)	Molecular Biology	BIO L482	(1)	Molecular Biology Lab	
BIO L482	(1)	Molecular Biology Lab	Complete 1	houre	from the courses listed below. One upper	
			Complete 10	, nours	from the courses usien below. One upper	

level botany.								
	ecolog	y/environmental or zoology course with its	BIO L405	(1)	Entomology Lab			
correspondin	g lab m	ay be used towards this requirement. The 16	BIO 4420	(4)	Field Vertebrate Zoology			
hours chosen	i should	be based on the student's future plans for	BIO 4447	(3)	Ornithology			
employment,	graduai	te school or professional school.	BIO L447	(1)	Ornithology Lab			
BIO 3340	(3)	Evolution	BIO 4471	(3)	Parasitology			
BIO 3382	(3)	Immunology	BIO L471					
BIO L382	(1)	Immunology Lab	DIO L4/I	(1)	Parasitology Lab			
BIO 4414	(3)	Food Microbiology	Complete of	one e	ecology/environmental cou	1150	with	its
BIO L414	(1)	Food Microbiology Lab	correspondin		cology/environmental cou	irse	wiii	us
			BIO 4413	(3)	Limnology			
BIO 4416	(3)	Microbial Ecology	BIO L413	(1)	Limnology Lab			
BIO L416	(1)	Microbial Ecology Lab						
BIO 4451	(3)	Toxicology	BIO 4416	(3)	Microbial Ecology			
BIO L451	(1)	Toxicology Lab	BIO L416	(1)	Microbial Ecology Lab			
BIO 4471	(3)	Parasitology	BIO 4421	(3)	Population Ecology			
BIO L471	(1)	Parasitology Lab	BIO L421	(1)	Population Ecology Lab			
BIO 4476	(1-3)	Special Topics in Biology	BIO 4479	(3)	Environmental Assessment			
BIO 4480	(3)	Histology	BIO L479	(1)	Environmental Assessment	Lab		
BIO L480	(1)	Histology Lab						
BIO 4488/	(1-3)	Internship in Biological	Complete o	ne pi	hysiology/cell/molecular co	ourse	with	its
OR	(1-3)	internship in Biological	correspondin	g lab:				
4489/4490		Environmental Science	BIO 3347	(3)	Human Anatomy and Physic	iology I	[
	(1.2)	Environmental Science	BIO L347	(1)	Human Anatomy and Physic			
BIO 4491/92	. ,	Guided Independent Research	BIO 3348	(3)	Human Anatomy and Physic			
BIO 4493/94	(1-3)	Guided Independent Study	BIO L348	(1)	Human Anatomy and Physic			
CHM 3352	(3)	Biochemistry	BIO 3372		Microbiology	lology i	II Lao	
CHM L352	(1)	Biochemistry Lab		(3)				
	(-)		BIO L372	(1)	Microbiology Lab			
Food Safety	Concer	tration	BIO 3382	(3)	Immunology			
BIO 3372	(3)	Microbiology	BIO L382	(1)	Immunology Lab			
BIO L372	(1)	Microbiology Lab	BIO 3386	(3)	Hematology			
BIO 4414	(3)	Food Microbiology	BIO L386	(1)	Hematology Lab			
BIO L414		2)	BIO 4414	(3)	Food Microbiology			
	(1)	Food Microbiology Lab	BIO L414	(1)	Food Microbiology Lab			
BIO 4451	(3)	Toxicology	BIO 4451	(3)	Toxicology			
BIO L451	(1)	Toxicology Lab	BIO L451	(1)	Toxicology La			
BIO 4418	(3)	Food Laws and Regulations	BIO 4480	(3)	Histology			
CHM 3352	(3)	Biochemistry	BIO L480	(1)	Histology Lab			
CHM L352	(1)	Biochemistry Lab						
HSTM 4466	(3)	Restaurant Management	BIO 4482	(3)	Molecular Biology			
NSG 2211	(3)	Human Nutrition	BIO L482	(1)	Molecular Biology Lab			
	` /		Complete 16	additi	onal semester hours of Bio	alogy o	w Mar	rin <i>o</i>
Complete sev	en or n	ore hours from the courses listed below.	Riology com	•coc T	he 16 hours chosen should	ha has	ed on	the
Lectures and	en or n their c	ore hours from the courses listed below. orresponding labs must be taken together.	Biology cour	ses. T	he 16 hours chosen should	be bas	ed on	the
Lectures and BIO 3340	their co (3)	nore hours from the courses listed below. For esponding labs must be taken together. Evolution	Biology cour student's fut	ses . T ture pl	he 16 hours chosen should ans for employment, grad	be bas	ed on	the
Lectures and	their co (3)	orresponding labs must be taken together. Evolution	Biology cour	ses . T ture pl	he 16 hours chosen should	be bas	ed on	the
Lectures and BIO 3340	(3) (3)	Presponding labs must be taken together. Evolution Immunology	Biology cour student's fut professional s	r ses . T ture pl school.	he 16 hours chosen should ans for employment, grad	be bas	ed on	the
BIO 3340 BIO 3382 BIO L382	(3) (3) (3) (1)	Presponding labs must be taken together. Evolution Immunology Immunology Lab	Biology cour student's fut professional s	rses. T ture pl school.	he 16 hours chosen should ans for employment, grad	be bas luate s	ed on school	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416	(3) (3) (1) (3)	Evolution Immunology Immunology Addition Microbial Ecology	student's fut professional s Medical Lab Students mus	rses. T ture pl school. orator	he 16 hours chosen should ans for employment, grad y Science Concentration lete 29 semester hours on the	be bas luate s	ed on school	the or
Ectures and BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416	(3) (3) (1) (3) (1)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab	student's fut professional s Medical Lab Students mus prior to apply	rses. The place of	he 16 hours chosen should ans for employment, grade we Science Concentration lete 29 semester hours on the an internship.	be bas luate s he Troj	eed on school y Cam	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471	(3) (3) (1) (3) (1) (3) (1)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Parasitology	student's fut professional s Medical Lab Students mus prior to apply	rses. The place of	he 16 hours chosen should ans for employment, grade we Science Concentration lete 29 semester hours on the an internship.	be bas luate s he Troj	eed on school y Cam	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471	(3) (3) (1) (3) (1) (3) (1)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab	student's fut professional s Medical Lab Students mus prior to apply	ture places of the school. corator of composing for their compositions.	he 16 hours chosen should ans for employment, grade ans for employment, grade and selection selected 29 semester hours on the an internship. The presponding labs must be taken	be bas luate s he Troy en toge	ted on school Y Cam	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L471 BIO L471 BIO 4476	(3) (3) (1) (3) (1) (3) (1) (3) (1) (1-3)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology*	student's fut professional s Medical Lab Students mus prior to apply Lectures and BIO 3347	their co	he 16 hours chosen should ans for employment, grade ans for employment, grade and select 29 semester hours on the an internship. The presponding labs must be taken the taken t	be bas luate s he Trog en toge iology l	ted on school Y Cam	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482	(3) (3) (1) (3) (1) (3) (1) (1-3) (3)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology	Biology cour student's fut professional s Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347	ture place of the composition of	he 16 hours chosen should ans for employment, grad v. Science Concentration lete 29 semester hours on the an internship. orresponding labs must be take Human Anatomy and Physic Human Anatomy and Physical series in the series of the series	be bas luate s he Trog en toge lology l	ted on school Y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Lab	Biology cour student's fut professional s Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348	rses. There plays the property of the property	he 16 hours chosen should ans for employment, grad v. Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I I Lab II	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482	(3) (3) (1) (3) (1) (3) (1) (1-3) (3)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology	Biology cour student's fut professional s Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348	rses. There plays chool. orator transfer compoint for their compoint (3) (1) (3) (1)	he 16 hours chosen should ans for employment, grad y Science Concentration lete 29 semester hours on the an internship. The stress of the semester hours and Physic Human Anatomy anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physi	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Internship in the Biological	Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO L348 BIO L348 BIO J348	rses. There plays chool. oratory transfer compoint for their compoint (3) (1) (3) (1) (3)	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Lab	Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO 3372 BIO L372	rses. There plays the composing for their comp	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Internship in the Biological	Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO L372 BIO L372 BIO L372	rses. There plays the play	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L476 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO L480 BIO 4489/4490 BIO 4491/92	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Internship in the Biological Environmental Sciences Guided Independent Research	Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO 3372 BIO L372	rses. There plays the composing for their comp	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO 4489/4490 BIO 4491/92 BIO 4493/94	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study*	Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO 3372 BIO L372 BIO L372 BIO L382	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade ans for employment, grade and select 29 semester hours on the an internship. The semester hours on the an internship and Physical Human Anatomy and Physical H	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis	Biology courstudent's fut professional s Medical Lab Students mus prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO L372 BIO L372 BIO L382 BIO L382	rses. There place of the place	he 16 hours chosen should ans for employment, grad ans for employment, grad y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology Lab Immunology Lab e with its corresponding lab:	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab	Biology courstudent's fut professional series and Students must prior to apply Lectures and BIO 3347 BIO L347 BIO L348 BIO L348 BIO L372 BIO L372 BIO L372 BIO L382 Complete one BIO 3386	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology Lab Immunology Lab e with its corresponding lab: Hematology	be bas duate s he Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO L372 BIO L372 BIO L372 BIO L372 BIO J382 BIO L382 Complete one BIO 3386 BIO L386	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology Lab Immunology Lab e with its corresponding lab: Hematology Hematology Lab	be bas duate s the Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab	Biology courstudent's fut professional services and Students must prior to apply Lectures and BIO 3347 BIO L348 BIO L348 BIO L372 BIO L372 BIO L372 BIO L382 Complete one BIO 3386 BIO L386 BIO L386 BIO L4471	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The semester hours on the an internship and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology Lab Immunology Lab e with its corresponding lab: Hematology Hematology Lab Parasitology	be bas duate s the Troj en toge iology l iology l	eed on school y Cam ther. I Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO 4489/ BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO L372 BIO L372 BIO L372 BIO L382 Complete one BIO 3386 BIO L386 BIO L386 BIO L471 BIO L471	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology Lab Immunology Lab e with its corresponding lab: Hematology Hematology Lab Parasitology Parasitology Parasitology Lab	be bas luate s he Troy en toge iology l iology l iology l	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service	Biology courstudent's fut professional standards	rses. There place of the place	he 16 hours chosen should ans for employment, grade and see the second seeds of the	be bas luate s he Troy en toge iology l iology l iology l	ther. I Lab II Lab	the or
BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO 4489/ BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (3) (Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service	Biology courstudent's fut professional standards	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Microbiology Lab Immunology Lab Immunology Lab e with its corresponding lab: Hematology Hematology Lab Parasitology Parasitology Parasitology Lab	be bas luate s he Troy en toge iology l iology l iology l	ther. I Lab II Lab	the or
BIO 3340 BIO 3382 BIO 3382 BIO 4416 BIO 4416 BIO L416 BIO L471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (4) (5) (5) (6) (6) (7) (8) (8) (9) (9) (9) (9) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service	Biology courstudent's fut professional standards	rses. There place of the place	he 16 hours chosen should ans for employment, grade and see the second seeds of the	be bas luate s he Troy en toge iology l iology l iology l	ther. I Lab II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (1) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service ncentration: Course with its corresponding lab: Plant Form and Function	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L348 BIO L348 BIO L372 BIO L372 BIO 3382 BIO L382 Complete one BIO 3386 BIO L386 BIO L471 In addition to must complete 4413 courses	rses. There place of the place	he 16 hours chosen should ans for employment, grading of employment, grading steep of the property of the prop	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325 BIO L325	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (1) (3) (3) (3) (1) (3) (3) (1) (3) (3) (1) (3) (3) (1) (1) (3) (3) (1) (1) (3) (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service mcentration: Course with its corresponding lab: Plant Form and Function Plant Form and Function Lab	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L348 BIO L348 BIO L372 BIO L372 BIO 3382 BIO L382 Complete one BIO 3386 BIO L386 BIO L471 In addition to must complete 4413 courses	rses. There place of the place	he 16 hours chosen should ans for employment, grade and see the second seeds of the	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (1) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service ncentration: Course with its corresponding lab: Plant Form and Function	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BiO 3347 BiO L347 BiO 3348 BiO L348 BiO L372 BiO 3372 BiO L372 BiO 3382 BiO L382 Complete one BiO 3386 BiO L471 BiO L471 In addition to must complete 4413 courses	rses. There place of the place	he 16 hours chosen should ans for employment, grading of employment, grading steep of the property of the prop	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3382 BIO 3382 BIO L382 BIO 4416 BIO 4416 BIO 4471 BIO 4476 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325 BIO L325 BIO 4425	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (3) (3) (Evolution Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service mcentration: course with its corresponding lab: Plant Form and Function Plant Form and Function Lab Field Botany	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BiO 3347 BiO L347 BiO 3348 BiO L348 BiO L372 BiO 3372 BiO L372 BiO 3382 BiO L382 Complete one BiO 3386 BiO L471 BiO L471 In addition to must complete 4413 courses	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be taken Human Anatomy and Physich Human Anatomy and	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325 BIO 4425 Complete one	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (3) (1) (4) e zoolog	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Molecular Biology Molecular Biology Molecular Biology Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service Course with its corresponding lab: Plant Form and Function Plant Form and Function Lab Field Botany Property Course with its corresponding lab: Plant Form and Function Lab Field Botany Property Course with its corresponding lab: Plant Form and Function Lab Field Botany	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L348 BIO L372 BIO L372 BIO L372 BIO L382 Complete one BIO 3386 BIO L386 BIO L386 BIO L471 In addition to must complete 4413 courses. BIOLOGY, Specialized Of	rses. There place of the place	he 16 hours chosen should ans for employment, grading	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325 BIO L325 BIO 4425 Complete one BIO 3307	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (1) (4) e zoolog (3)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Parasitology Parasitology Parasitology Parasitology Parasitology Parasitology Molecular Biology Molecular Bi	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L372 BIO L372 BIO L372 BIO L382 Complete one BIO 3386 BIO L386 BIO L471 In addition to must complete 4413 courses. BIOLOGY, Specialized Carea III (12	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be taken Human Anatomy and Physich Human Anatomy and	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO L416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325 BIO L325 BIO L325 BIO 4425 Complete one BIO 3307 BIO L307	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (1) (3) (3) (4) (4) (5) (6) (7) (8) (9) (1) (1) (1) (1) (1) (2) (3) (4) (4) (5) (6) (7) (8) (9) (1) (1) (1) (1) (1) (2) (3) (1) (4) (4) (5) (6) (7) (8) (9) (9) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Evolution Immunology Lab Microbial Ecology Lab Parasitology Parasitology Lab Special Topics in Biology* Molecular Biology Lab Internship in the Biological Environmental Sciences Guided Independent Research Guided Independent Study* Instrumental Analysis Instrumental Analysis Lab Hospitality Management Hospitality Service mcentration: course with its corresponding lab: Plant Form and Function Plant Form and Function Lab Field Botany cy course with its corresponding lab: Invertebrate Zoology Invertebrate Zoology Invertebrate Zoology Lab	Biology courstudent's fut professional student's fut professional students must prior to apply Lectures and BIO 3347 BIO L347 BIO 3348 BIO L372 BIO L372 BIO L372 BIO L382 Complete one BIO 3386 BIO L386 BIO L471 In addition to must complete 4413 courses. BIOLOGY, Specialized Carea III (12 BIO 1100	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Lab Immunology Lab Immunology Lab Hematology Lab Parasitology Hematology Lab Parasitology Parasitology Lab Principles of Biology Principles of Biology Lab Principles of Biology Lab	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or
BIO 3340 BIO 3340 BIO 3382 BIO L382 BIO 4416 BIO L416 BIO 4471 BIO L471 BIO 4476 BIO 4482 BIO L482 BIO L482 BIO 4488/ OR 4489/4490 BIO 4491/92 BIO 4493/94 CHM 4455 CHM L455 HSTM 3372 HSTM 4465 General Biol Complete one BIO 3325 BIO L325 BIO 4425 Complete one BIO 3307	(3) (3) (1) (3) (1) (3) (1) (1-3) (3) (1) (1-8) (3) (3) (3) (3) (3) (3) (1) (4) e zoolog (3)	Evolution Immunology Immunology Lab Microbial Ecology Microbial Ecology Lab Parasitology Parasitology Parasitology Parasitology Parasitology Parasitology Parasitology Parasitology Molecular Biology Molecular Bi	Biology courstudent's fut professional student's fut professional students must prior to apply. Lectures and BIO 3347 BIO 1347 BIO 1348 BIO 1348 BIO 1372 BIO 1372 BIO 1372 BIO 1382 Complete one BIO 3386 BIO 1386 BIO 1386 BIO 1471 BIO 1471 In addition to must complete 4413 courses. BIOLOGY, Specialized (Area III (12)) BIO 1100 BIO 1100	rses. There place of the place	he 16 hours chosen should ans for employment, grade ans for employment, grade ans for employment, grade y Science Concentration lete 29 semester hours on the an internship. The presponding labs must be take Human Anatomy and Physic Human Anatomy and Physic Human Anatomy and Physic Microbiology Additional Human Anatomy and Physic Microbiology Lab Immunology Lab Immunology Lab Hematology Lab Parasitology Hematology Lab Parasitology Parasitology Lab Parasitology Parasitology Lab Parasitology Parasitology Parasitology Parasitology Lab Parasitology Parasitol	be bas huate shuate shu	ed on school y Cam ther. I I Lab II II Lab	the or

MTH 1125	(4)	Calculus I	_	CE	HEMISTRY EDUCATION
			Students see	eking A	Mabama teacher certification should select t major and education as a second major. consult with their advisers concerning all ments. CHM 3352 is required for Alabama
Area V Requi	irement	's (20 Hours)	chemistry as	a firs	t major and education as a second major.
BIO 1101	(3)	Organismal Biology	Students sh	ould _. co	onsult with their advisers concerning all
BIO L101	(1)	Organismal Biology Lab	certification	requirei	ments. CHM 3352 is required for Alabama
CHM 1143	(3)	General Chemistry II	teacher certif	ication.	
			-	CHEN	MISTRY MAJOR (36 HOURS)
CHM L143	(1)	General Chemistry II Lab	C		
IS 2241	(3)	Computer Concepts and Applications		General	Studies Requirements
TROY 1101	(1)	University Orientation	Area III	(2)	Dein sinder of Dielers
G 1.			BIO 1100	(3)	Principles of Biology
Complete one			BIO L100	(1)	Principles of Biology Lab
PHY 2252	(3)	General Physics I	CHM 1142	(3)	General Chemistry I
PHY L252	(1)	General Physics I Lab	CHM L142	(1)	General Chemistry I Lab
PHY 2253	(3)	General Physics II	MTH 1125	(4)	Calculus I
PHY L253	(1)	General Physics II Lab			
OR			Area V Requ	iremen	ts
PHY 2262	(3)	Physics I with Calculus	IS 2241	(3)	Computer Concepts and Applications
PHY L262	(1)	Physics I with Calculus Lab	MTH 1126	(4)	Calculus II
PHY 2263	(3)	Physics II with Calculus	*PHY 2262	(3)	Physics I with Calculus
PHY L263	(1)	Physics II with Calculus Lab	*PHY L262	(1)	Physics I with Calculus Lab
	()	y =	*PHY 2263	(3)	Physics II with Calculus
Requirement			*PHY L263	(1)	Physics II with Calculus Lab
Lectures and	their co	rresponding labs must be taken together.			
BIO 2220	(3)	Principles of Cell Biology	TROY 1101	(1)	University Orientation ninoring in Physics may replace these with
BIO L220	(1)	Principles of Cell Biology Lab	free electives	najois n	innorning in r mysics may replace these with
BIO 2229	(3)	General Ecology	1100 010011100	•	
BIO L229	(1)	General Ecology Lab	Chemistry C	Core (36	
BIO 3320	(3)	Genetics	CHM 1143	(3)	General Chemistry II
BIO L320	(1)	Genetics Lab	CHM L143	(1)	General Chemistry II Lab
CHM 3342	(3)	Organic Chemistry I	CHM 2242	(3)	Analytical Chemistry
CHM L342	(1)	Organic Chemistry I Lab	CHM L242	(1)	Analytical Chemistry Lab
CHM 3343	(3)	Organic Chemistry II	CHM 3342	(3)	Organic Chemistry I
CHM L343	(1)	Organic Chemistry II Lab	CHM L342	(1)	Organic Chemistry I Lab
MTH 2210	(3)	Introductory Statistics	CHM 3343	(3)	Organic Chemistry II
BIO 4484			CHM L343	(1)	Organic Chemistry II Lab
DIO 4464	(1)	Senior Seminar in Biological &	CHM 3381	(3)	Physical Chemistry I
		Environment Sciences	CHM L381	(1)	Physical Chemistry I Lab
Calant 22 game	antan h	owns from the courses listed helow	CHM 3382	(3)	Physical Chemistry II
		ours from the courses listed below:	CHM 4444	(3)	Advanced Inorganic Chemistry
BIO 3347	(3)	Human Anatomy & Physiology I	CHM 4445	(3)	Instrumental Analysis
BIO L347	(1)	Human Anatomy & Physiology I Lab			Instrumental Analysis Lab
BIO 3348	(3)	Human Anatomy & Physiology II	CHM L445	(1)	Ilistrumental Analysis Lau
BIO L348	(1)	Human Anatomy & Physiology II Lab			
BIO 3382	(3)	Immunology			the following electives:
BIO L382	(1)	Immunology Lab	CHM 3352	(3)	Biochemistry
BIO 3386	(3)	Hematology	CHM L352	(1)	Biochemistry Lab
BIO L386	(1)	Hematology Lab	CHM L382	(1)	Physical Chemistry II Lab
BIO 4414	(3)	Food Microbiology		(3)	Special Topics
BIO L414	(1)	Food Microbiology Lab	CHM 4403	(3)	Advanced Organic Chemistry
BIO 4451	(3)	Toxicology	CHM L444	(1)	Advanced Inorganic Chemistry Lab
BIO L451	(1)	Toxicology Lab	CHM 4491/2	(1-3)	Guided Independent Research
BIO 4471	(3)	Parasitology	CHM 4493/4		Guided Independent Study
BIO L471	(1)	Parasitology Lab	CHM 4499	(1)	Senior Research Seminar
BIO 4480	(3)	Histology	MTH 2210	(3)	Introductory Statistics
BIO L480	(1)	Histology Lab			an 18 semester hour minor:
BIO 4482	(3)	Molecular Biology	Statients ma	si scicci	an 10 semester nour minor.
BIO L482	(1)	Molecular Biology Lab		CHEN	MISTRY MINOR (20 HOURS)
BIO 4485	(1-2)	Principles & Methods for the Lab Assistant	CHM 1142		General Chemistry I
CHM 3352	. ,	Biochemistry		(3)	General Chemistry I Lab
	(3)		CHM L142	(1)	
CHM L352	(1)	Biochemistry Lab	CHM 1143	(3)	General Chemistry II
			CHM L143	(1)	General Chemistry II Lab
Electives			CHM 3342	(3)	Organic Chemistry I
BIO 3372	(3)	Microbiology	CHM L342	(1)	Organic Chemistry I Lab
BIO L372	(1)	Microbiology Lab	CHM 3343	(3)	Organic Chemistry II
BIO 4416	(3)	Microbial Ecology	CHM L343	(1)	Organic Chemistry II Lab
BIO L416	(1)	Microbial Ecology Lab			
BIO 4476	(1-4)	Special Topics in Biology	Select four a	ddition	al hours of advanced chemistry courses, such
BIO 4491-92	. ,		as:		y , , , , , , , , , , , , , , , , ,
BIO 4493-94	. ,	Guided Independent Study	CHM 2242	(3)	Analytical Chemistry
	()		CHM L242	(1)	Analytical Chemistry Lab
			CHM 3352	(3)	Biochemistry Lab

.1.64 .11.

CHM L352 (1) Biochemistry Lab

Note: The chemistry minor requires 20 hours in addition to the hours required for a major in another discipline. For example, the biology major requires Organic Chemistry II and lab, so a student majoring in biology would need to select eight, not four, additional hours of advanced chemistry courses.

COMPREHENSIVE GENERAL SCIENCE PROGRAM (54 HOURS)

Specialized General Studies Requirements				
Area III				
BIO 1100	(3)	Principles of Biology		
BIO L100	(1)	Principles of Biology Lab		
CHM 1142	(3)	General Chemistry I		
CHM L142	(1)	General Chemistry I Lab		
MTH 1125	(4)	Calculus I		
Area V				
IS 2241	(3)	Computer Concepts/Applications		
PHY 2262	(3)	Physics I w/Calculus		
PHY L262	(1)	Physics I w/Calculus Lab		
SCI 2234	(3)	Earth & Space Science		
SCI L234	(1)	Earth & Space Science Lab		
TROY 1101	(1)	University Orientation		
Required Cou	rses:			
BIÓ 1101	(3)	Organismal Biology		
BIO L101	(1)	Organismal Biology Lab		
BIO 2220	(3)	Principles of Cell Biology		
BIO L220	(1)	Principles of Cell Biology Lab		
BIO 3320	(3)	Genetics		
BIO L320	(1)	Genetics Lab		
BIO 3347	(3)	Human Anatomy & Physiology I		
BIO L347	(1)	Human Anatomy & Physiology I Lab		
CHM 1143	(3)	General Chemistry II		
CHM L143	(1)	General Chemistry II Lab		
CHM 3342	(3)	Organic Chemistry I		
CHM L342	(1)	Organic Chemistry I Lab		
CHM 3343	(3)	Organic Chemistry II		
CHM L343	(1)	Organic Chemistry II Lab		
CHM 3381	(3)	Physical Chemistry I		
CHM L381	(1)	Physical Chemistry 1 Lab		
MTH 1126	(4)	Calculus II		
MTH 2210	(3)	Introductory Statistics		
PHY 2263	(3)	Physics II w/Calculus		
PHY L263	(1)	Physics II w/Calculus Lab		
PHY 3310	(3)	Modern Physics		
PHY L310	(1)	Modern Physics Lab		
PHY 3359	(3)	Waves and Optics		
PHY L359	(1)	Waves and Optics Lab		
PHY 4420	(3)	Mechanics		

COMPUTER SCIENCE MINOR (18 HOURS)

CS 2250	(3)	Computer Science I
CS 2255	(3)	Computer Science II

Select 12 semester hours of computer science courses with at least one course being at the 4000 level.

COMPUTER SCIENCE PROGRAM (48 HOURS)

Specialized General Studies Requirements Area III

MTH 1125 (4) Calculus I, in lieu of MTH 1110

Select a four hour course/lab combination from the following: (Students must complete an eight hour sequence in chemistry or physics. Also see Area V Requirements.)

physics. Also see Area V Requirements.)
CHM 1142 (3) General Chemistry I
CHM L142 (1) General Chemistry I Lab
PHY 2252 (3) General Physics I
PHY L252 (1) General Physics I Lab

Select remaining Area III courses as shown in the General Studies section of this catalog.

Area V Rea	quirements
------------	------------

CS 2250 (3) Computer Science I

MTH 1126 (4) Calculus II

TROY 1101 (1) University Orientation

Select a four hour course/lab combination from the following:

(Students must complete an eight hour sequence in chemistry or physics. Also see Area III.)

CHM 1143 (3) General Chemistry II CHM L143 (1) General Chemistry II Lab PHY 2253 (3) General Physics II PHY L253 (1) General Physics II Lab

Required Courses:

CS 2255	(3)	Computer Science II
CS 3310	(3)	Foundations of Computer Science

CS 3323 (3) Data Structures

CS 3329 (3) Analysis of Algorithms CS 3332 (3) Software Engineering I

CS 3360 (3) Concepts of Object-Oriented Programming I

CS 3365 (3) Introduction to Computer Organization and Architectures

CS 3370 (3) Nature of Programming Languages
CS 3372 (3) Formal Languages and the Theory of
Computation

CS 4420 (3) Introduction to Database Systems

CS 4445 (3) Data Communication and Networking CS 4448 (3) Operating Systems

CS 4448 (3) Operating Systems
MTH 2210 (3) Introductory Statistics

MTH 2215 (3) Applied Discrete Mathematics

Select two of the following:

CS 3320 (3) Business Systems Programming

CS 3325 (3) Operations Research

CS 3331 (3) Fundamentals of Artificial Intelligence

CS 3361 (3) Concepts of Objected Oriented

Programming II
CS 4401 (3) Advanced Artificial Intelligence

CS 4443 (3) Web Based Software Development

CS 4447 (3) Systems Analysis and Design CS 4451 (3) Computer Security and Reliability

CS 4461 (3) Software Engineering II

CS 4462 (3) Special Topics in Object-Oriented Technology

CS 4495 (3) Special Topics in Computer Science

COMPUTER SCIENCE, APPLIED MAJOR (36 HOURS)

Specialized General Studies Requirements

Area III
MTH 2201 (3) Calculus NS Its Applications
Select additional Area III requirements as shown in the General
Studies section of this catalog.

Area V Requirements

IS 2241 (3) Computer Concepts and Applications MTH 2215 (3) Applied Discrete Mathematics

TROY 1101 (1) University Orientation

Major Requirements:

CS 2250	(3)	Computer Science I
CS 2255	(3)	Computer Science II
CS 2265	(3)	Advanced Programmin
CC 2220	(2)	Data Cturaturas and A1

CS 3330 (3) Data Structures and Algorithms CS 4420 (3) Introduction to Database Systems

CS 4443 (3) Web-Based Software Development CS 4445 (3) Data Communications and Networking

CS 4447 (3) Systems Analysis and Design

CS 4448 (3) Operating Systems

			CJ 4473		(3)	Computer Forensics
Select three	of the	following:	CS 3360		(3)	Concepts of Object-Oriented
CS 3320	(3)	Business Systems Programming				Programming I
CS 3332	(3)	Software Engineering I	CS 3334		(3)	Foundations of Cyber Security
CS 3347	(3)	Advanced Programming II	CS 3336		(3)	Information Assurance
CS 4449	(3)	Applied Networking	CS 4452		(3)	Cyber Security Policies and
CS 4451	(3)	Computer Security				Compliance
CS 4495	(3)	Special Topics in Computer Science				1
COMP	UTED	CCIENCE A C DECDEE ((A HOUDS)				JUSTICE MAJOR (36 HOURS)
COMP		SCIENCE A.S. DEGREE (60 HOURS) Sociate of Science Degree	Criminal ju	stice ma	jors are	e encouraged to take two semesters of language as part of their general studies
See the acade		egulations section of this catalog for additional	requiremen	ts.	iorcigii	language as part of their general studies
information r	regard	ing associate degrees.	Area IV			
General Stud	dies Re	equirements	CJ 2221		(3)	Survey of Law Enforcement
Area I	(2)		CJ 2221		(3)	Survey of Corrections
ENG 1101 ENG 1102	(3) (3)	Composition and Modern English I Composition and Modern English II			(3)	Survey of Corrections
Area II			Area V			
Select one of	f the fo	llowing:	CJ 2241		(3)	Survey of Law and Criminal
ENG 2205	(3)	World Literature before 1660				Procedure
ENG 2206	(3)	World Literature after 1660	Required C	Courses:		
ENG 2211	(3)	American Literature before 1875	CJ 1101		(3)	Introduction to Criminal Justice
ENG 2212	(3)	American Literature after 1875			` '	
ENG 2244	(3)	British Literature before 1785	CJ 1110		(3)	Careers in Criminal Justice
ENG 2245	(3)	British Literature after 1785	CJ 3345		(3)	Criminology
	(-)		CJ 3352		(3)	Constitutional Law
Select one of	f the fo	llowing:	CJ 3375		(3)	Research Methods
ART 1133	(3)	Visual Arts	Select 21 a	dditiona	ıl hour	rs of upper-level (3000-4000) Criminal
THE 1130	(3)	Introduction to Theatre				ved by the advisor for the major.
MUS 1131	(3)	Music Appreciation			-FF-	
Area III			DC/MCC I	10001000	tad IIa	na ang Paguingua guta.
MTH 1125	(4)	Calculus I	*CJ 6610	<u>4cceiera</u> (3)		onors Requirements: aciples of Administration in Criminal
			C5 0010	(3)	Just	
		course and corresponding lab:	*CJ 6620	(3)		rent Trends in Criminal Law
BIO 1100	(3)	Principles of Biology	*CJ 6622	(3)		ninar in the Administration of Criminal
BIO L100	(1)	Principles of Biology Lab		()	Just	ice
SCI 2233	(3)	Physical Science	Select an a	dditiona	l 3 hou	urs of upper level (3000-4000) criminal ed by your academic advisor.
SCI L233	(1)	Physical Science Lab	justice cour	rses, as a	pprove	ed by your academic advisor.
SCI 2234	(3)	Earth and Space Science	**	C		
SCI L234	(1)	Earth and Space Science Lab				marked with an asterisk is restricted to admitted to BS/MS in Criminal Justic
Area IV			Accelerated	d Honor	s Opti	on, have completed at least 90 credi
Select one of	f the fo	llowing:	hours, and	18 hour	s of cr	riminal justice courses, and have a GPA
HIS 1101	(3)	Western Civilization I	of 3.4 or a	above. S	tudent	s must also meet requirements for the
HIS 1102	(3)	Western Civilization II	graduate pi			
HIS 1111	(3)	U.S. to 1877	*Students v	vho maje	or in C	Criminal Justice with Homeland Security
HIS 1112	(3)	U.S. since 1877	Concentrat	ion mus	t add	Homeland Security as a Minor to be
HIS 1122	(3)	World History to 1500	eligible for	BS/MSC	J Acce	elerated Honors Option consideration.
HIS 1123	(3)	World History from 1500	*Students v	vho maj	or in (Criminal Justice with Digital Forensic
		•				Digital Forensics as a Minor to be
Area V			eligible for	BA/MSC	IJ Асс <i>е</i>	elerated Honors Option consideration.
IS 2241	(3)	Computer Concepts and Applications				
TROY 1101	(1)	University Orientation	C	RIMIN	AL JU	STICE MINOR (18 HOURS)
4 7 77 . 7			CJ 1101	(3)	Ir	ntroduction to Criminal Justice
Additional re CS 2250		ments Computer Science I		` ′		
CS 2255	(3)	Computer Science I Computer Science II				s of upper-level criminal justice courses
CS 3310	(3)	Foundations of Computer Science	as approved	d by the	adviser	r.
CS 3310	(3)	Data Structures				
CS 3329	(3)	Analysis of Algorithms	DI	GITAL		ENSICS MINOR / CERTIFICATE
CS 3329 CS 3332	(3)	Software Engineering I				(18 HOURS)
	(3)	Introduction to Computer	Select 18 h	ours fro	m the f	following:
1 3 4 4 4 4 4	(3)	Organization and Architectures	CJ 3380	(3)	-	ital Forensics I
CS 3365		Organization and Architectures	CJ 3382	(3)		ial Media Investigation
	(3)	Applied Discrete Mathematics				
MTH 2215	(3)	Applied Discrete Mathematics				
MTH 2215			CJ 4472	(3)	Cyb	per Crime
			CJ 4472 CJ 4475	(3) (3)	Cyb Sem	per Crime ninar in Cyber Crime
MTH 2215 Select 9 hour	rs of fi	ree electives.	CJ 4472 CJ 4475 CJ 4480	(3) (3) (3)	Cyb Sem Digi	oer Crime ninar in Cyber Crime ital Forensics II
MTH 2215 Select 9 hour	rs of fi		CJ 4472 CJ 4475	(3) (3)	Cyb Sem Digi	per Crime ninar in Cyber Crime

ELECTRONICS ENGINEERING TECHNOLOGY PROGRAM (54 HOURS

Area III		
MTH 1125	(4)	Calculus I
CHM 1142	(3)	General Chemistry I
CHM L142	(1)	General Chemistry I Lab
Area V		
TROY 1101	(1)	University Orientation
CS 2250	(3)	Computer Science I
GEM 1100	(2)	Computer-Aided Drafting I
GEW 1100	(2)	Computer-7 flaca Draiting 1
Requirement	s:	
MTH 1126	(4)	Calculus II
PHY 2262	(3)	Physics I w/Calculus
PHY L262	(1)	Physics I w/Calculus Lab
PHY 2263	(3)	Physics II w/Calculus
	(1)	Physics II w/Calculus Lab
EET 2210	(3)	Electronic Devices and Materials
EET 2215	(3)	Analog Circuits and Systems
EET L215	(1)	Analog Circuits and Systems Lab
EET 3315	(3)	Digital Circuits and Systems
EET L315	(1)	Digital Circuits and Systems Lab
EET 3320	(3)	Measurement and Instrumentation
EET 4415	(3)	Automation and Control
EET L415	(1)	Automation and Control Lab
EET 4420	(3)	Fundamentals of Microcontrollers
EET L420	(1)	Fundamentals of Microcontrollers Lab
EET 4425	(3)	Data Communication & Networking
EET 4430	(3)	Optical Electronics
	(4)	LSI/ VLSI Design
	(4)	Electronic Testing with Lab
EET 4499	(3)	Electronic Engineering Technology
		Capstone

ENVIRONMENTAL SCIENCE MINOR (18-20 HOURS)

BIO 1120	(3)	Survey of Environmental Sciences
BIO L120	(1)	Survey of Environmental Sciences Lab
BIO 3328	(3)	Environmental Pollution and Control
BIO L328	(1)	Environmental Pollution and Control Lab

Complete 12	hours fr	om the following:
BIO 4479	(3)	Environmental Assessment
BIO L479	(1)	Environmental Assessment Lab
BIO 4420	(4)	Field Vertebrate Zoology (combined lecture
		and lab)
BIO 4425	(4)	Field Botany or BIO 4402 (combined
		lecture and lab)
BIO 4476	(1-4)	Special Topics (combined lecture and lab)
BIO 4491	(1-4)	Guided Independent Research (combined
	` ′	lecture and lab)
CHM 3350	(3)	Principles of Physical Chemistry
CHM L350	(1)	Principles of Physical Chemistry Lab

CHM L350 CHM 3352 (3)Biochemistry

CHM L352 Biochemistry Lab (1) CHM 4445 (3) Instrumental Analysis

CHM L445 (1) Instrumental Analysis Lab

ENVIRONMENTAL SCIENCE PROGRAM (54-56 HOURS)

*Special Topics in Biology (BIO 4476), Guided Independent Studies (BIO 4491/4492) and Guided Independent Research (BIO 4493, 4494) may only be taken for a maximum of 6 semester hours.
Specialized General Studies Requirements

~	pec	
Z.	<i>Irea</i>	Ш

BIO 1100 (3) Principles of Biology

BIO L100 Principles of Biology Lab (1)

CHM 1142 (3) General Chemistry I

CHM L142 (1) General Chemistry I Lab Select one of the following MTH courses:

MTH 1114 Pre-Calculus Trigonometry (3) OR

MTH 1125 (4) Calculus I*

Area V Requirements:

IS 2241 Computer Concepts and Applications (3) TROY 1101 University Orientation (1) BIO 1101 Organismal Biology (3) **BIO L101** Organismal Biology Lab (1) General Chemistry II CHM 1143 (3) **CHM L143** (1) General Chemistry II Lab

Select one of the following GEO or GEM courses:

GEO 2299 (3) Basic GIS

OR

GEM 3390 (3) Fundamentals of Geographical Information Select one PHY lecture and lab combination:

PHY 2252 (3) General Physics I **PHY L252** General Physics I Lab (1) ORPHY 2262 Physics I with Calculus (3) **PHY L262** Physics I with Calculus Lab (1)

Program Requirements:

MTH 2210 (3)

BIO 1120	(3)	Survey of Environmental Science
BIO L120	(1)	Survey of Environmental Science Lab
BIO 2220	(3)	Principles of Cell Biology
BIO L220	(1)	Principles of Cell Biology Lab
BIO 2229	(3)	General Ecology
BIO L229	(1)	General Ecology Lab
BIO 3320	(3)	Genetics
BIO L320	(1)	Genetics Lab
BIO 3328	(3)	Environmental Pollution and Control
BIO L328	(1)	Environmental Pollution and Control Lab
BIO 4413	(3)	Limnology
BIO L413	(1)	Limnology Lab
BIO 4479	(3)	Environmental Assessment
BIO L479	(1)	Environmental Assessment Lab
BIO 4484	(1)	Senior Seminar in Biological &
		Environmental Sciences
CHM 3342	(3)	Organic Chemistry I
CHM L342	(1)	Organic Chemistry I Lab

Introductory Statistics Complete 18-20 hours of adviser-approved upper-level courses in biology, marine biology, chemistry, geography, or mathematics.

BS/MSEBS Accelerated Honors Requirements:

*EBS 6601	(3)	Environmental and Biological Ethics
*EBS 6624	(3)	Public Health
*EBS 6691	(3)	Research Methodology and
		Experimental Design

Note: These three courses fulfill 9 hours of the upper-level electives courses in the BS in Environmental Science Program.

*Registration for courses marked with an asterisk is restricted to students who have been admitted to the Environmental and Biological Sciences Accelerated Honors Option, have completed at least 90 credit hours and 18 hours of biology courses, and have a GPA of 3.4 or above. Students must also meet the requirements for the graduate program.

FIRE SCIENCE AND EMERGENCY MANAGEMENT **MINOR (18 HOURS)**

FS 3300	(3)	Introduction to Fire Science
FS 3305	(3)	Community Risk Reduction for Fire and
		Emergency Services

FS 3310	(3)	Fire and Emergency Services Administration
CJ 3305	(3)	Foundations of Emergency Management
Select 6 hour	s from t	he following courses:
FS 3315	(3)	Financial Management in Fire and
		Emergency Services
FS 3320	(3)	Arson Investigation
CJ 3335	(3)	Security Operations
CJ 3345	(3)	Criminology
CJ 4440	(3)	Terrorism
CJ 4470	(3)	Criminal Justice Issues in Homeland
		Security
COM 4460	(3)	Crisis Communication

GENERAL EDUCATION A.A. DEGREE (60 HOURS)

Associate of Arts Degree

See the academic regulations section of this catalog for additional information regarding associate degrees.

Note: Students who pursue a baccalaureate degree with Troy University following the completion of the Associate of Arts in General Education must meet the minimum grade requirements in mathematics.

General Studies Requirements

ENG 1101	(3)	Composition & Modern English I
ENG 1102	(3)	Composition & Modern English II

Area II

Select one of the following:

ART 1133	(3)	Visual Arts
TITE 1120	(2)	T / 1 /*

Introduction to Theatre THE 1130 MUS 1131 (3) Music Appreciation

Select one of the following:

ENG 2205	(3)	World Literature before 1660
ENG 2206	(3)	World Literature after 1660
ENG 2211	(3)	American Literature before 1875
ENG 2212	(3)	American Literature after 1875
ENG 2244	(3)	British Literature before 1785
ENG 2245	(3)	British Literature after 1785

Select six hours of one foreign language.

Area III

Select one of the following:

MTH 1110 (3) Finite Mathematics MTH 1112 (3) Pre-calculus Algebra

Select one science course and corresponding lab:

BIO 1100	(3)	Principles of Biology
BIO L100	(1)	Principles of Biology Lab
SCI 2233	(3)	Physical Science
SCI L233	(1)	Physical Science Lab
SCI 2234	(3)	Earth and Space Science
SCI L234	(1)	Earth and Space Science Lab

Area IV

Select one of the following:

HIS 1101	(3)	Western Civilization I
HIS 1102	(3)	Western Civilization II
HIS 1111	(3)	U.S. to 1877
HIS 1112	(3)	U.S. since 1877
HIS 1122	(3)	World History to 1500
HIS 1123	(3)	World History from 1500

Area V

IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation

Additional requirements

Select additional free electives to complete a total of 60 hours.

The completion of 12 or more elective hours within the same discipline area (English, Math, History, etc.) will constitute an emphasis area with the Associate's degree. Emphasis areas are not required for the completion of the Associate's degree.

GENERAL EDUCATION A.S. DEGREE (60 HOURS)

Associate of Science Degree

See the academic regulations section of this catalog for additional information regarding associate degrees.

Note: Students who pursue a baccalaureate degree with Troy University following the completion of the Associate of Science in General Education must meet the minimum grade requirements in mathematics.

General Studies Requirements

Area I

ENG 1101 (3)Composition & Modern English I ENG 1102 (3)Composition & Modern English II

Area II

Select one of the following:

ART 1133	(3)	Visual Arts
THE 1130	(3)	Introduction to Theatre
MUS 1131	(3)	Music Appreciation

Select one of the following:

ENG 2205	(3)	World Literature before 1660
ENG 2206	(3)	World Literature after 1660
ENG 2211	(3)	American Literature before 1875
ENG 2212	(3)	American Literature after 1875
ENG 2244	(3)	British Literature before 1785
ENG 2245	(3)	British Literature after 1785

Area III

Select one of the following:

MTH 1110	(3)	Finite Mathematics
MTH 1112	(3)	Pre-calculus Algebra

Select one science course and corresponding lab:

(3)	Principles of Biology
(1)	Principles of Biology Lab
(3)	Physical Science
(1)	Physical Science Lab
(3)	Earth and Space Science
(1)	Earth and Space Science Lab
	(1) (3) (1) (3)

Area IV

Select one of the following:

HIS 1101	(3)	Western Civilization I
HIS 1102	(3)	Western Civilization II
HIS 1111	(3)	U.S. to 1877
HIS 1112	(3)	U.S. since 1877
HIS 1122	(3)	World History to 1500
HIS 1123	(3)	World History from 1500

Area V

IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation

Additional requirements

Select additional free electives to complete a total of 60 hours.

The completion of 12 or more elective hours within the same discipline area (English, Math, History, etc.) will constitute an emphasis area with the Associate's degree. Emphasis areas are not required for the completion of the Associate's degree.

GEOGRAPHIC INFORMATION SYSTEMS (GIS) **MINOR (18 HOURS)**

Required Courses: (9 Hours)

GIS 3301	(3)	Cartography and Geo-Visualization
GEM 3390	(3)	Fundamentals of Geographical Information
	` ′	and Analysis

GIS 3305 (3) Spatial Information and Analysis

Electives: (9 hours)

Select one course from the following: (3 Hours)

GEO 3300	(3)	Principles of Physical Geography
GEO 3301	(3)	Principles of Cultural Geography
POL 4402	(3)	Political Geography

Select two courses from the following: (6 Hours)

GIS 4401	(3)	Spatial Database Design and Management
GIS 4405	(3)	Spatial Modeling and Programming
GEM 3391	(3)	Application of Geospatial Information Systems
GEM 4410	(3)	Introduction to Global Positions
CS 3310	(3)	Foundations of Computer Sciences

GEOGRAPHY MINOR (18 HOURS)

GEO 3300	(3)	Principles of Physical Geography
GEO 3301	(3)	Principles of Cultural Geography

Select an additional 12 hours of approved, upper-level geography courses. GEO 2210 may not be counted toward both general studies and the geography minor.

HISTORY EDUCATION (36 HOURS)

Students seeking Alabama teacher certification should select history as a first major and education as a second major. Students should consult with their advisers concerning all certification requirements.

Specialized General Studies Requirements Area IV

POL 2241	(3)	American National Government
SOC 2275	(3)	Introduction to Sociology

Select one six-hour sequence:

HIS 1101	(3)	Western Civilization I, or placement
HIS 1102	(3)	Western Civilization II, or placement
	ÔŔ	*
HIS 1122	(3)	World History to 1500
HIS 1123	(3)	World History from 1500

Area V Requirements

micu , may	ciii cii	
GEO 2210	(3)	World Regional Geography
HIS 1111	(3)	U.S. to 1877, or placement
HIS 1112	(3)	U.S. since 1877, or placement
IS 2241	(3)	Computer Concepts and Apps.
TROY 1101	(1)	University Orientation

Requirements for the Major

HIS 3375	(3)	Research and Methodology
HIS 4490	(3)	Senior Seminar

Select one emphasis:

American/Latin American History Emphasis:

Select 15 hours of upper-level American/Latin American courses in addition to either HIS 3316 or 4406.

Select an additional nine hours of upper-level European/Asian/ African courses in addition to HIS 445

European/Asian/African History Emphasis:

Select 15 hours of upper-level European/Asian/African courses in addition to HIS 4451.

Select an additional 9 hours of upper-level American/Latin American courses in addition to either HIS 3316 or 4406.

HISTORY MAJOR (36 HOURS)

History Majors/Minors will receive credit for no more than six hours of 3000-level and 4000-level history courses taken before or concurrently with HIS 3375.

Select one emphasis below:

American/Latin American Emphasis: **Specialized General Studies Requirements**

Select a six hour sequence in Western Civilization or World History. Select additional Area IV courses as specified in the General Studies section of this catalog.

Area V Requirements

GEO 2210	(3)	World Regional Geography
HIS 1111	(3)	U.S. to 1877, or placement
HIS 1112	(3)	U.S. since 1877, or placement
IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation

Requirements for the Major

HIS 3375	(3)	Research and Methodology
HIS 4490	(3)	Senior Seminar

Select 18 hours of approved upper-level American/Latin American courses.

Select 12 hours of approved upper-level European/Asian/African courses.

European/ Asian/ African Emphasis:

Specialized General Studies Requirements

Select a six hour sequence in western civilization or world history. Select six hours of additional Area IV courses as specified in the General Studies section of this catalog.

Area V Requirements

IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation
HIS 1111	(3)	U.S. to 1877, or placement
HIS 1112	(3)	U.S. since 1877, or placement
GEO 2210	(3)	World Regional Geography

Requirements for the Major

HIS 3375	(3)	Research and Methodology
HIS 4490	(3)	Senior Seminar

Select 18 hours of approved, upper-level European/Asian/African courses

Select 12 hours of approved, upper-level American/Latin American courses.

HISTORY MINOR (18 HOURS)

History Majors/Minors will receive credit for no more than six hours of 3000-level and 4000-level history courses taken before or concurrently with HIS 3375.

HIS 3375 Research and Methodology (3)

Select 15 hours of upper-level history courses.

Note: HIS 1111 and HIS 1112 or permission of instructor are prerequisites for upper-level American/Latin American history courses. HIS 1101 and HIS 1102 or HIS 1122 and 1123 or permission of instructor are prerequisite for upper-level European /Asian/African history courses.

HOMELAND SECURITY MINOR (18 HOURS)

Select 18 hours from the following as approved by the adviser:

CJ 3305	(3)	Foundations of Emergency Management
CJ 3335	(3)	Security Operations
CJ 4420	(3)	Comparative Criminal Justice
CJ 4405	(3)	National Security and the Law
CJ 4440	(3)	Terrorism
CJ 4470	(3)	Criminal Justice Issues in Homeland
		Security
CJ 4488	(3)	Internship (limit one)
POL 3364	(3)	State and Local Politics
POL 4415	(3)	International Conflict
POL 4422	(3)	Public Policy Making

HUMANITIES MINOR (18 HOURS)

Please see the College of Communication and Fine Arts for details on the Humanities Minor.

INTELLIGENCE MINOR (18 HOURS)

Required fo	r the mi	nor:
CJ 3308		(3) Foundations of Intelligence
Select 15 ho	ours fron	n the following courses:
CJ 3305	(3)	Foundations of Emergency Management
CJ 3345	(3)	Criminology
CJ 3350	(3)	Gangs
CJ 3382	(3)	Social Media Investigation
CJ 4406	(3)	Transnational Organized Crime
CJ 4425	(3)	Violence in America
CJ 4430	(3)	Selected Topics in Criminal Justice
CJ 4440	(3)	Terrorism
CJ 4470	(3)	Criminal Justice Issues in Homeland
		Security

LEGAL STUDIES MINOR (18 HOURS)

Introduction to Legal Studies

LGL 3300	(3)	Legal Research and Writing
LGL 4400	(3)	Seminar in Legal Studies
Select 9 hour	s of ele	ctives from the following courses:
CJ 2241	(3)	Survey of Law and Criminal Procedure
CJ 3352	(3)	Constitutional Law in Criminal Justice
CJ 4447	(3)	Current Issues in Legal Systems Operation
		and Administration
CJ 4411	(3)	Evidence
LAW 2221	(3)	Legal Environment of Business
LAW 4420	(3)	Administrative Law
POL 3342	(3)	Judicial Branch
POL 4420	(3)	Constitutional Law
POL 4472	(3)	Administrative Law

MARINE BIOLOGY PROGRAM (56 HOURS)

*Special Topics in Biology (BIO 4476), Guided Independent Studies (BIO 4491/4492) and Guided Independent Research (BIO 4493, 4494) may only be taken for a maximum of 6 semester

Students must take courses at both Troy University and Dauphin Island Sea Lab.

Specialized General Studies Requirements

Required Courses (9 hours)

(3)

LGL 2200

T CT 2200

Area III

AI EU III		
BIO 1100	(3)	Principles of Biology
BIO L100	(1)	Principles of Biology Lab
CHM 1142	(3)	General Chemistry I
CHM L142	(1)	General Chemistry I Lab
MTH 1125	(4)	Calculus I

Area V Requirements

Area v Kegu	ureme	nis
IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation
BIO 1101	(3)	Organismal Biology

BIO L101	(1)	Organismal Biology Lab
CHM 1143	(3)	General Chemistry II
CHM L143	(1)	General Chemistry II Lab

Complete one sequence (physics sequence not required for medical technology concentration):

General Physics I

PHY L252	(1)	General Physics I Lab
PHY 2253	(3)	General Physics II
PHY L253	(1)	General Physics II Lab
OR		
PHY 2262	(3)	Physics I with Calculus
PHY L262	(1)	Physics I with Calculus Lab
PHY 2263	(3)	Physics II with Calculus
PHY L263	(1)	Physics II with Calculus Lab

(3)

PHY 2252

Requirements for the Program			
Lectures and	corresp	oonding labs must be taken together.	
BIO 2220	(3)	Principles of Cell Biology	
BIO L220	(1)	Principles of Cell Biology Lab	
BIO 2229	(3)	General Ecology	
BIO L229	(1)	General Ecology Lab	
BIO 3320	(3)	Genetics	
BIO L320	(1)	Genetics Lab	
BIO 4484	(1)	Senior Seminar in Biological	
		& Environment Sciences	
CHM 3342	(3)	Organic Chemistry I	
CHM L342	(1)	Organic Chemistry I Lab	
CHM 3343	(3)	Organic Chemistry II	

Troy University Courses:

(1)

(3)

CHM L343

MTH 2210

BIO 3307	(3)	Invertebrate Zoology
BIO L307	(1)	Invertebrate Zoology Lab

Complete 12 additional semester hours of adviser-approved biology or marine biology (MB) courses.

Dauphin Island Sea Lab (DISL) Courses (16 semester hours).

Organic Chemistry II Lab

Introductory Statistics

DISL courses are offered during the summer term. Students are required to take the following prerequisites before attending DISL: CHM 1143, L143, BIO 1101, L101, BIO 2229, L229. Students must also comply with all DISL catalog prerequisites for individual courses.

Complete 16 semester hours of MB courses approved by the DISL liaison and Department Chair.

MATHEMATICS EDUCATION

Students seeking Alabama teacher certification should select mathematics as a first major and education as a second major. Students should consult with their advisers concerning all certification requirements.

MATHEMATICS MAJOR (38 HOURS)

Specialized General Studies Requirements Ârea III

Calculus I

Area V Requirements

TROY 1101	(1)	University Orientation
MTH 2210	(3)	Introductory Statistics

MTH 2220 (3) Computer Programming for Mathematics

Requirements for the Major

MTH 1126	(4)	Calculus II
MTH 2227	(4)	Calculus III
	1 - 1	

MTH 3311 (3) Differential Equations MTH 3318 (3) Introduction to Advanced Mathematics

MTH 3331 (3) Linear Algebra MTH 4424 (3) Real Analysis I MTH 4441 (3)Abstract Algebra I

Select one of the following:

MTH 4425	(3)	Real Analysis II
MTH 4442	(3)	Abstract Algebra II

OR both of the following:

MTH 3350 (3) Statistical Methods and Computation

MTH 4451 (3) Mathematical Statistics I

Students selecting MTH 3350 and MTH 4451: select nine more hours of mathematics courses at the 3000 level and above (excluding MTH 4481).

Students selecting MTH 4425 or MTH 4442: select 12 hours of mathematics courses at the 3000 level and above (excluding MTH 4481).

Students seeking Alabama teacher certification must select MTH 3325, MTH 3350 and MTH 4451.

MATHEMATICS AND PHYSICS DOUBLE MAJOR

Students seeking a double major in Mathematics and Physics should consult with their advisers in both the Mathematics and Physics Departments.

MATHEMATICS MINOR (18 HOURS)

MTH 1125	(4)	Calculus I
MTH 1126	(4)	Calculus II
MTH 2227	(4)	Calculus III
MTH 3331	(3)	Linear Algebra

Select an additional three hours of math courses at the 3000 level and above, other than those courses whose catalog description declares that they do not count toward the major or minor.

STATISTICS MINOR (18 HOURS)

Requirements for Minor:

MTH 2210 (3) Introductory Statistics

MTH 3350 (3) Statistical Methods and Computations

MTH 4451 (3) Mathematical Statistics I

Select 9 hours from the following:

Scieci / nours j	m me jouowing.	
MTH 3355) Survey Sampling	
MTH 4452) Mathematical Stati	istics II
MTH 4459	Applied Regression	n Analysis
MTH 4465) Categorical Data A	nalysis
MTH 4466) Data Mining	-
MTH 4467) Experimental Desi	gn
MTH 4456) Mathematics of Fin	nance
MTH 4464	Multivariate Analy	/sis

MILITARY OPERATIONS MINOR (18 HOURS)

Military electives may be taken from credit earned through the American Council on Education (ACE) recommendations, Community College of the Air Force (CCAF) or military credit from regionally accredited institutions.

MILITARY SCIENCE LEADERSHIP MINOR (19-22 HOURS)

Area II Requirements:

COM 2241 (3) Fundamentals of Speech

Area IV Requirements:

Select one 2000 level 3-hour course from one of the following areas: Psychology, Sociology, or Political Science.

MSL 3301 (Lead	ership and Problem Solving
MSL 3302 (3) Lead	ership and Ethics
MSL 3304 (Milit 	ary Advanced Leadership Lab 111-A
MSL 3305 (1) Milit	ary Advanced Leadership Lab 111-B
MSL 4401 (ership and Management
MSL 4402	3) Offic	ership
MSL 4404 (Milit 	ary Advanced Leadership Lab IV-A
MSL 4405 (Milit 	ary Advanced Leadership Lab IV-B
MSL 4497 (1-	3) Senio	or Seminar in Military Science
		•

Select a three-hour military history course approved by the professor of military science.

PHILOSOPHY AND RELIGION MINOR (18 HOURS)

Select 9 hours from the following:

PHI 2201	(3)	Introduction to Political Philosophy
----------	-----	--------------------------------------

PHI 2203 (3) Introduction to Philosophy

PHI 2204 (3) Ethics and the Modern World

PHI 2205 (3) Introduction to Logic

PHI 2210 (3) Critical Thinking

REL 2280 (3) World Religions

Select 9 hours from the following upper division courses. At least 6 hours must be philosophy (PHI) courses.

ANT 3340	(3)	Language in Culture and Society
----------	-----	---------------------------------

ANT 3360 (3) Magic, Witchcraft, and Religion

CLA 3311 (3) Civilization of Greece

HIS 3302 (3) History of Religion in the United States

HIS 3331 (3) Western Thought since the 17th Century

HIS 3356 (3) History of the Middle East

HIS 4463 (3) Europe in the Age of Enlightenment

PHI 2280 (3) Travel Study in Philosophy

PHI 3301 (3) Western Philosophy

PHI 3310 (3) Applied Ethics

PHI 3320 (3) Non-Western Philosophies

PHI 3322 (3) Philosophy of Religion

PHI 3365 (3) Bioethics in Historical Context

PHI 4493-94 (3) Guided Independent Study

PHI 4495 (3) Selected Topics in Philosophy

REL 2285 (3) Travel Study in Religion

PHYSICS MAJOR (37 HOURS)

Area III MTH 1125

(4) Calculus I

PHY 2262 (3) Physics I w/Calculus

PHY L262 (1) Physics I w/Calculus Lab

Area V

CS 2250 (3) Computer Science I

MTH 1126 (4) Calculus II*

Note: *Students selecting a minor in Mathematics or a second major in Mathematics will meet the Calculus II requirement in the Mathematics Major/Minor rather than in Area V.

Required courses (20 hours)

PHY 2263 (3) Physics II w/Calculus

PHY L263 (1) Physics II w/Calculus Lab

PHY 3310 (3) Modern Physics

PHY L310 (1) Modern Physics Lab

PHY 3325 (3) Thermodynamics

PHY 4420 (3) Mechanics

PHY 4435 (3) Electricity & Magnetism

PHY 4445 (3) Quantum Mechanics I

Select a minimum of 17 semester hours from the courses listed below:

MTH 2227 (4) Calculus III

MTH 3364 (3) Vector Calculus

PHY 3320 (3) Mathematical Methods for Physicists

PHY 3321 (3) Equations of Mathematical Physics

PHY 3359 (3) Waves and Optics

PHY L359 (1) Waves and Optics Lab

PHY 4438 (3) Electromagnetic Fields

PHY 4440 (3) Dynamics of Particles & Systems

PHY 4446 (3) Quantum Mechanics II

PHY 4460 (3) Relativity I

PHY 4470 (3) Nuclear Physics

PHY 4475 (3)	Particle Physics
PHY 4478 (3)	Relativity II
PHY 4482 (3)	Introduction to String Theory
PHY 4483-85 (1)	Seminar in Relativity
PHY 4495 (3)	Topics in Physics
PHY 4491-92 (3)	Guided Independent Research
PHY 4493-94 (3)	Guided Independent Study

PHYSICS AND MATHEMATICS DOUBLE MAJOR

Students seeking a double major in Physics and Mathematics should consult with their advisers in both the Physics and Mathematics Departments.

PHYSICS MINOR (18-19 HOURS)			
PHY 2262	(3)	Physics I Calculus	
PHY L262	(1)	Physics I with Calculus Lab	
PHY 2263	(3)	Physics II with Calculus	
PHY L263	(1)	Physics II with Calculus Lab	
PHY 3310	(3)	Modern Physics	
PHY L310	(1)	Modern Physics Lab	

Select an additional six to seven hours of adviser-approved, upper-level physics courses.

POLITICAL SCIENCE MAJOR (36 HOURS)

Area V Requ	iremen	nts
IS 2241	(3)	Computer Concepts and Applications
TROY 1101	(1)	University Orientation
POL 2241	(3)	American National Government or
		placement in POL 2240
POL 2260	(3)	World Politics

Major Requirements

POL 3300	(3)	Foundations of Political Science
POL 3330	(3)	Political Theory
	`	

POL 3390 (3) The Art of Political Science Research

Select one of the following concentrations:

American	Politics a	and Public Administration Concentration
POL 3340	(3)	U. S. Government—Executive Branch
POL 3341	(3)	U. S. Government—Legislative Branch
POL 3342	(3)	U. S. Government—Judicial Branch

Select six hours from the following:

Select six	nours jron	n the jouowing:
POL 3343	(3)	American Political Processes
POL 3355	(3)	Southern Politics
POL 3364	(3)	State and Local Politics
POL 3338	(3)	Women in Politics
POL 3339	(3)	African-American Politics
POL 4405	(3)	Political Behavior and Public Opinion
POL 4420	(3)	Constitutional Law
POL 4421	(3)	Introduction to Public Administration
POL 4422	(3)	Public Policy Making
POL 4424	(3)	Contemporary American Foreign Policy
POL 4432	(3)	Comparative Public Policy
POL 4451	(3)	Public Personnel Administration
POL 4453	(3)	Bureaucratic Politics
POL 4469	(3)	Religion in Politics
POL 4472	(3)	Administrative Law
Select an a	additional	12 hours of upper-level (3000-4000)politi

Select an additional 12 hours of upper-level (3000-4000)politica science courses, as approved by your academic adviser.

International Politics Concentration:

mitti matiom	11 1 01111	es concentiation.
POL 3351	(3)	International Relations
POL 4410	(3)	International Political Economy
POL 4433	(3)	Comparative Government

Select six hours from the following:

POL 4405	(3)	Political Behavior and Public Opinion
POL 4415	(3)	International Conflict
1 OL 4413	(3)	international Commet

_		(-)		
POL	4424	(3)	Contemporary American Foreign Policy	

POL 4432 POL 4445 POL 4450 POL 4452 POL 4460 POL 4465 POL 4465 POL 4467 POL 4468 POL 4470 POL 4470 POL 4474	(3) (3) (3) (3) (3) (3) (3) (3) (3) (3)	Comparative Public Policy Inter-American Relations Latin American Politics International Law Intercultural Relations Arab-Israeli Conflict Politics of the Developing World Middle Eastern Politics Asian Politics Russian Politics European Politics Terrorism and Political Violence Politics of Southeast Asia
POL 4476	(3)	Politics of Southeast Asia

Select an additional 12 hours of upper-level (3000-4000) political science courses, as approved by your academic adviser.

Accelerated Honors Requirements:

*IR 5551	(3)	Survey of International Relations
*IR 6601	(3)	Research Method in International Relations
*IR6620	(3)	International Political Economy

Select an additional 3 hours of upper-level (3000-4000) political science courses, as approved by your academic advisor.

*Registration for courses marked with an asterisk is restricted to students who have been admitted to **International Relations Concentration Accelerated Honors Option**, have completed at least 90 credit hours, and 18 hours of political science courses.

Students must also meet requirements for the graduate program. POLITICAL SCIENCE MINOR (18 HOURS)

POL 3300	(3)	Foundations of Political Science
POL 3330	(3)	Introduction to Political Theory

Select an additional 12 hours of upper level courses, as approved by your academic adviser.

AMERICAN POLITICS MINOR (18 HOURS)

POL 3340	(3)	U. S. Government—Executive Branch
POL 3341	(3)	U. S. Government—Legislative Branch
POL 3342	(3)	U. S. Government—Judicial Branch
	. ,	
Select three of	of the fo	llowing courses (9 hours)
POL 3343	(3)	American Political Processes
POL 3355	(3)	Southern Politics
POL 3364	(3)	State and Local Politics
POL 3338	(3)	Women in Politics
POL 3339	(3)	African-American Politics
POL 4405	(3)	Political Behavior and Public Opinion
POL 4420	(3)	Constitutional Law
POL 4421	(3)	Introduction to Public Administration
POL 4422	(3)	Public Policy Making
POL 4424	(3)	Contemporary American Foreign Policy
POL 4432	(3)	Comparative Public Policy
POL 4451	(3)	Public Personnel Administration
POL 4453	(3)	Bureaucratic Politics
POL 4469	(3)	Religion in Politics

INTERNATIONAL RELATIONS MINOR (18 HOURS)

Administrative Law

Required course (9 hours)

POL 4472

Required Courses (9 hours)

POL 3351	(3)	International Relations
POL 4410	(3)	International Political Economy
POL 4433	(3)	Comparative Government

Select three hours from the following courses (9 hours)

POL 3300 (3) Foundations of Political Science

POL 4405	(3)	Political Behavior and Public Opinion
POL 4415	(3)	International Conflict
POL 4424	(3)	Contemporary American Foreign Policy
POL 4432	(3)	Comparative Public Policy
POL 4445	(3)	Inter-American Relations
POL 4450	(3)	Latin American Politics
POL 4452	(3)	International Law
POL 4460	(3)	Intercultural Relations
POL 4464	(3)	Arab-Israeli Conflict
POL 4465	(3)	Politics of the Developing World
POL 4466	(3)	Middle Eastern Politics
POL 4467	(3)	Asian Politics
POL 4468	(3)	Russian Politics
POL 4470	(3)	European Politics
POL 4474	(3)	Terrorism and Political Violence
POL 4476	(3)	Politics of Southeast Asia
	. ,	

SCIENCE EDUCATION

Students seeking Alabama teacher certification should select the comprehensive science program as a first major and education as a second major. Students should consult with their advisers concerning all certification requirements.

SOCIAL SCIENCE EDUCATION

Students seeking Alabama teacher certification should complete the social science major with a general social science concentration and select education as a second major. Students should consult their education advisers concerning all certification requirements and with their academic discipline adviser for requirements in the major. *Education students will need to take coursework to include the following disciplines: Geography, History, Political Science, and Economics.

SOCIAL SCIENCE MAJOR (36 HOURS)

Specialized General Studies Requirements

AREA IV

NOTE: Social Science major with a concentration should take Area IV electives appropriate for their concentration.

NOTE: Social Science Education Majors must take HIS 1101 Western Civilization I and HIS 1102 Western Civilization II.

Requirements for the Major

Inquiry
ial Science
Science
i

Inquiry

SS 4498 (3) Social Science Theory

SS 4499 (3) Senior Seminar

Select one of the following concentrations:

General Social Science Concentration:

Select at least 21 hours of additional 3000/4000-level courses in at least three disciplines from anthropology, economics, geography, history, political science, psychology, sociology, criminal justice, or as approved by department chair. (Six hours may be used from ECO 2251, ECO 2252, GEO 2210, ANT 2200, POL 2241, or SOC 2275).*Education students will need to take ECO 2251, POL 2241, and HIS 3375.

Geography Concentration:

GEO 3300	(3)	Principles of Physical Geography
GEO 3301	(3)	Principles of Cultural Geography

Select at least 15 hours of additional 3000/4000-level courses as approved by your faculty adviser:

Leadership Development Concentration:

LDR 1100	(3)	Introduction to Leadership
LDR 2200	(3)	Tools for Leaders
LDR 3300	(3)	Leadership Theory
LDR 4400	(3)	Leadership Seminar

Select an additional 9 hours from the following:

AS 3312	(3)	Air Force Leadership Studies I
AS 3313	(3)	Air Force Leadership Studies II
COM 3345	(3)	Group Discussion and Leadership
HIS 4415	(3)	Contemporary America
LDR 3310	(3)	Leadership and Interpersonal Skills
LDR 3320	(3)	Great Leaders
MGT 3300	(3)	Principles of Management
MCI 2202	(a)	Landarahin and Tanmayarla

MSL 2202 (2) Leadership and Teamwork MSL 2204 (1) Leadership Lab

POL 4422 (3) Public Policy Making

POL 3351 (3) Foundations of International Relations POL 4421 (3) Introduction to Public Administration PSY 4410 (3) Business and Industrial Psychology

SOC 3301 (3) Collective Behavior and Social Movements

SOC 3302 (3) Small Groups

SOCIAL SCIENCE MINOR: GENERAL SOCIAL SCIENCE (18 HOURS)

SS 4498 (3) Social Science Theory

Select an additional 15 hours from at least three of the following: anthropology, economics, geography, history, political science, psychology, social science, or sociology. At least 12 hours must be 3000/4000 level.

SOCIOLOGY MAJOR (36 HOURS)

Area IV Requirements

SOC 2275 (3) Introduction to Sociology

Area V Requirements

IS 2241 (3) Computer Concepts and Applications

TROY 1101 (1) University Orientation

SOC 2280 (3) Social Problems in Contemporary Society

Requirements for the Major

SOC 4420 (3) Sociological Theory

SS 3375 (3) Introduction to Social Science Inquiry SS 3376 (3) Statistical Applications of Social Science

SS 3376 (3) Statistical Applications of Social Science Inquiry

SS 4499 (3) Senior Seminar

Select an additional 24 hours of approved upper-level sociology courses.

SOCIOLOGY MINOR (18 HOURS)

Select 18 hours of approved, upper-level Sociology courses. SOC 2280 may be applied toward the minor.

SURVEYING AND GEOMATICS SCIENCES PROGRAM (53 HOURS)

Area II:

ART 2201 (3) Introductory Drawing

Select remaining Area II courses as specified in the General Studies section of this catalog.

Area III Requirements

MTH 1125 (4) Calculus I

Select an 8 hour physics sequence with labs:

PHY 2252 (3) General Physics I

PHY L252 (1) General Physics I Laboratory

PHY 2253 (3) General Physics II

PHY L253 (1) General Physics II Laboratory OR

PHY 2262 (3) Physics I with Calculus

PHY L262 (1) Physics I with Calculus Laboratory

PHY 2263 (3) Physics II with Calculus

PHY L263 (1) Physics II with Calculus Laboratory

Area V Requirements

CS 2250	(3)	Computer Science I
IS 2241	(3)	Computer Concepts & Application
MTH 1126	(4)	Calculus II
MTH 2210	(3)	Introductory Statistics
TROY 1101	(1)	University Orientation

Program Requirements

GEM 1100	(2)	Computer-Aided Drafting I
GEM 1100 GEM 1101	(2)	Computer-Aided Drafting II
GEM 2220	(3)	Basics of Surveying
GEM L220	(1)	Basics of Surveying Lab
GEM 2309	. ,	
	(3)	Land Survey Principles
GEM L309	(1)	Land Survey Principles Lab
GEM 3310	(3)	Land Survey Practice
GEM L310	(1)	Land Survey Practice Lab
GEM 3330	(3)	Advanced Measurement Analysis
GEM L330	(1)	Advanced Measurement Analysis Lab
GEM 3366	(3)	Photogrammetry and Remote Sensing
GEM 3379	(3)	Introduction to Least Squares Adjustment
GEM 3390	(3)	Fundamentals of Geographic Information
		and Analysis
GEM 3391	(3)	Application of Geospatial Information
	. ,	Science
GEM 4405	(3)	Route & Construction Surveying
GEM L405	(1)	Route & Construction Surveying Lab
GEM 4407	(3)	Land Development
GEM L407	(1)	Land Development Lab
GEM 4408	(3)	Geodesy & Geodetics
GEM 4409	(3)	Hydrology
GEM L409	(1)	Hydrology Lab
GEM 4410	(3)	Introduction to Global Positions
GEM 4490	(1)	Geomatics Capstone
OLM 4470	(1)	Geomatics Capstone

Select two hours below: GEM 4499 (2) Geomatics/GIS Projects

OR	. ,	3
GEM 3395	(1)	Cooperative Work Experience I and
GEM 4496	(1)	Cooperative Work Experience II