The College of Natural and Health Sciences is composed of the departments of Nursing, Exercise Science and Sport Studies, Chemistry and Physics, and Biology. The majors and minors offered by these departments provide students with the opportunity to pursue their education as preparation to gain admission to graduate programs, professional schools, to become board certified nurses and enter the workforce in a diverse array of professions.

All of the departments in the college emphasize experiential learning opportunities through our clinical settings, laboratories, field trips that are taken as part of many of our courses, a rich array of internships and service learning opportunities. Our students are encouraged to become involved and be responsible in the pursuit of their studies and in their learning. The college embraces and emphasizes the ethos of the University, which is “learning by doing, doing to learn.”

Our faculty members in the college are active scholars who pursue basic and/or applied research that provides opportunities for students to become involved in scholarly work as part of their undergraduate education.

There are organizations in all departments for students to connect with fellow students, learn about professional opportunities, develop leadership skills if elected to an office in the organization and attend guest lectures. Participation in these student organizations can be submitted to the Office of Student Engagement and Leadership for inclusion in the co-curricular transcript. Interested students should ask their instructors or department chairs about these organizations.

Students pursuing a degree in pre-allied health, public health or athletic training are advised by faculty in the Department of Exercise Science. This preparation can lead to employment in a professional program or admission to graduate programs in athletic training, public health, occupational therapy and physical therapy. Those students interested in sport management, teaching physical education and adult fitness should consult with the faculty in the department early in their academic careers.

Students who intend to continue postgraduate studies for a professional degree in medicine, veterinary medicine, dentistry, or pharmacy can major in biology, biochemistry or chemistry at The University of Tampa and receive excellent preparation for the entrance exams for these programs. These professional fields value breadth and depth in coursework that also extends beyond the sciences, as well as a demonstration of service to the community while pursuing undergraduate studies.

UT’s Baccalaureate Experience provides students with the opportunity to pursue other coursework that can include a variety of disciplines, such as, for example, psychology, sociology, languages and literature. Members of the departments of chemistry and physics and biology offer guidance to students and write recommendations through our Pre-Professional Committee composed of biology and chemistry faculty.

Any of the faculty members in the sciences can serve as academic advisors to students interested in pursuing graduate training in the health professions and to offer counsel during your years at UT while you pursue your degree. Students should contact a member of the Pre-Professional Committee no later than the start of their junior year.

Choose a major that best suits you, so you can excel at your studies, to help you gain admission to professional schools. Students
interested in pursuing a post-graduate professional degree in one of the aforementioned fields, while pursuing a degree outside of the College of Natural and Health Sciences, are encouraged to contact the Pre-Professional Committee for guidance.

**Department of Biology**

**Faculty:** Associate Professor Meers, Chair; Dana Professor Price; Professors Beach, Rice; Associate Professors Bellone, Chipouras, Kucera, Masonjones, Schlueter; Assistant Professors Campbell, Freid, Huber, Hulathduwa, L. McRae, M. McRae, Williams, Yokota; Instructor Cragun; Lab Coordinator Rose.

The B.S. in biology, B.A. in biology, in marine science-biology, B.S. in marine science-chemistry and B.S. in environmental science majors all share the same goals: 1) To introduce students to a wide range of topics in historical and contemporary biological and chemical science. 2) To foster a lifelong interest in the learning process to ensure that our graduates continue to develop as scientists and citizens throughout their lives. 3) To prepare our graduates for responsible positions in society, such as laboratory or field technicians, environmental regulators, research scientists, educators and medical professionals.

**Departmental Core Requirements**

All majors offered through the Department of Biology share as their foundation the Biology Lower-Core Curriculum. All students must complete these core courses with a 2.0 (C level work) combined minimum grade point average before they will be eligible to register for any of the upper-division BIO (numbered above 204) or MAR (numbered above 150) courses. Additionally, some courses within the Biology Lower-Core have a grade of C minimum requirement as noted in the Course Description section of this Catalog. The Biology Lower-Core Curriculum consists of the following five courses:

- BIO 203 Biological Diversity ..........4
- BIO 204 Biological Unity ..........4
- CHE 152-153 General Chemistry I .....4
- CHE 154-155 General Chemistry II ....4
- MAT 170* Precalculus .................4

**Semester Hours:** 16-20

*May be waived if student is placed directly into MAT 260 Calculus I.

The faculty of the biology department strongly encourages all majors to complete the remaining science and math collateral and prerequisite courses associated with their particular degrees, as described below, prior to the end of their sophomore year.

**Biology Majors**

**Requirements for BS or BA majors in biology:**

**Biology Lower-Core Curriculum** 16-20

- BIO 228 Biology of Plants ..........4

**Genetics Requirement**

Choose one of the following courses 4

- BIO 300 General Genetics ..........4
- BIO 320 Molecular Genetics ..........4

**Cellular and Physiology Requirement**

Choose one of the following courses 4

- BIO 227 Ecosystems and Ecophysiology ..........4
- BIO 307 Microbiology ..........4
- BIO 310 Developmental Biology ....4
- BIO 330 General Physiology ..........4
- BIO 350 Cell Biology ..........4
- BIO 360 Immunology ..........4
- BIO 370 Molecular Biology ..........4
- BIO 390 Essentials of Electron Microscopy ..........4
- BIO 410 Senior Seminar ..........1

Concentration (described below). 16-20

**Semester Hours:** 45-53

**B.S.-Biology - Collateral and prerequisite courses required:**

- CHE 232-235 Organic Chemistry I, II ..........8
- PHY 200/5-201/6 General Physics I, II ..........8
- MAT 260 Calculus ..........4

**Semester Hours:** 20
B.A.-Biology - Collateral and prerequisite courses required:

Physical Science Requirement
(Choose one).................................4
CHE 232-233 Organic Chemistry I......4
PHY 200 / 205 General Physics I.....4
MAT 260 Calculus...........................4

Semester Hours: 8

**BIO 440 or 450 may be substituted if an oral presentation is made.

Students who major in biology may use any of the collateral science courses required in the major to satisfy the natural science component of the general curriculum distribution requirements. Students may not count credits for both BIO 300 and 320 toward the degree requirements in any major or minor in biology, marine science-biology or environmental science. However, credits for both may count toward the 124-credit-hour graduation requirement. Students also may use the course required in mathematics to satisfy the mathematics requirement of the academic skills component of the general curriculum distribution requirements.

WRI 281 and BIO 230 or MAT 201 are strongly recommended for those students planning to attend graduate or professional school.

B.S. - Biology Concentrations

The Bachelor of Science in Biology provides the student with a selection of courses needed to prepare for a career in the biological sciences, including many graduate and professional schools. This highly specialized curriculum includes more extensive requirements in chemistry and physics in order to maximize the future scientific opportunities available to students.

General Biology Concentration

This concentration meets the requirements of a variety of career paths, including industrial positions, secondary education, and graduate programs in biology. Students must complete a minimum of four additional biology courses (not including BIO 440, 450, 495 or 499) to be determined in consultation with advisors. In addition to the core requirements for a degree in biology, students may select any BIO courses above 204 or MAR courses above 150 to fulfill the elective requirements.

Semester Hours: 16

Biology Education Majors

Students pursuing education degrees must consult the Education section of this catalog for a complete listing of course requirements, as well as the sequence in which to take these courses. For up-to-date information, contact the Department of Education office in Plant Hall 439.

Pre-Professional Concentration (including Pre-Medicine, Pre-Dentistry, Pre-Veterinary Science)

Students interested in these professional careers usually major in biology, selecting courses from the pre-professional concentration. Students also may choose to major in chemistry or biochemistry. Other majors are possible, provided the entrance requirements for professional schools are completed. Students should design their academic programs in consultation with their advisors.

Students requesting letters of recommendation to professional schools must do so through the Pre-Professional Committee by submitting their requests to the committee representative (contact the department chair annually for this information).

The pre-professional concentration is designed to prepare students for application to professional schools such as medical, dental, veterinary, etc. The Army ROTC Department can assist pre-professional students with their graduate program finances through the Health Sciences Professional Scholarship Program. For more information, contact the Army ROTC Department at (813) 258-7200 or UT ext. 3044. After consultation with their advisors, students should complete at least four of the following courses as their biology major electives:

Biology–Pre-Professional Concentration

Select at least four of the following courses: 15-16

BIO 220 Behavioral Biology ..........4
BIO 250 Comparative Vertebrate Anatomy .........................4
BIO 307 Microbiology .................4
BIO 310 Developmental Biology ....4
BIO 317 Parasitology .................4
in biomedical, agricultural and chemical industries. The biology major (plus electives) with these business courses fulfills all foundation courses (except ITM 200 and 361) required for admission to the Master of Business Administration program at The University of Tampa.

Requirements for the biology-business concentration:

ACC 202 Financial Accounting ........3
ACC 203 Managerial Accounting ....3
ECO 204 Principles of Microeconomics ....3
ECO 205 Principles of Macroeconomics ....3
ITM 210 Managerial Statistics I ....3
MGT 330 Principles of Management ....3
MGT 335 Essentials of Corporate Responsibility ....3
MKT 300 Principles of Marketing ....3
FIN 310 Financial Management ....3

Semester Hours: 27

Concentration in Molecular Biology

Molecular biology, along with the laboratory tools it employs, is a sub-discipline within biology that has become an important component of our economy. Students interested in pursuing advanced degrees in this field or careers in laboratory or research environments involving molecular biology are encouraged to pursue this concentration. Students who pursue this concentration enroll in BIO 320 as part of their degree plans.

Molecular Biology Concentration

Select four courses from the following: 16
BIO 307 Microbiology ..............4
BIO 310 Developmental Biology ......4
BIO 330 General Physiology ............4
BIO 350 Cell Biology ..............4
BIO 360 Immunology ..............4
BIO 370 Molecular Biology ............4
BIO 390 Essentials of Electron Microscopy ..............4
CHE 320 Biochemistry ..............4
CHE 420 Advanced Biochemistry ....4
Elective from any course above BIO 204* or MAR 300 ........4

Semester Hours: 16

*BIO 300, 320, 395, 440, 450 and 499 cannot be used as electives to satisfy this requirement.

Biology-Business Concentration

Consisting of the biology major courses plus four electives in the biology department above 204 (excluding BIO 440, 450, 495 and 499) with the following business courses, the biology-business concentration is designed for students who are interested in biology but wish to pursue business careers. These individuals may find opportunities in technical sales or managerial positions...
B.A. General Biology Course Distribution

Categories

Ecosystem/Environmental Biology:
- BIO 227 Ecosystems and Ecophysiology
- BIO 242 Introduction to Environmental Science and Policy
- BIO 346 Conservation Biology

Ecology Elective (if chosen, may only take one of the following):
- BIO 212 Ecology
- MAR 222 Marine Ecology

Organismal/Evolutionary Biology:
- BIO 220 Behavioral Biology
- BIO 224 Invertebrate Zoology
- BIO 225 Vertebrate Zoology
- BIO 228 Biology of Plants
- BIO 250 Comparative Vertebrate Anatomy
- BIO 307 Microbiology
- BIO 317 Parasitology
- BIO 340 Ichthyology
- BIO 400 Evolution
- MAR 226 Marine Zoology
- MAR 327 Marine Botany

Cellular/Molecular Biology:
- BIO 300 General Genetics
- BIO 310 Developmental Biology
- BIO 320 Molecular Genetics
- BIO 330 General Physiology
- BIO 350 Cell Biology
- BIO 360 Immunology
- BIO 370 Molecular Biology

Organismal and Evolutionary Biology Concentration

This concentration meets the requirements for a variety of career paths in organismal and evolutionary biology, secondary education and graduate programs in these fields. Students are required to complete BIO 400 Evolution as well as five additional biology courses (not including BIO 440, 450, 495 or 499) to be determined in consultation with advisors from the list below.

- BIO 400 Evolution (required) ............4
- OEB Elective Courses .........................20
- Ecology Elective (if chosen, may only take one of the following)
- BIO 212 Ecology .........................4
- MAR 222 Marine Ecology .............4

Semester Hours: 24

Remaining Electives

- BIO 220 Behavioral Biology ..........4
- BIO 224 Invertebrate Zoology .......4
- BIO 225 Vertebrate Zoology ........4
- MAR 226 Marine Zoology ...........4
- BIO 227 Ecosystems and Ecophysiology ..........4
- BIO 230 Introduction to Experimental Design and Biostatistics ..........4
- BIO 250 Comparative Vertebrate Anatomy ..........4
- BIO 317 Parasitology .................4
- MAR 327 Marine Botany ..........4
- BIO 307 Microbiology ..........4
- BIO 310 Developmental Biology ....4
- BIO 330 General Physiology .........4
- BIO 340 Ichthyology .................4

B.S. — Marine Science-Biology Major

Requirements for a B.S. double major in marine science* and biology:

Biology Lower-Core Curriculum 16-20

Ecology Requirement (Choose one)... 4
- MAR 222 Marine Ecology ........4
- BIO 212 Ecology ........4
- BIO 410 Senior Seminar** ..........1
- MAR 327 Marine Botany ..........4
- Electives above BIO 204 or MAR 150...8

Genetics Requirement (choose one)... 4
- BIO 300 General Genetics ..........4
- BIO 320 Molecular Genetics ........4

Cellular/Physiological Requirement (choose one) .................. 3-4
- BIO 227 Ecosystems and Ecophysiology ..........4
- BIO 307 Microbiology ..........4
- BIO 310 Developmental Biology ....4
- BIO 330 General Physiology ........4
- BIO 350 Cell Biology ..........4
- BIO 360 Immunology ..........4
- BIO 370 Molecular Biology ..........4
- BIO 390 Electron Microscopy ..........4
- CHE 320 Biochemistry ..................3

Organismal Invertebrate Requirement (choose one) .................. 4
- BIO 224 Invertebrate Zoology .......4
- MAR 226 Marine Zoology ..........4
Organismal Vertebrate Requirement (choose one) .................................. 4
BIO 225 Vertebrate Zoology .............. 4
BIO 250 Comparative Vertebrate Anatomy .................................. 4

Physical/Chemical Requirement (select two) .................................. 7-8
MAR 150 Physical Geology .............. 4
MAR 301 Physical Oceanography ....... 4
CHE 180 Environmental Chemistry .................................. 3

Total Semester Hours: 56-61

Collateral and/or prerequisite courses required for the double major in Marine Science-Biology:
CHE 232-235 Organic Chemistry I, II ... 8
PHY 200/5-201/6 General Physics I, II .. 8
MAT 260 Calculus .................................. 4

Semester Hours: 20

Marine science may not be taken as a single major because of its highly specialized nature.
** BIO 440 or 450 may be substituted if an oral presentation is made.

Students who double-major in marine science-biology may use any of the science or marine science courses required in the major to satisfy the natural science component of the general curriculum distribution requirements listed in the catalog.

B.S. — Marine Science-Chemistry Major

Requirements for a double major in marine science* and chemistry:
Biology Lower-Core Curriculum 16-20
Ecology Requirement (Choose one) .................................. 4
MAR 222 Marine Ecology .............. 4
BIO 212 Ecology .................. 4
MAR 150 Physical Geology .............. 4
MAR 226 Marine Zoology .............. 4
MAR 327 Marine Botany .............. 4
MAR 301 Physical Oceanography ....... 4
CHE 180 Environmental Chemistry .. 3

Semester Hours: 39-44

Courses required for the chemistry major:
CHE 152-155 General Chemistry I, II .. 8
CHE 310 Analytical Chemistry .............. 4
CHE 232-235 Organic Chemistry I, II .. 8
CHE 352-355 Physical Chemistry I, II .. 8
CHE 425 Advanced Inorganic Chemistry .................. 4
CHE 451, 452 or 453 .................. 2

Total Semester Hours: 89-94

Collateral and prerequisite courses required for the double major:
PHY 200 / 205 General Physics I ...... 4
PHY 201 / 206 General Physics, II .. 4
MAT 260 Calculus .................. 4
MAT 261 Calculus .................. 4

Semester Hours: 34

Marine Science Center

UT’s waterfront Marine Science Center is located at Bayside Marina, about 20 minutes from campus. This 3,000-square-foot facility is well equipped to serve both students and faculty in marine science, environmental science and biology programs. The facility includes a wet laboratory and dry lab/classroom, SCUBA storage area, lockers, and a boat slip. The wet lab has a recirculating/flow-through seawater system with reservoirs at ground level. Three boats also are housed at the marina. On the eastern edge of the marina property is a mosaic of supratidal and shallow water habitats that UT faculty members maintain. This mangrove/salt marsh/oyster reef/mud flat habitat makes an ideal location for environmental projects.
Gulf Coast Research Laboratory

The University maintains a formal affiliation with the Gulf Coast Research Laboratory (GCRL), an educational and research institute located in Ocean Springs, MS. Through this arrangement, students may take field courses in marine science at GCRL during the summer. Course credit is awarded through the University of Southern Mississippi and will be accepted as transfer credit at UT. Below is a list of courses taught at GCRL and their semester hours of credit. These courses may be applied toward majors in biology, marine science/biology, and environmental science.

Marine Science I: Oceanography ........5
Marine Science II: Marine Biology ....5
Coastal Marine Geology .................3
Coastal Vegetation ........................4
Marine Invertebrate Zoology ...........6
Marine Ichthyology ........................6
Marine Mammals ............................5
Fauna and Faunistic Ecology of Salt Marshes, Seagrasses and Sand Beaches ........5
Sand Beach Ecology ........................5
Marine Ecology ...............................5
Elasmobranch Biology ........................
Special Problems in Marine Science...1-6
Special Topics in Marine Science ....1-6
Complete information about the GCRL program is available in the Department of Biology.

B.S. — Environmental Science Major

Requirements for a major in environmental science:

Biology Lower-Core Curriculum
16-20

BIO 212 Ecology .........................4
BIO 228 Biology of Plants ..............4
BIO 242 Introduction to Environmental Science and Policy ........................4
BIO 346 Conservation Biology .......4
BIO 410* Senior Seminar ..............1
CHE 310 Analytical Chemistry .......4
CHE 180 Environmental Chemistry ...3
MAT 260 Calculus I .....................4
WRI 281 Technical Writing ..........4

Statistics Requirement (choose one) 4
BIO 230 Introduction to Experimental Design and Biostatistics ..................4
MAT 201 Statistics .....................4

Electives (see below) ....................12

Total Semester Hours: 64-69

*BIO 440 or 450 may be substituted if an oral presentation is made.

Category One Electives (at least two of the following): .................. 8
BIO 220 Behavioral Biology ..........4
BIO 224 Invertebrate Zoology .......4
BIO 225 Vertebrate Zoology .........4
BIO 340 Ichthyology ....................4
BIO 307 Microbiology ..................4
BIO 317 Parasitology ...................4
MAR 150 Physical Geology ..........4
MAR 226 Marine Zoology ............4
MAR 301 Physical Oceanography ...4
(see prerequisites)

Category Two Electives (at least two of the following): .................. 8
COM 224 Mass Media and Society

Geography Elective
(If chosen, may only take one of the following two)
GEO 202 Physical Geography ..........4
GEO 205 Principles of Resource Utilization ................4
PHL 208 Business Ethics ..............4
PHL 210 Environmental Ethics ......4

Students who major in environmental science may use any of the category one electives to satisfy the natural science component of the general curriculum distribution requirements. They also may use the courses required in mathematics to satisfy the mathematics requirement of the academic skills component of the general curriculum distribution.

Minors In Biological Sciences

Requirements for a minor in biology:

Twenty total semester hours of credit, including BIO 203, BIO 204 and 12 additional credit hours of BIO courses numbered above 204, or MAR courses above 150 excluding BIO 440, 450, 495 and 499.
Given the small class size at the University and the varied research interests of the chemistry faculty, experiential learning opportunities are available and encouraged. Students working with faculty members have completed projects in environmental analysis, atmospheric chemistry, marine nutrient analysis, protein chemistry, organic reaction mechanisms, electroanalysis and biosensor development.

Each member of the faculty is an expert in at least one of the aforementioned areas of chemistry. Each chemistry major is assigned a faculty member who serves as an advisor and whose specialty coincides with the student’s area of interest. Advisors and students work together to select courses, review academic and professional progress, and discuss career and graduate opportunities.

**Pre-Professional Concentration**

Students interested in medicine, dentistry or veterinary science may wish to consider the B.A. in chemistry. This degree program has been specifically designed for pre-professional students whose interests lie in the chemical sciences. While any of the degree programs offered by the Department of Chemistry provides the opportunity for professional school admission, the B.A. degree, with fewer credit hours than the B.S. degrees, allows the student to explore other academic disciplines through electives, providing the well-rounded educational experience professional schools actively seek in their applicants. In addition to the chemistry majors, students also may choose biology or other majors, provided the entrance requirements for professional schools are completed. Students should design their academic programs in consultation with their advisors.

Students requesting letters of recommendation to professional schools must do so through the Pre-Professional Committee.

The Army ROTC Department can assist pre-professional students with their professional program finances through the Health Science Professional Scholarship Program. For more information, contact the Army ROTC Department at (813) 258-7200 or UT ext. 3044.
Core Requirements

Lower-Level Chemistry Core
All lower-level CHE core courses must be completed during the freshman and sophomore years. Students must pass these courses with a minimum GPA of 2.0 for the core course group. In addition, certain course-specific “C” minimums also apply for individual coursework.

CHE 152 General Chemistry I ..........3
CHE 153L General Chemistry I-Lab...1
CHE 154 General Chemistry II ..........3
CHE 155L General Chemistry II-Lab...1
CHE 232 Organic Chemistry I ..........3
CHE 233L Organic Chemistry I-Lab...1
CHE 234 Organic Chemistry II.........3
CHE 235L Organic Chemistry II-Lab...1
BIO 204 Biological Unity (with lab) ..4
PHY 205 General Physics I
(Algebra-based) .....................4

or, depending upon major selected,

PHY 200 General Physics
(Algebra-based) .....................4
PHY 201 General Physics II
(Algebra-based) .....................4

or, depending upon major selected,

PHY 206 General Physics II
(Algebra-based) .....................4
MAT 260 Calculus I ........................4

Semester Hours: 32

Upper-Level Chemistry Core
Completion with minimum core average GPA of 2.0 on top of current course-specific “C” minimums required before progression into upper-division chemistry courses (see course descriptions).

CHE 310 Analytical Chemistry
(with lab) .................................4
CHE 320 Biochemistry .................3
CHE 352 Physical Chemistry I .......3
CHE 353L Physical Chemistry I-Lab...1
CHE 354 Physical Chemistry II .......3
MAT 261 Calculus II .....................4

Semester Hours: 18

Chemistry

Requirements for a B.A. major in chemistry:
Lower – Level Chemistry Core ..........32
(can take PHY 200/PHY 201 or PHY 205/PHY 206)
Upper – Level Chemistry Core ..........18
CHE 245 Intermediate Inorganic
Chemistry (with lab) ...................4

Total Semester Hours: 54

Requirements for a B.S. major in chemistry:
Lower – Level Chemistry Core ..........32
(must take PHY 205 / PHY 206 sequence)
Upper – Level Chemistry Core ..........18
CHE 245 Intermediate Inorganic
Chemistry (with lab) ...................4
CHE 355L Physical Chemistry II-Lab...1
CHE 425 Advanced Inorganic
Chemistry ..................................3
CHE 430 Advanced Instrumental
Chemistry (with lab) .................4
CHE 410 Senior Seminar
or
CHE 451 Introduction to Research
or
CHE 453 Chemistry Internship ......2
CHE 426 Advanced Organic
Chemistry
or
CHE 445 Advanced Spectroscopy
or
CHE 499 Special Topics
in Chemistry ..........................4

Total Semester Hours: 68
MAT 262 is strongly recommended for the B.S. chemistry major. BIO 203 is not required for chemistry majors.

Requirements for a B.S.-professional major in chemistry:
The B.S.-professional major in chemistry has the same requirements as the B.S. major in chemistry above, except that 4 credit hours of CHE 451 Introduction to Research must be taken.
Lower – Level Chemistry Core ..........32
(must take PHY 205 / PHY 206 sequence)
Upper – Level Chemistry Core ..........18
CHE 245 Intermediate Inorganic Chemistry (with lab)........ 4
CHE 355L Physical Chemistry II-Lab........ 1
CHE 425 Advanced Inorganic Chemistry....................... 3
CHE 430 Advanced Instrumental Chemistry (with lab)......... 4
CHE 451 Introduction to Research....................... 4
CHE 420 Advanced Biochemistry
or
CHE 426 Advanced Organic Chemistry
or
CHE 445 Advanced Spectroscopy......................... 4

Total Semester Hours: 70

MAT 262 is strongly recommended for the B.S. chemistry-professional major. BIO 203 is not required for chemistry majors.

**Requirements for a minor in chemistry:**
CHE 152 General Chemistry I........ 3
CHE 153L General Chemistry I-Lab........ 1
CHE 154 General Chemistry II........ 3
CHE 155L General Chemistry II-Lab........ 1
CHE 232 Organic Chemistry I........ 3
CHE 233L Organic Chemistry I-Lab........ 1
CHE 234 Organic Chemistry II........ 3
CHE 235L Organic Chemistry II-Lab........ 1
CHE 310 Analytical Chemistry (with lab)......................... 4

or
CHE 320 Biochemistry*......................... 3

or
CHE 420 Advanced Biochemistry......................... 4

Semester Hours: 19-20

* CHE 320 cannot be used to satisfy this requirement if it is used as a biology elective.

**Biochemistry**

**Requirements for a B.S. major in biochemistry:**
Lower – Level Chemistry Core........ 32
(must take PHY 205 / PHY 206 sequence)
Upper – Level Chemistry Core........ 18
CHE 245 Intermediate Inorganic Chemistry (with lab)........ 4
CHE 355L Physical Chemistry II-Lab........ 1
CHE 420 Advanced Biochemistry........ 4

CHE 430 Advanced Instrumental Chemistry (with lab)........ 4
CHE 470 Techniques in Tissue Culture......................... 4
CHE 410 Senior Seminar
or
CHE 451 Introduction to Research
or
CHE 453 Chemistry Internship........ 2
Choose one of the following courses:
BIO 300 General Genetics OR
BIO 330 General Physiology OR
BIO 320 Molecular Genetics......................... 4

Semester Hours: 73
MAT 262, BIO 360 and BIO 350 are strongly recommended for the biochemistry major. The BIO 203 prerequisite is waived for biochemistry majors.

**Bachelor of Science in Forensic Science**
The B.S. program in forensic science prepares students for careers in forensic chemistry or forensic toxicology. Graduates typically are employed in local, state or federal crime laboratories or law enforcement agencies such as the FDA, EPA and OSHA. Forensic chemistry also is an option for preprofessional majors and for those interested in pursuing master’s or doctoral degrees.

Lower – Level Chemistry Core........ 32
(can take PHY 200 / PHY 201
or PHY 205 / PHY 206)

CHE 310 Analytical Chemistry........ 4
CHE 320 Biochemistry......................... 3
CHE 305 Applied Physical Chemistry......................... 3
CHE 440 Quality Assurance........ 3
CHE 460 Introduction to Forensic Research......................... 2

CHE 480 Forensic Toxicology........ 3
BIO 320 Molecular Genetics........ 4
MAT 201 Introduction to Statistics........ 4
MAT 261 Calculus II......................... 4
WRI 281 Technical Writing........ 4

CRM 101 Introduction to Criminology........ 4
CRM 102 Introduction to Criminal Justice........ 4
CRM 200 Introduction to Law Enforcement......................... 4
Bachelor of Science in Chemistry (Biochemistry)/MBA Joint Degree Program

This program is designed to develop scientists who can serve as managers, group leaders and analysts in chemical, pharmaceutical, biotechnology, medical diagnostic and investment companies. Students completing this program will be able to understand and appreciate the nature of the scientific hurdles facing scientists, the financial and stakeholder pressures experienced by management, and the influence of this research on day-to-day corporate operations. The graduate is awarded a B.S. degree in either chemistry or biochemistry, and an MBA.

The program consists of courses required for a major in either chemistry or biochemistry, courses that fulfill all of the undergraduate business foundation requirements, and courses required to complete the MBA program at The University of Tampa. Provisional acceptance into the program will be granted upon completion of the application requirements and the course requirements for years one and two, with final acceptance granted upon completion of the application requirements and the course requirements for years one through three. Participants in this program are required to successfully complete three internships in chemistry and business.

Application and Acceptance into the B.S. Biochemistry/MBA Program

Provisional Acceptance

• An overall grade point average equal to that required by the Honors Program. (Note: Participation in the Honors Program is NOT required.)

Finally, acceptance into the program is granted by the Graduate Studies Program depending upon:

• Performance in both chemistry and business courses during years one through three. A grade of “B” or better in every business course is required.

• An overall grade point average equal to that required by the Honors Program. (NOTE: Participation in the Honors Program is NOT required.)

• GMAT scores of 500 or better

• A written recommendation from the Department of Chemistry.

The curriculum for the joint BS/MBA programs are available at www.ut.edu/chemistryandphysics/.

Department of Exercise Science and Sport Studies

Faculty: Professor Vlahov; Associate Professors Birrenkott, Clancy, Jisha; Assistant Professors Andersen, Chair, Morris, Olsen, O'Sullivan, Reid, Smucker, Wortham; Instructor Bartow; Medical Director Athletic Training Program: Gasser.

Students pursuing majors within the Department of Exercise Science and Sport Studies are preparing for careers in teaching, adult fitness, sport management, allied health, athletic training, public health and related fields. The department offers majors in athletic training, exercise science, public health and sport management. Within the exercise science major, students may select programs of study in one of the following: teaching physical education, adult fitness or pre-professional allied health. Students may incur additional expenses in the following areas: laboratory fees; immunizations and health screenings as required by the program or the clinical site; health insurance; liability insurance; membership in professional or-
and overall, have senior academic standing, earn departmental approval, and must have completed all prerequisite courses. Proof of current CPR certification is required, and individual liability insurance may be required. Students interested in registering for ESC 480 should contact their advisors in the Department of Exercise Science for requirements and information concerning the internship.

**Athletic Training Program**

Athletic training is an allied health profession that deals with the prevention, evaluation, emergency care and rehabilitation of athletic injuries. The athletic training major is designed to offer the knowledge, skills and experience necessary for a student to become eligible to take the Board of Certification national examination. The program is structured to prepare students for entry-level athletic training positions and graduate studies in athletic training. This program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). Because of the nature of the clinical education portion of the program, the program is selective, and space is limited.

**Admission Requirements**

Admission to the program is on a competitive basis through an application process. Admission to the Athletic Training major is a two-step process. All applicants are initially admitted to the pre-athletic training phase of the program. During the pre-athletic training phase, students must complete the requirements listed below to be considered for admission to the professional phase of the program.

Admission to the pre-athletic training phase.

All potential applicants must first be admitted to The University of Tampa. Potential applicants should consult the University admissions requirements for new freshmen or transfer students provided earlier in this catalog. Formal admission to this phase requires the submission of a program-specific application and competitive review by program faculty. To be considered for admission to this phase of the program, a new freshman must have a minimum 2.0 GPA in the major and overall; have senior academic standing, earn departmental approval, and must have completed all prerequisite courses. Proof of current CPR certification is required, and individual liability insurance may be required.

Students interested in registering for ESC 480 should contact their advisors in the Department of Exercise Science for requirements and information concerning the internship.

**Adult Fitness Program**

This non-teaching concentration prepares students for careers in corporate/community fitness. PSY 200 must be taken as part of the general distribution requirements. The following professional courses are required:

- **ESC 105** Biokinetics and Conditioning...................2
- **ESC 110** Introduction to Exercise Science and Sport Studies...2
- **ESC 150** First Aid ..................................2
- **ESC 151** Swimming .................................1
- **ESC 270** Prevention and Care of Sports Injuries ..............3
- **ESC 280** Adult Fitness ...............................3
- **ESC 312** Dance/Rhythmic .............................3
- **ESC 330** Motor Development and Skill Acquisition ..........3
- **ESC 340** Applied Kinesiology .......................3
- **ESC 380** Exercise Testing and Prescription .................3
- **ESC 400** Physical Education and Fitness for Special Populations ..............................................3
- **ESC 411** Recreation Leadership and Administration ..........2
- **ESC 412** Administration of Sport and Physical Activity ....3
- **ESC 450** Tests and Measurement .....................3
- **ESC 460** Physiology of Exercise ....................3
- **HSC 100** Health Science ..................................2
- **HSC 203** Nutrition .....................................3
- **HSC 220** Functional Anatomy and Physiology ..........3
- **HSC 230** Human Anatomy and Physiology I ..............3
- **ESC 372** Exercise Leadership ..........................2

Any combination of other professional (ESC) activity courses 3

**Total Semester Hours: 52**

ESC 480 Internship in Adult Fitness Programs is highly recommended for the adult fitness concentration. To intern, a student must have a minimum 2.0 GPA in the major and overall; have senior academic standing, earn departmental approval, and must have completed all prerequisite courses. Proof of current CPR certification is required, and individual liability insurance may be required.
have a minimum 1000 SAT or 21 ACT. A transfer student (whether internal or external) must have a minimum 2.75 GPA on a 4.0 scale. Admission to the pre-athletic training phase of the program does not guarantee admission to the professional phase of the program. Interested students should contact the admissions office or the program director to obtain the pre-athletic training phase application packet. For priority consideration, applications to the pre-athletic training phase of the program should be submitted by Feb. 1.

Admission to the Professional Phase. Decisions on admission to the professional phase of the program are made by the program faculty following review of each candidate’s application. Meeting the minimum criteria for application does not guarantee admission for the professional phase of the program. Minimum satisfaction of the application criteria for the professional phase of the program consists of the following:

- Completion of a minimum of 24 semester credit hours
- Completion of HSC 230 with a minimum grade of “B/C”
- Completion of HSC 234 with a minimum grade of “C”
- Completion of ATT 175 with a minimum grade of “B”
- Current certification in CPR with AED.
- Minimum cumulative GPA of 2.75 on a 4.0 scale
- Completion of a program-specific application

The application deadline for admission to the professional phase of the program beginning in the fall semester is May 25. Applications for admission to the professional phase can be obtained from the program director.

Transfer students may be eligible to apply to the professional phase of the program at the completion of each fall semester, and may be admitted to the professional phase in the spring semester. Transfer students desiring to enter in the spring semester must meet with the program director to determine their eligibility for admission.

Students admitted to the professional phase of the program must complete a minimum of 1,200 hours of supervised clinical education experiences under the direct supervision of a clinical instructor. These experiences occur at on- and off-campus sites. Students are responsible for transportation and other costs associated with their participation in off-campus clinical experiences.

Professional Standards for Applicants and Students

All applicants and students in the athletic training major must meet and continue to meet the approved professional standards of the program. No one who jeopardizes the health or well-being of a patient, coworker or self will be accepted into the program or continue as a student in the program. To meet the intellectual, physical and social competencies needed for professional requirements, all applicants and students must possess the necessary physical attributes and exhibit qualities of good judgment, mental strength and emotional stability. Every applicant to the professional phase of the program is required to submit a written acknowledgement indicating that he or she has read and understands the technical standards related to the professional duties of the discipline. The program faculty will be responsible for applying the standards for their students and prospective students.

The health care professional’s self-presentation is a vital part of the complex relationship among the athlete/patient, the health care provider and the health care delivery site. The athletic training program reserves the right to limit attire and adornments (such as clothing, jewelry, piercing, tattooing) of the body and its parts (such as hands, face, oral cavity). The program policies document outlines the enforcement of this policy. In all cases, a final appeal may be made to the dean of the college.

General Curriculum Distribution

The general curriculum distribution requirements are contained in the academic programs section. Students pursuing a Bachelor of Science with a major in athletic training must complete all general curriculum distribution requirements, with the following stipulations.
Progress in the Program

1. A grade of “BC” or better in all required athletic training courses graded on an A-F basis.

2. A grade of “satisfactory” in all required athletic training courses graded on a satisfactory/unsatisfactory basis.

3. The student must comply with the academic policies and procedures described earlier in this catalog.

4. The student must comply with the program policies and procedures described in the student handbook.

5. Prior to enrolling in any clinical/lab oratory course, the student must submit:
   a. Proof of liability insurance coverage
   b. Verification of a physical examination, which must be updated yearly, and proof of immunization.
   c. Proof of current first aid and CPR certification with AED certification or Emergency Response (for all students formally admitted to the clinical component of the program only).
   d. Proof of attendance at an annual prevention of disease transmission education session (for all students formally admitted to the clinical component of the program only).
   e. Results of annual TB skin test or chest X-ray.

6. Some clinical sites may require students to submit to background checks and/or drug testing.

Program Expenses

The instructional fee per semester hour is the same for students enrolled in the Athletic Training Program as for other students enrolled at The University of Tampa.

In addition to tuition, housing, books/supplies and usual transportation costs, students in the Athletic Training Program will incur additional expenses in at least the following areas: laboratory fees; immunizations and health screening as required by the program or the clinical site; health insurance; liability insurance; membership in professional organizations; and transportation and other expenses associated with clinical education. Students accepted into the program will receive more specific information about costs. Those anticipating the need for financial assistance while enrolled in the program should contact the UT Financial Aid Office.

Since the athletic training program is a professional education program, students will need to remain flexible with their time to participate fully in laboratory sessions and clinical education experiences. Most students are unable to maintain regular employment during enrollment in the program.

Required courses for athletic training:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 100</td>
<td>Health Science</td>
<td>2</td>
</tr>
<tr>
<td>HSC 203</td>
<td>Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HSC 120</td>
<td>Introduction to Allied Health Professions</td>
<td>2</td>
</tr>
<tr>
<td>or ESC 110</td>
<td>Introduction to Exercise Science and Sport Studies</td>
<td>2</td>
</tr>
<tr>
<td>ESC 236</td>
<td>Introduction to Public Health</td>
<td>3</td>
</tr>
<tr>
<td>HSC 130</td>
<td>Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>HSC 150</td>
<td>Emergency Response</td>
<td>3</td>
</tr>
<tr>
<td>HSC 230</td>
<td>Human Anatomy and Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>HSC 231</td>
<td>Human Anatomy and Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>HSC 234</td>
<td>Human Anatomy and Physiology Lab I</td>
<td>1</td>
</tr>
<tr>
<td>HSC 235</td>
<td>Human Anatomy and Physiology Lab II</td>
<td>1</td>
</tr>
<tr>
<td>HSC 371</td>
<td>Fundamentals of Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>ESC 105</td>
<td>Biokinetics and Conditioning</td>
<td>2</td>
</tr>
<tr>
<td>ESC 270</td>
<td>The Prevention and Care of Sport Injuries</td>
<td>3</td>
</tr>
<tr>
<td>ESC 330</td>
<td>Motor Development and Skill Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>ESC 340</td>
<td>Applied Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>ESC 460</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>ATT 175</td>
<td>Athletic Training Practicum I</td>
<td>1-2</td>
</tr>
<tr>
<td>ATT 274</td>
<td>Assessment of Musculoskeletal Injury</td>
<td>3</td>
</tr>
</tbody>
</table>
Students enrolled in the Pre-Professional Allied Health program may receive preferential application status to The University of St. Augustine’s Doctor of Physical Therapy, Occupational Therapy Doctorate, Master of Occupational Therapy, or the dual enrollment MOT/DPT program. For more information on Ambassador Program with the University of St. Augustine, contact the program coordinator at The University of Tampa.

In order to complete all prerequisites and the courses needed for graduation, students must work closely with their academic advisor regarding course selection and satisfaction of the Baccalaureate Experience requirements outlined in the catalog.

### Required courses for the program in allied health:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 100</td>
<td>Health Science</td>
<td>2</td>
</tr>
<tr>
<td>HSC 120</td>
<td>Introduction to Allied Health Professions</td>
<td>2</td>
</tr>
<tr>
<td>HSC 130</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>HSC 150</td>
<td>Emergency Response</td>
<td>3</td>
</tr>
<tr>
<td>HSC 203</td>
<td>Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HSC 230</td>
<td>Human Anatomy and Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>HSC 234</td>
<td>Human Anatomy and Physiology I Lab</td>
<td>1</td>
</tr>
<tr>
<td>HSC 231</td>
<td>Human Anatomy and Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>HSC 235</td>
<td>Human Anatomy and Physiology II Lab</td>
<td>3</td>
</tr>
<tr>
<td>ESC 270</td>
<td>Prevention and Care of Sports Injuries</td>
<td>3</td>
</tr>
<tr>
<td>ESC 330</td>
<td>Motor Development and Skill Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>ESC 340</td>
<td>Applied Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>ESC 400</td>
<td>Physical Education and Fitness for Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>ESC 460</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>ESC 380</td>
<td>Exercise Testing and Prescription</td>
<td>3</td>
</tr>
<tr>
<td>BIO 203</td>
<td>Biological Diversity</td>
<td>4</td>
</tr>
<tr>
<td>BIO 204</td>
<td>Biological Unity (meets general distribution requirement)</td>
<td>4</td>
</tr>
<tr>
<td>CHE 152/153</td>
<td>General Chemistry I w/ lab (meets general distribution requirement)</td>
<td>4</td>
</tr>
</tbody>
</table>

### Recommended courses for the major in athletic training:

- HSC 420, PHL 209, PHY 200, PSY 250, SPE 208.

### Allied Health Pre-Professional Program

Students who wish to pursue graduate or professional training in allied health fields such as physical therapy or occupational therapy are encouraged to enroll in this program. Coursework for this program should be taken in chronological order and field experiences are required; students must discuss their intentions with their advisors as soon as they decide to follow this course plan.

Upon completion of this program, the student will have earned a B.S. degree in exercise science and sport studies. In addition, the undergraduate program will help the student fulfill many prerequisites necessary to apply to graduate and professional programs in the allied health profession.
PSY 200 General Psychology (meets general distribution requirement) ..................4
PSY 211/HSC 350 Statistics and Experimental Methods I/ Biostatistics .............. 4/3
PSY 250 Health Psychology ..................4
PSY 220 Fundamentals of Biopsychology and Learning ............................4

Total Semester Hours: 65/64

The following courses are strongly recommended as part of the degree program in pre-professional allied health. These courses are often prerequisite courses for graduate and professional programs:

CHE 154/155 General Chemistry II w/lab ...............................4
PHY 200 and 201 General Physics I, II w/labs ..............................8
PSY 210 Development I: Child Psychology ...........................4
PSY 317 Development II: Adulthood, Aging ......................4

Public Health Program

The B.S. in Public Health degree program is designed for students primarily interested in the improvement of health and prevention of disease and disability. The program mission is to improve health throughout the lifespan. The program focuses on:

1. identifying social and behavioral determinants of health,
2. developing and evaluating interventions and policies leading to the improvement of population health, and
3. preparing professionals for leadership positions in advocacy and public health service.

Upon completion of the program, students will be prepared for graduate studies and/or leadership roles in public and private organizations. These organizations may include hospitals, group practices, community health centers, and community-based nonprofit organizations, public and private corporations, foundations, workplaces, schools, colleges, and local, state and federal public health agencies.

Curriculum Description

The public health major is inherently multidisciplinary. Core quantitative disciplines such as epidemiology and biostatistics are fundamental to analyzing the broad impact of health problems, allowing us to look beyond individuals to entire populations. In addition, preventing disease is at the heart of public health, therefore, the program includes content in social sciences to better understand health-related behaviors and their societal influences. Also, the manner in which health information is generated and disseminated greatly influences individuals, public officials, organizations, communities, and entire populations. Communication skills enable our students to identify contexts, channels, messages and reasons that will motivate individuals to listen, understand and use health information. Further, successful public health efforts must be led by those who can mobilize, coordinate and direct collaborative actions within complex systems; therefore, our students receive intense coursework in quality management and leadership.

General Curriculum Distribution

The general curriculum distribution requirements are contained in the Academic Programs section. Students pursuing a Bachelor of Science with a major in public health must complete all general curriculum distribution requirements, with the following stipulations.

1. As part of the natural science component, each public health student must have credit in BIO 183 or BIO 204 and CHE 150 or CHE 152.

Required courses for the public health major:

HSC 100 Health Science ..........................2
HSC 130 Medical Terminology ..............1
HSC 236 Introduction to Public Health .............3
HSC 350 Biostatistics .............................3
HSC 360 Epidemiology ..........................3
HSC 375 Social and Behavioral Health Sciences ..................4
HSC 440 Health Policy ..........................4
HSC 445 Program Planning and Evaluation .............4
8. Recognize system-level decisions and/or actions and how they affect the relationships among individuals, groups, organizations and communities

Students who successfully complete this degree program are eligible to sit for the national certification exam to become Certified Health Education Specialists.

**Sport Management Program**

The sport management major requirements include business courses and specialized courses in sport management. It is designed to prepare students for a variety of careers in the sport industry.

The sport management program has been recognized as an approved program by the North American Society for Sport Management and the National Association for Sport and Physical Education.

**Required sport study courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 202</td>
<td>Financial Accounting Information</td>
<td>3</td>
</tr>
<tr>
<td>ACC 203</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECO 204</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECO 205</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>SPM 290</td>
<td>Introduction to Sport Management</td>
<td>3</td>
</tr>
<tr>
<td>SPM 385</td>
<td>Media Relations/Communication in Sport</td>
<td>3</td>
</tr>
<tr>
<td>SPM 390</td>
<td>Financial Issues in Sport</td>
<td>3</td>
</tr>
<tr>
<td>SPM 393</td>
<td>Stadium and Arena Management</td>
<td>3</td>
</tr>
<tr>
<td>SPM 395</td>
<td>Sport Marketing/Fund Raising</td>
<td>3</td>
</tr>
<tr>
<td>SPM 397</td>
<td>Legal Issues and Risk Management in Sport</td>
<td>3</td>
</tr>
<tr>
<td>SPM 412</td>
<td>Administration of Sport and Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>SPM 425</td>
<td>Professional Selling in Sport</td>
<td>3</td>
</tr>
<tr>
<td>SPM 475</td>
<td>History of Modern Olympic Games</td>
<td>4</td>
</tr>
<tr>
<td>SPM 491</td>
<td>Seminar in Sport Management</td>
<td>3</td>
</tr>
<tr>
<td>SPM 493</td>
<td>Venue and Event Management</td>
<td>4</td>
</tr>
<tr>
<td>SPM 495</td>
<td>Internship in Sport Management</td>
<td>12</td>
</tr>
</tbody>
</table>

Total Semester Hours: 59

**Required concentration, wellness**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 450</td>
<td>Public Health Management and Leadership</td>
<td>4</td>
</tr>
<tr>
<td>SOC 310</td>
<td>Introduction to Applied Sociology</td>
<td></td>
</tr>
<tr>
<td>SOC 313</td>
<td>Social Stratification</td>
<td>4</td>
</tr>
<tr>
<td>SOC 375</td>
<td>Research Methods</td>
<td>4</td>
</tr>
<tr>
<td>HSC 480</td>
<td>Internship</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Semester Hours: 59

Although there are several required and recommended courses for the public health major, students still have flexibility in the curriculum to take courses of special interest.

For instance, students may wish to pursue additional coursework in adolescent health, women’s health, gerontology, biology, environmental science, criminology, international and cultural studies, urban studies, Latin American studies, psychology, sociology, communication or research methods.

**Graduate Competencies**

1. Collect and analyze population-based data to solve problems in public health
2. Study the patterns of disease in human populations
3. Determine the social and behavioral determinants of health
4. Develop, administer and evaluate public health programs and policies for social change
5. Collect, manage and present public health information
6. Manage and lead others for collaborative problem solving, decision-making, accountability and program development and evaluation
7. Demonstrate ethical choices, values and professional practices
Students interested in registering for SPM 495 should contact their advisors for the requirements and information concerning the internship.

**Sport Management Minor**

Requirements for a sport management minor:

- ESC 105 Biokinetics and Conditioning ....................2
- ESC 110 Introduction to Exercise Science and Sport Studies...2
- ESC 150 First Aid ....................................2
- ESC 151 Swimming ....................................1
- ESC 200 Methods of Teaching Tennis .....................1
- ESC 240 Lifetime Sports .................................2
- ESC 312 Dance/Rhythms .................................3
- ESC 270 Prevention and Care of Sports Injuries ..........3
- ESC 330 Motor Development and Skill Acquisition ......3
- ESC 340 Applied Kinesiology ..............................3
- ESC 372 Principles of Exercise Leadership ................2
- ESC 385 Media Relations/Communication in Sport .......3
- ESC 320 Coaching and Teaching of Football and Wrestling ......2
- ESC 321 Coaching and Teaching of Baseball, Basketball and Softball ....................................2
- ESC 322 Coaching and Teaching of Volleyball and Track and Field ....................................2
- ESC 323 Coaching and Teaching of Soccer and Field Hockey...2
- ESC 390 Financial Issues in Sport ..........................3
- ESC 391 Sport Marketing/Fund Raising ...................3
- ESC 397 Legal Issues and Risk Management in Sport ......3
- ESC 412 Administration of Sport and Physical Activity ......3
- Female 290 Introduction to Sport Management .............3
- HSC 230 Human Anatomy and Physiology I ................3
- HSC 230 Human Anatomy and Physiology I ................3
- HSC 220 Functional Anatomy ...............................3
- HSC 230 Human Anatomy and Physiology I ................3
- HSC 230 Human Anatomy and Physiology I ................3
- HSC 230 Human Anatomy and Physiology I ................3
- HSC 230 Human Anatomy and Physiology I ................3
- HSC 230 Human Anatomy and Physiology I ................3
- EDU 200 Foundations of American Education .............3
- EDU 201 Learning Theories and Individual Differences in Education ....................................3
- EDU 304 Elementary TESOL I .............................3
- EDU 304 Elementary TESOL I .............................3
- EDU 304 Elementary TESOL I .............................3

Total Semester Hours: 45

*Students majoring in a program in the College of Business may substitute MGT 330 for SPM 412.

**Teaching Certification in Physical Education**

Satisfactory completion of the prescribed teaching program satisfies the requirement for a temporary teaching certificate in the state of Florida for physical education K-12 certification. See *Department of Education* section of the catalog for the admission requirements to the teacher education program and education course sequence.

At the time the catalog went to press, state legislation was pending that may affect certification requirements for education majors. For up-to-date information, contact the Department of Education office in room PH 439.

Requirements include the following exercise science and education courses to qualify for teaching certification in physical education, grades K-12:
Exercise Science and Sport Studies Minor

Requirements for a minor in exercise science and sport studies:

ESC 110 Introduction to Exercise Science and Sport Studies ............... 2

One course from the following: 2

ESC 320 Coaching and Teaching of Football and Wrestling ............... 2
ESC 321 Coaching and Teaching of Baseball, Basketball, and Softball ................. 2
ESC 322 Coaching and Teaching of Volleyball and Track and Field .................. 2
ESC 323 Coaching and Teaching of Soccer and Field Hockey ............... 2
ESC 372 Principles of Exercise Leadership ............................................. 2

or
ESC 312 Dance/Rhythmics ............... 3

One course from the following: 3

ESC 280 Adult Fitness .................. 3
SPM 290 Introduction to Sport Management .................. 3
ESC 320 Coaching and Teaching of Football and Wrestling ............... 2
ESC 321 Coaching and Teaching of Baseball, Basketball and Softball ................. 2
ESC 322 Coaching and Teaching of Volleyball and Track and Field .................. 2
ESC 323 Coaching and Teaching of Soccer and Field Hockey ............... 2

From drama, art, sociology, music, ecology 6

Total Semester Hours: 25

Recreation Minor

The minor in recreation is a non-teaching program designed for those preparing for recreation leadership positions in public government programs, voluntary agencies, industry, hospitals, churches, etc. It does not lead to professional teacher certification. The curriculum requires the completion of 25 semester hours of credit in required courses and guided activities.

Requirements for a minor in recreation:

ESC 150 First Aid ...................... 2
ESC 151 Swimming ..................... 1
ESC 202 Outdoor Education ............ 4
ESC 240 Lifetime Sports ................ 2
ESC 411 Recreation Leadership and Administration ........................ 2
ESC 470 Field Work in Recreation .......... 4

One course from the following: 2

ESC 312 Dance/Rhythmics ............... 3
DAN 142 Beginning Modern Dance ............. 2
DAN 242 Intermediate Modern Dance ............... 2
DAN 342 Advanced Modern Dance ............. 2

One course from the following: 2

ESC 320 Coaching and Teaching of Football and Wrestling ............... 2
ESC 321 Coaching and Teaching of Baseball, Basketball and Softball ................. 2
ESC 322 Coaching and Teaching of Volleyball and Track and Field .................. 2
ESC 323 Coaching and Teaching of Soccer and Field Hockey ............... 2

From drama, art, sociology, music, ecology 6

Total Semester Hours: 25
The six hours above from allied fields must be courses other than those used in the major or general curriculum distribution.

Department of Nursing

Faculty: Professor Warda, Director; Professor Kessenich, MSN Program Director; Assistant Professor Curry, Associate Director; Dana Professor Ross; Associate Professors Lawson, Collins; Assistant Professors Botwinski, Ellis, Parsons; Clinical Faculty: Pedroff; Instructional Staff: Biondi.

The Department of Nursing offers programs at the baccalaureate and master’s degree levels and prepares nurses for roles in family and adult health, and nursing education. For further information, contact the Nursing Department at (813) 253-6223 or nursing@ut.edu.

All nursing programs are accredited by the National League for Nursing Accrediting Commission, 61 Broadway, 33rd Floor, New York, NY 10006; (800) 669-1656, ext. 153; Fax: (212) 812-0390; www.nlnac.org.

Nursing Department Handbook

Please see this departmental guide for further details concerning each nursing program.

Bachelor of Science in Nursing

The philosophy of the department is that professional nursing is based on knowledge of the arts, sciences, humanities and nursing. The University of Tampa and Tampa General Hospital have joined in partnership to offer the BSN degree in order to provide unique opportunities for nursing students to balance “learning by thinking” with “learning by doing.” Students have the opportunity to be taught by a nationally recognized faculty, as well as expert nurse clinicians in current practice. In addition to Tampa General Hospital, students have access to multiple other clinical facilities offering a learning environment rich in experiences encompassing state-of-the-art technology and clinical expertise in health care provision.

The BSN offers a comprehensive program of learning for students without previous preparation in nursing. The nursing curriculum consists of 125 semester hours, 60 credits from general education courses (including electives) and 65 from nursing courses. Of the 27 nursing courses, nine have a clinical component.

Admission requirements are consistent with those of The University of Tampa. Additional requirements are detailed under Progress in the Program.

A student seeking to enter the four-year BSN program initially applies to The University of Tampa as a regular undergraduate student. After successfully completing the initial designated 49 credits, the student applies for admission to the nursing program. The baccalaureate program is a competitive program. Meeting minimal requirements does not guarantee admission to the nursing program. The deadline to apply to the Nursing Program is Oct. 15 of each year.

Nursing Department

Admission Requirements:

• Completion of prerequisite (49 credits) with a minimum 3.25 cumulative GPA.
• A grade of “C” or better in all prerequisites. Prerequisite courses include all courses listed in the following course sequence prior to sophomore semester II. Global Issues and Gateways courses apply to University of Tampa freshmen and are replaced with other coursework for transfer students.
• Meeting core performance standards, including:
  Critical thinking ability sufficient for clinical judgment and cognitive skills to acquire, assimilate, integrate and apply information.
  Ability to communicate in English effectively/therapeutically with others from a variety of social, emotional, cultural and intellectual backgrounds.
  Interpersonal skills sufficient to interact effectively with others from a variety of social, emotional, cultural and intellectual backgrounds.
  Sufficient mobility to move from room to room, maneuver in small places, and move freely and quickly to respond to emergencies and to perform physically taxing, repetitive tasks.
Complete application to the Nursing Program.

A personal statement (one page) discussing reasons for electing the nursing major.

One letter of recommendation from an academic or work source.

Upon acceptance to the Nursing Program and prior to initiating any clinical/laboratory courses, students are subject to additional departmental requirements as noted in the departmental handbook.

Progression in BSN Nursing Program:

Once admitted to the Nursing Program, the student must successfully complete five semesters of nursing courses; initially, the student must master a basic mathematical package. **Students who do not master the package during the first semester will not be allowed to continue in the Nursing Program.**

All students must earn a “C” or higher in all courses in order to progress in the BSN program. Students also must successfully complete ongoing content mastery testing and will be assessed fees for this testing.

Visit [www.ut.edu/Nursing](http://www.ut.edu/Nursing) for information on the Four-Year BSN curriculum and prerequisites.

**Prerequisite courses for the Four-Year BSN degree:**

The Following Courses Must Be Completed Prior to Entry into the Four-Year BSN Program:

- ENG 101-102 Composition and Rhetoric
- SOC 100 Intro to Sociology
- MAT 160 College Algebra
- HSC 230-235 Human Anatomy and Physiology I and II w/labs
- CHE 150 Chemistry for Health Care Professions
- ITM 200 Introduction to Computers
- PSY 200 and 210 General Psychology and Child Psychology
- BIO 183 Microbiology

**Required courses for the Four-Year BSN degree:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 201</td>
<td>Foundations of Nursing</td>
</tr>
<tr>
<td>NUR 210</td>
<td>Intro to Pathology</td>
</tr>
<tr>
<td>NUR 213</td>
<td>Professional Skills in Nursing</td>
</tr>
<tr>
<td>NUR 213L</td>
<td>Professional Skills in Nursing Lab</td>
</tr>
<tr>
<td>NUR 218</td>
<td>Health Assessment</td>
</tr>
<tr>
<td>NUR 218L</td>
<td>Health Assessment Lab</td>
</tr>
<tr>
<td>NUR 312</td>
<td>Nursing Care of Adults</td>
</tr>
<tr>
<td>NUR 312L</td>
<td>Nursing Care of Adults Lab</td>
</tr>
<tr>
<td>NUR 313</td>
<td>Nursing Care of Older Adults</td>
</tr>
<tr>
<td>NUR 313L</td>
<td>Nursing Care of Older Adults Lab</td>
</tr>
<tr>
<td>NUR 314</td>
<td>Nursing Care of the Developing Family</td>
</tr>
<tr>
<td>NUR 314L</td>
<td>Nursing Care of the Developing Family Lab</td>
</tr>
<tr>
<td>NUR 315</td>
<td>Nursing Care of Children</td>
</tr>
<tr>
<td>NUR 315L</td>
<td>Nursing Care of Children Lab</td>
</tr>
<tr>
<td>NUR 322</td>
<td>Contemporary Issues in Health Care</td>
</tr>
<tr>
<td>NUR 345</td>
<td>Pharmacology</td>
</tr>
<tr>
<td>NUR 347</td>
<td>Clinical Human Nutrition</td>
</tr>
<tr>
<td>NUR 410</td>
<td>Mental Health Nursing Across the Lifespan</td>
</tr>
<tr>
<td>NUR 410L</td>
<td>Mental Health Nursing Across the Lifespan Lab</td>
</tr>
<tr>
<td>NUR 412</td>
<td>Nursing Care of Clients in the Acute Care Setting</td>
</tr>
<tr>
<td>NUR 412L</td>
<td>Nursing Care of Clients in the Acute Care Setting Lab</td>
</tr>
<tr>
<td>NUR 415</td>
<td>Leadership and Management</td>
</tr>
<tr>
<td>NUR 422</td>
<td>Principles of Community Health Nursing</td>
</tr>
<tr>
<td>NUR 422L</td>
<td>Community Health Lab</td>
</tr>
<tr>
<td>NUR 432</td>
<td>Introduction to Nursing Research</td>
</tr>
<tr>
<td>NUR 452</td>
<td>Clinical Preceptorship</td>
</tr>
<tr>
<td>NUR 454</td>
<td>Senior Seminar</td>
</tr>
<tr>
<td>NUR</td>
<td>elective</td>
</tr>
</tbody>
</table>

**Total Semester Hours: 65**

The RN to BSN Program

This program provides a means for RN graduates of diploma and associate degree programs to complete the BSN degree...
Overview of the RN to BSN Requirements

The following is a general guide to the credit required for the RN to BSN. Because of differences in amounts of transfer credit granted, the actual credit may vary slightly from student to student. In every case, however, a total of at least 124 semester hours of credit is required for the degree.

<table>
<thead>
<tr>
<th>General curriculum distribution</th>
<th>Lower-division nursing credit</th>
<th>Upper-division nursing credit</th>
<th>Additional undergraduate credits</th>
<th>Total Semester Hours: 124</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>24</td>
<td>33</td>
<td>22</td>
<td>124</td>
</tr>
</tbody>
</table>

General Curriculum Distribution

The general curriculum distribution requirements are contained in the academic programs section. Students pursuing the BSN must complete all general curriculum distribution requirements, with the following stipulations.

1. As part of the natural science component, each nursing student must have credit in a microbiology course and a physical or chemical science course.
2. As part of the humanities/fine arts component, each nursing student must have credit in PHL 201 (Logic), PHL 200 (Introduction to Philosophy) or PHL 212 (Critical Thinking).
3. As part of the Baccalaureate Experience, each student must have a 3-4 credit art/aesthetic course.
4. As part of the social science component, each nursing student must include credit in a general or introductory psychology course and a general or introductory sociology course.
5. In addition to the general curriculum requirements, every BSN student must have a minimum of three credits in an introductory statistics course and Anatomy and Physiology I and II with labs for both courses.
6. A computer course must be completed within the first two semesters of the nursing program.
Nursing Credit

In order to fulfill upper-division requirements for the BSN, students must complete the following required nursing courses and additional required support courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR 301</td>
<td>Concepts of Professional Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NUR 318</td>
<td>Health Assessment</td>
<td>4</td>
</tr>
<tr>
<td>NUR 318L</td>
<td>Health Assessment Lab</td>
<td>0</td>
</tr>
<tr>
<td>NUR 322</td>
<td>Contemporary Issues in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>NUR 420</td>
<td>Principles of Community Health</td>
<td>3</td>
</tr>
<tr>
<td>NUR 411</td>
<td>Nursing Leadership and Management II</td>
<td>3</td>
</tr>
<tr>
<td>NUR 432</td>
<td>Introduction to Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>NUR 438</td>
<td>Principles of Family Health</td>
<td>3</td>
</tr>
<tr>
<td>NUR 440</td>
<td>Community/Family Practicum*</td>
<td>4</td>
</tr>
<tr>
<td>NUR 446</td>
<td>Senior Practicum*</td>
<td>4</td>
</tr>
<tr>
<td>NUR elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Semester Hours in upper-division nursing: 33

*Courses include a clinical and/or laboratory experience.

Each practicum requires 112 hours of clinical experience with a preceptor.

Progress in the Program

1. A minimum grade of “C” is required in required nursing courses.
2. The student must comply with academic policies and procedures described earlier in this catalog.
3. Prior to enrolling in the second term, each student must submit to the nursing program director an official background check.
4. Prior to enrolling in any clinical/laboratory course, students are subject to additional departmental requirements as noted in the departmental handbook.
   a. proof of liability insurance coverage.
   b. physical examination and proof of immunization.
   c. proof of current BCLS certification.
   d. proof of current licensure (RN to BSN students only).
   e. results of annual TB skin test or chest X-ray.

RN/BSN/MSN Admission Option

The RN/BSN/MSN option expedites educational mobility and career enhancement by enabling the qualified RN to complete both the BSN and MSN in a more rapid fashion than the traditional programs. The program facilitates and supports educational mobility, and strengthens the leadership abilities of nurses who already have a foundation of professional experience. When required undergraduate courses are completed, students in the program will be awarded a BSN. Two undergraduate courses will be waived and replaced by graduate-level coursework.

Students may choose full-time or part-time study. By completing the baccalaureate and master’s curriculum, a highly motivated student is able to maximize educational time and advance in professional education and clinical leadership.

Admission Process to RN/BSN/MSN Option

Phase I. Apply to BSN program:
Complete a UT application with application fee. The student must have a GPA of 2.0 or higher in transfer college/university coursework. Submit official transcripts from all post-secondary institutions attended and a copy of registered nurse license from the state of Florida (evidence of eligibility for licensure may be accepted in lieu of a current state of Florida license to enroll in first semester).

Complete undergraduate requirements:
Fulfill the general education distribution requirements set forth in the catalog. Complete the following Nursing courses: NUR 301, 318, 318 Lab, and 322. Prior to registering for 400 level courses, inform your advisor of your intent to elect the RN/BSN/MSN option.

Phase II
Take Graduate Record Examination, achieving a score of 1,000 or higher (verbal and quantitative combined) and a minimum score of 3.5 on the writing section. Meet all requirements for admission to MSN pro-
gram, except completion of a BSN. Please note that the student must have a minimum GPA of 3.25 from last 60 credit hours of previous coursework at the time of formal application to the MSN program. If unsuccessful in completion of these requirements, students may complete the BSN and then apply to graduate school.

Students may take no more than three graduate courses (9 credit hours) prior to completing the BSN. Two of the graduate courses must be NUR 615 and NUR 646. Students also may replace NUR 601 with a nursing elective, if desired.