The Citadel
College Transfer Program
Undergraduate Catalog
2021-2022

171 Moultrie Street
Charleston, SC 29409
(843) 953-5089

Please refer to The Citadel website for frequently called numbers, schedule of courses, term dates, fees, and other important information.
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<th>Degree</th>
<th>Program Title</th>
<th>Advisor</th>
<th>Email</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A.</td>
<td>Bachelor of Arts in Criminal Justice</td>
<td>Dr. Matthew Zommer</td>
<td><a href="mailto:mzommer@citadel.edu">mzommer@citadel.edu</a></td>
<td>30</td>
</tr>
<tr>
<td>B.A.</td>
<td>Bachelor of Arts in Intelligence and Security Studies</td>
<td>Dr. Larry Valero</td>
<td><a href="mailto:lvalero@citadel.edu">lvalero@citadel.edu</a></td>
<td>32</td>
</tr>
<tr>
<td>B.A.</td>
<td>Bachelor of Arts in Political Science</td>
<td>Mr. Brad Collins</td>
<td><a href="mailto:collinsb1@citadel.edu">collinsb1@citadel.edu</a></td>
<td>34</td>
</tr>
<tr>
<td>BSBA</td>
<td>Bachelor of Science in Business Administration</td>
<td>Dr. Todd L. Drew</td>
<td><a href="mailto:tdrew1@citadel.edu">tdrew1@citadel.edu</a></td>
<td>36</td>
</tr>
<tr>
<td>BSN</td>
<td>Bachelor of Science in Nursing</td>
<td>Dr. Kimberly Subasic</td>
<td><a href="mailto:ksubasic@citadel.edu">ksubasic@citadel.edu</a></td>
<td>38</td>
</tr>
<tr>
<td>B.S.</td>
<td>Bachelor of Science in Social Studies Education</td>
<td>Dr. Christopher Dague</td>
<td><a href="mailto:cdague@citadel.edu">cdague@citadel.edu</a></td>
<td>40</td>
</tr>
<tr>
<td>B.S.</td>
<td>Bachelor of Science in Tactical Strength and Conditioning</td>
<td>Dr. Chris Bellon</td>
<td><a href="mailto:cbellon@citadel.edu">cbellon@citadel.edu</a></td>
<td>42</td>
</tr>
<tr>
<td>BSCE</td>
<td>Bachelor of Science in Civil Engineering</td>
<td>Dr. William Davis</td>
<td><a href="mailto:jeff.davis@citadel.edu">jeff.davis@citadel.edu</a></td>
<td>43</td>
</tr>
<tr>
<td>BSCmpE</td>
<td>Bachelor of Science in Computer Engineering</td>
<td>Dr. Mark McKinney</td>
<td><a href="mailto:mkinneym@citadel.edu">mkinneym@citadel.edu</a></td>
<td>46</td>
</tr>
<tr>
<td>BSCONE</td>
<td>Bachelor of Science in Construction Engineering</td>
<td>Dr. William Davis</td>
<td><a href="mailto:jeff.davis@citadel.edu">jeff.davis@citadel.edu</a></td>
<td>50</td>
</tr>
<tr>
<td>BSEE</td>
<td>Bachelor of Science in Electrical Engineering</td>
<td>Dr. Mark McKinney</td>
<td><a href="mailto:mkinneym@citadel.edu">mkinneym@citadel.edu</a></td>
<td>53</td>
</tr>
<tr>
<td>BSME</td>
<td>Bachelor of Science in Mechanical Engineering</td>
<td>Dr. Robert Rabb</td>
<td><a href="mailto:rrabb@citadel.edu">rrabb@citadel.edu</a></td>
<td>57</td>
</tr>
</tbody>
</table>
Welcome to The Citadel undergraduate transfer degree programs, where we extend our mission to educate and develop principled leaders for all walks of life to those seeking further study to become leaders in their chosen fields. We take great pride in our distinguished faculty and excellent academics that combine to offer a unique learning environment. You will find that our students - your friends, neighbors and colleagues - have chosen The Citadel because they know it will equip them for the challenges they will face as they advance in their careers. We hope you will join the ranks of more than 12,000 undergraduate and graduate alumni for whom a degree from The Citadel was a stepping-stone to continued growth and success.

Pursuant to S.C. Code Ann Section 59-121-10, the Board of Visitors is composed of the Governor, the Adjutant General, the State Superintendent of Education (who are members ex-officio), and eleven others who are graduates of the College. Seven of these members are elected by joint vote of the General Assembly, three are elected by such means and methods as may be determined by The Citadel Alumni Association, and one is appointed by the Governor.

Additionally, the Board currently has three Emeritus Members. Emeritus Members are former Board members who served at least eighteen years, and were voted as such because of their significant contribution to the governance of the College.

The 2021-2022 Board of Visitors, listed in order of seniority, are:

Colonel Dylan W. Goff, ’02, Chair
Colonel Peter M. McCoy, Sr., ’74, Vice Chair
Colonel Allison Dean Love, CGC, ’93
Colonel L. E. “Gene” Pinson, ’72
Colonel Stanley L. Myers, Sr., ’98
Colonel John C. Dominick, USAF (Retired), ’71
Colonel James E. Nicholson, Jr., ’85
Colonel F. G. “Greg” Delleney, Jr., ’74
Colonel Robert E. Lyon, Jr., ’71
Colonel William M. (Bill) Connor, V, USA (Retired), ’90
(Governor’s Appointee – TBD)

The Honorable Henry D. McMaster, Governor of the State of South Carolina, Ex Officio
Major General R. Van McCarty, SCNG, ’82, Adjutant General of South Carolina, Ex Officio
The Honorable Molly M. Spearman, State Superintendent of Education, Ex Officio

Colonel Leonard C. Fulghum, Jr., ’51, Chairman Emeritus
Colonel William E. Jenkinson III, ’68, Member Emeritus
Colonel Douglas A. Snyder, ’82, Member Emeritus

Non-Voting Representatives:
Dr. Christopher C. Swain, ’81, Chairman, The Citadel Foundation
Commander Drury C. “Chip” Nimmich, Jr., USN (Ret), ’76, President, The Citadel Alumni Association
Lieutenant Colonel William R. Culbreath, Jr., USAFR, ’79, President, The Citadel Brigadier Foundation
The Citadel’s Statement of Vision, Core Values, and Mission

Statement of Vision
Achieving excellence in the education and development of principled leaders

Core Values
Honor: embodies adherence to the Honor Code of The Citadel. “A Citadel student “will not lie, cheat or steal, nor tolerate those who do.” The commitment to honor extends beyond the gates of The Citadel and is a life-long obligation to moral and ethical behavior. In addition, honor includes integrity: “doing the right thing when no one is watching.” Finally, honorable behavior includes exercising the moral courage to “do the right thing when everyone is watching.” The Honor Code is the foundation of our academic enterprise.

Duty: embraces the need to accept and accomplish the responsibilities assigned as a member of the campus community. Citadel students hold themselves and others accountable for their actions, and put service before self.

Respect: empathizes to treat other people with dignity and worth – the way you want others to treat you. Respect for others eliminates any form of prejudice, discrimination, or harassment (including but not limited to rank, position, age, race, color, gender, sexual orientation, national origin, religion, physical attributes, etc.). In addition, respect for others means to respect the positions of those in authority that include faculty, staff, administrators, active duty personnel, and the leadership of The Citadel. Finally, respect includes a healthy respect for one’s self.

Mission
As a higher education institution, The Citadel’s mission is to educate and develop our students to become principled leaders in all walks of life by instilling the core values of The Citadel in a disciplined and intellectually challenging environment. A unique feature of this environment for the South Carolina Corps of Cadets is the sense of camaraderie produced through teamwork and service to others while following a military lifestyle.

The Citadel strives to produce graduates who have insight into issues, ideas, and values that are of importance to society. It is equally important that Citadel graduates are capable of both critical and creative thinking, have effective communication skills, can apply abstract concepts to concrete situations, and possess the methodological skills needed to gather and analyze information.

Throughout its history, The Citadel’s primary purpose has been to educate undergraduates as members of the South Carolina Corps of Cadets and to prepare them for post-graduate positions of leadership through academic programs of recognized excellence supported by the best features of a military environment. The cadet lifestyle provides a structured environment that supports growth and development of each student’s intellect, character, discipline, and physical fitness; The four pillars which define The Citadel experience.

A complementary purpose of The Citadel, realized through The Citadel Graduate College, is to provide the citizens of the Lowcountry and the State of South Carolina opportunities for professional development by offering a broad range of educational programs of recognized excellence at both the graduate and undergraduate levels. These programs are designed to accommodate the needs of non-traditional students seeking traditional and demanding academic challenges.

Institutional Characteristics. The Citadel is a coeducational, comprehensive, public, four-year institution whose primary undergraduate student body consists of approximately 2400 members of the Corps of Cadets, all of whom reside on campus. The primary service area for these students is regional, with approximately half of each freshman class coming from South Carolina. The Citadel, however, does draw undergraduate students from all parts of the United States and many foreign countries. The college offers a wide range of baccalaureate degree programs across five academic schools in the humanities, social and natural sciences, business administration, engineering, and education. These academic programs prepare graduates for a variety of careers; about half of these graduates enter business and the professions, a third or more enter the military and government service, and the remainder go directly into graduate and professional study. Many graduates choose to pursue professional or graduate degrees later in their careers.

Through its evening undergraduate and graduate programs, The Citadel serves a degree-seeking population of approximately 1,300. Meeting the needs of the Lowcountry in terms of instruction, public service, and research, including such initiatives as cooperative programs with other educational institutions, is an important part of The Citadel’s mission.

Together, the Corps of Cadets, the Transfer Program, and The Citadel Graduate College enroll approximately 3,600 students, about three-fourths of whom come from South Carolina. In its educational programs, The Citadel acknowledges and endorses the teacher-scholar ideal, recognizing that the excellence of all of its academic programs is dependent upon the quality of its faculty. This ideal manifests through teaching and lecturing, researching, writing, publishing, and public service. The Citadel’s faculty also address audiences beyond the College by sharing their knowledge with other scholars and with the public.
The Citadel Undergraduate Transfer Program’s Mission/Purpose

An important component of a positive educational experience for students involves an intentional effort to meet their needs and offer service that underscores The Citadel’s commitment to principled leadership.

Service: Creating a culture that values service, fosters mutual respect, and makes the student’s needs the most important priority; implementing new technologies that enhance our services; and providing timely, efficient, and accurate information to all requests.
Performance: By ensuring a quality educational experience through administrative oversight of programs and the regular review of policies and procedures; conducting analysis of existing data and generating reports to identify patterns and trends within the undergraduate programs; creating research opportunities for students and faculty; and assisting departments with implementing creative delivery methods of academic programs.
Integration: By providing welcoming and rewarding experiences, online students and evening undergraduates, both past and present, feel a part of the larger Citadel community and play an important and significant role on campus.

Accreditation

The Citadel is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award baccalaureate, masters, and specialist in education degrees. Contact the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of The Citadel. Standard inquiries about the institution, such as admissions, educational programs, educational policies and practices, etc. should be addressed directly to The Citadel and not to the Commission’s office. This contact information is published exclusively for accreditation-related purposes.

Civil Engineering, Electrical Engineering, and Mechanical Engineering programs are accredited by the Engineering Accreditation Commission (EAC) of ABET; web address is http://www.abet.org. The Bachelor of Science in Computer Science is accredited by the Computing Accreditation Commission (CAC) of ABET, 415 North Charles Street, Baltimore, MD 21202. Telephone: 410-347-7700; web address is www.abet.org.

The Masters of Science degree in Project Management is accredited by the Global Accreditation Center (GAC), 14 Campus Blvd, Newton Square, PA 19073-3299. Telephone: 610-355-1601; FAX: 888-562-3564. The web address is https://www.pmi.org/global-accreditation-center.

The undergraduate program in Business and the program leading to the Master of Business Administration are accredited by the Association to Advance Collegiate Schools of Business (AACSB), 777 South Harbour Island Boulevard, Suite 750, Tampa, FL 33602-5730. Telephone: 813-769-6500; Fax: 813-769-6559. The web address is www.aacsb.edu.

The Bachelor of Science in Nursing degree at The Citadel is accredited by the Commission on Collegiate Nursing Education (CCNE). 655 K Street, NW, Suite 750, Washington, DC 20001. Telephone: 202-887-6791; Fax: 202-887-8476; Web address: www.ccneaccreditation.org.

Programs for the preparation of secondary teachers at the bachelor’s level, for the preparation of secondary and special education teachers at the master’s level, for the preparation of guidance counselors at the master’s and specialist degree levels, and for the preparation of school superintendents at the specialist degree level are accredited by the Council for Accreditation of Educator Preparation (CAEP), 1140 19th Street, NW, Suite 400, Washington, DC 20036. Telephone: 202-223-0077. The web address is www.caepnet.org.

The Citadel’s School Psychology Program has been granted full approval by the National Association of School Psychologists (NASP), 4340 East West Highway, Suite 402, Bethesda, MD 20814. Telephone: 301-657-0270; FAX: 301-657-0275. The web address is www.nasponline.org.


The School Counseling Programs that offer a Master of Education in Counselor Education (Elementary or Secondary School Counseling Certification) are fully accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP), 500 Montgomery Street, Suite 350, Alexandria, VA 22314. Telephone: 703-535-5990. The web address is: https://www.cacrep.org/.
### Full Fall Semester

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>8/20/21</td>
<td>Payment for fall 2021 classes due in the Treasurer's Office (by 4:00pm)</td>
</tr>
<tr>
<td>8/24/21</td>
<td>College of Charleston joint program fall 2021 classes begin</td>
</tr>
<tr>
<td>8/25/21</td>
<td>Fall 2021 CGC classes begin for full semester</td>
</tr>
<tr>
<td>8/30/21</td>
<td>College of Charleston last day to add or drop a full semester class</td>
</tr>
<tr>
<td>8/31/21</td>
<td>CGC - Last day to add or drop fall 2021 full semester courses and receive a refund</td>
</tr>
<tr>
<td>9/07/21</td>
<td>Labor Day – Classes held for all students</td>
</tr>
<tr>
<td>9/08/21</td>
<td>Last day to request and Audit or Pass/Fail</td>
</tr>
<tr>
<td>10/29/21</td>
<td>College of Charleston - last day to withdraw with a grade of &quot;W&quot;</td>
</tr>
<tr>
<td>11/02/21</td>
<td>CGC - last day to withdraw with a grade of &quot;W&quot; from a full semester course</td>
</tr>
<tr>
<td>10/30/21</td>
<td>Deadline for filing applications for degree and certificate graduation in the Registrar's Office</td>
</tr>
<tr>
<td>11/19/21</td>
<td>CGC fall break begins</td>
</tr>
<tr>
<td>11/29/21</td>
<td>CGC classes resume</td>
</tr>
<tr>
<td>12/06/21</td>
<td>Last day of College of Charleston classes</td>
</tr>
<tr>
<td>12/08/21</td>
<td>Last day of classes for CGC. Last day to resolve graduate incomplete grades from previous semester</td>
</tr>
<tr>
<td>12/08/21</td>
<td>CGC exams begin</td>
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<tr>
<td>12/15/21</td>
<td>CGC exams end</td>
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<tr>
<td>12/23/21</td>
<td>The Citadel closes for the holidays</td>
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### Second Eight Weeks Session

<table>
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<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>10/18/21</td>
<td>Second 8 weeks classes begin</td>
</tr>
<tr>
<td>10/21/21</td>
<td>Last day to add or drop a second 8 weeks class</td>
</tr>
<tr>
<td>11/15/21</td>
<td>Last day to withdraw from second 8 weeks courses with a &quot;W&quot;</td>
</tr>
<tr>
<td>12/12/21</td>
<td>Last day of second 8 weeks classes</td>
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</table>

### Full Spring Semester

<table>
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<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>1/12/22</td>
<td>Spring 2022 CGC classes begin for full semester</td>
</tr>
<tr>
<td>1/17/22</td>
<td>Martin Luther King Jr. Holiday – no classes held</td>
</tr>
<tr>
<td>1/18/22</td>
<td>Last day to add or drop a course, or change sections</td>
</tr>
<tr>
<td>3/23/22</td>
<td>Last day to withdraw with a grade of “W”</td>
</tr>
<tr>
<td>4/10/22</td>
<td>Current students begin registration for fall 2022</td>
</tr>
<tr>
<td>4/26/22</td>
<td>Classes end</td>
</tr>
<tr>
<td>4/27-5/3/22</td>
<td>Final exams</td>
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<tr>
<td>4/30/22</td>
<td>Deadline for removal of incomplete grades from fall 2021 semester</td>
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<tr>
<td>5/4/22</td>
<td>Graduating students’ grades due by 10:00am</td>
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<tr>
<td>5/5/22</td>
<td>Remaining grades due by 10:00am.</td>
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<tr>
<td>5/7/22</td>
<td>Commencement</td>
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### First Eight Weeks Session

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<tr>
<td>8/23/21</td>
<td>First 8-week classes begin</td>
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<tr>
<td>8/26/21</td>
<td>Last day to add/drop a first 8 weeks class</td>
</tr>
<tr>
<td>9/20/21</td>
<td>Last day to withdraw from first 8 weeks courses with a &quot;W&quot;</td>
</tr>
<tr>
<td>10/17/21</td>
<td>Last day of first 8 weeks classes</td>
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### Second Eight Weeks Session

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<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>3/7/22</td>
<td>Second 8 weeks classes begin</td>
</tr>
<tr>
<td>3/10/22</td>
<td>Last day to add or drop a second 8 weeks class</td>
</tr>
<tr>
<td>4/4/22</td>
<td>Last day to withdraw from second 8 weeks courses with a &quot;W&quot;</td>
</tr>
<tr>
<td>5/2/22</td>
<td>Last day of second 8 weeks classes</td>
</tr>
</tbody>
</table>
Purpose of the Catalog

This catalog should not be construed as the basis of a contract between a student and The Citadel. Every effort is made to provide information in the catalog that is accurate at the time the catalog is prepared. However, information on regulations, policies, fees, curricula, courses, and other matters is subject to change at any time during the period for which the catalog is in effect.

Each program of study is governed by the program requirements in effect on the date of enrollment. If a student withdraws from the college or fails to maintain enrollment for one year and subsequently returns, the requirements in effect at the time of return will prevail. Any exception to policies in this catalog, purported to have been made verbally to a student by an official of the College, are null and void unless documented with a signed statement from the College official authorized to make the exception.

This catalog is not an unchangeable contract but an announcement of the current policies. Implicit in each student's matriculation at The Citadel is an unwritten agreement to comply with the institution's rules and regulations, which The Citadel may modify to ensure the quality of its academic programs. When graduation requirements are changed, every effort will be made to insure that the new requirements can be met by the student's original expected graduation date. Nonetheless, each student is expected to read and be aware of the policies and procedures contained in the catalog in order to assure that admissions, registration, and graduation procedures are being followed. The College cannot assume responsibility for a student who does not comply with policy or procedure.

The Citadel’s College Transfer Program serves the distinctive needs of adult and non-traditional students who are completing a four-year degree and/or further their professional development.

The Citadel offers undergraduate majors: Bachelor of Arts in Criminal Justice; Bachelor of Arts in Intelligence and Security Studies; Bachelor of Arts in Political Science; Bachelor of Arts in Social Studies Education; Bachelor of Science in Business Administration; Bachelor of Science in Civil Engineering; Bachelor of Science in Construction Engineering; Bachelor of Science in Electrical Engineering; Bachelor of Science in Mechanical Engineering; Bachelor of Science in Nursing; Bachelor of Science in Tactical Strength and Conditioning.

In each of the undergraduate degree programs, a minimum of 25% of the total required credit hours must be taken at The Citadel. Credits gained through AP, CLEP, or any other “testing out” process may not be counted among the 25% of the total required credit hours. Acceptability of transfer credits is governed by the policy described under the Transfer Credits section below.

Degree Completion Transfer Program

Students who wish to earn a degree from The Citadel as transfer students in the evening & online programs begin their coursework at another institution and complete their degree at The Citadel. Prerequisite courses (typically freshman and sophomore level courses) are taken at an accredited college or university and transferred to The Citadel. The Evening Undergraduate programs and the Online Degree Completion Program offer the upper-level (junior and senior level) courses, and a number of general education courses that enable students to complete the program and receive a baccalaureate degree from The Citadel.

All admitted students must have a minimum of 30 earned hours of college credit that must include six hours of English, eight hours of Physical Science, six hours of Math, and 12 hours of Social Science and Humanities as these general education courses are not taught in the evening or online. Specific transfer course requirements are listed in each program section of this catalog. Each program outlines the minimum coursework required to be earned elsewhere prior to beginning the bachelor degree program at The Citadel.

Admission and Enrollment Policies

Application and Admissions

Students must have earned a minimum of 30 credit hours prior to enrollment and maintained a minimum 2.0 GPA to be considered for admission. Every applicant for a bachelor’s degree must submit the following to the Citadel:

1. Completed undergraduate application.
2. A non-refundable $40 application fee.
3. Official transcripts sent directly from all colleges attended.
4. An official TOEFL score if English is not the native language.

The applicant can log into The Citadel’s application portal to view a list of required supplemental items at any time.

Applicants must not have a record of conviction of a criminal offense showing poor moral character.

After acceptance by The Citadel, any non-U.S. citizen must complete the application for an F-1 Visa through the International Office and successfully complete the process by obtaining a Visa.

Orientation

The Citadel hosts virtual orientations for all admitted students. In addition, admitted students are encouraged to visit the Orientation webpage to become familiar with all the services available to them.

www.citadel.edu/root/graduatecollege-current-students/orientation
Legal Presence and Residency

The State of South Carolina requires all state colleges and universities to verify each student’s legal presence in the United States. Prior to starting classes, each student will be required to submit a photocopy of a state driver’s license, their birth certificate, or valid U.S. passport.

Veteran's Status as a Student on The Citadel Campus

The Citadel welcomes active duty, veterans, and their families to become part of our educational community. Only active duty and veterans with honorable discharges may enroll in class with The Citadel cadet population held during the day. Evening and online courses are available to all students. The below policy outlines the rules and regulations related to active duty and veteran students on campus. It defines the types of veteran students, the policies related to student status (cadet vs. non-cadet), as well as enrollment requirements, registration, and commencement exercise attendance.

Definitions:

Citadel Cadet Veteran: A cadet serving in the National Guard or reserve component of one of the Armed Services who is called to active federal duty other than for training, while a member of the Corps of Cadets can return to The Citadel as a veteran day student as long as the former cadet receives a DD-214 indicating an Honorable Discharge from active duty for every discharge if serving multiple times. If the candidate has completed four semesters as a cadet, he/she will be eligible to receive the cadet ring and diploma once academic requirements are met.

Citadel Non-Cadet Veteran Day Student: Veterans who provide evidence with a DD-214 (honorable discharge— for every discharge if serving multiple times) from the Armed Services Branch(s) indicating a minimum of 90 consecutive days of full-time federal active service, other than active duty for training. As part of the admissions requirement, applicants must not have a record of conviction for a criminal offense showing poor moral character. These veterans are civilians and are not subject to the personal requirements specific to the Corps of Cadets. They will not be subject to the graduation requirements of the Corps of Cadets that are not curriculum based.

All Veteran students must declare either the day/cadet or evening/online program status when they begin taking classes. Veterans who declare themselves day students must follow the South Carolina Corps of Cadets general education requirements and attend the day program commencement ceremony. Veterans who declare their status as college transfer program students must meet general education requirements associated with the appropriate degree requirements and attend The Citadel Undergraduate/Graduate commencement exercises.

Admission and Student Categories

Students may be admitted to The Citadel in one of the below categories.

Degree seeking – An undergraduate student is classified as degree seeking if they meet all admission requirements and have been admitted to a degree program.

Senior Citizens - South Carolina Senior citizens, those who are age 60 and over and legal residents of the state, who wish to take courses at The Citadel are eligible to enroll as a degree-seeking or non-degree seeking student on a space available basis. If a student wishes to pursue a degree, they must submit an application for the program of study and follow the appropriate admissions protocol. Proof of age (SC Driver’s License) is required at the time of application.

Registration for classes as a senior citizen is allowed on a space available basis—the timeline for registration is the Monday prior to the start of each semester. Additionally, permission from the instructor may be needed to take a course as a non-degree student. Students are encouraged to request this permission ahead of time and forward the approval in writing to the Registrar’s Office at registrar@citadel.edu.

International Students - An international student who applies to an undergraduate program at The Citadel must complete the following requirements after admission and before enrolling in classes:

1. Provide a completed Immigration Request form.
2. If applying for a student visa or transferring a student visa from another institution, must provide evidence of ability to meet all financial obligations while in undergraduate study at The Citadel by completing the Certification of Finances form prior to enrolling in courses.
3. International students will register for courses after full acceptance into a degree program and clearance from the International Student Director is received.
Undergraduate Students Taking Graduate and Online Courses Academic seniors with a cumulative Grade Point Average of at least a 3.20 may take up to a maximum of twelve hours of graduate courses through The Citadel Graduate College once they have reached senior status. No undergraduate student may take more than six credit hours in any one term (Fall, Spring, Summer). These courses may provide students a head start on earning a graduate certificate or a graduate degree, but graduate courses may not be used to meet undergraduate degree requirements unless the student is formally admitted to a CHE approved accelerated program and will NEVER be used in the computation of the undergraduate GPA. Students must have the permission of the Associate Provost. Undergraduate juniors and seniors accepted in an accelerated program may take and share up to twelve hours of structured graduate credit between the graduate and undergraduate majors. Refer to specific accelerated program requirements.

Non-degree seeking – An undergraduate student is classified as a non-degree seeking student when the student does not intend to seeking a degree. While these students are allowed to take undergraduate courses under the following conditions, they cannot use these courses as a way of circumventing standard Citadel admissions policies.

1. Students who provide documentation of having graduated from an accredited high school or having completed the General Education Development (GED) examination may register for up to 15 credit hours of course work for personal or professional development only.
2. Rising high school seniors may be admitted based on their high school record and a written recommendation from their high school guidance counselor or principal.
3. Undergraduate transient students enrolling in course work for transfer to another institution will be asked to present evidence they have met course prerequisites.
4. A cadet who has been expelled from The Citadel is not eligible to attend any class at The Citadel—day, evening, or summer. A cadet who has been suspended or dismissed is not eligible to attend any class at The Citadel until accepted for readmission to the College.

Academic Classifications

Undergraduate students’ academic classification is based strictly on earned credit hours. The table below reflects the required number of earned credit hours for each designated academic classification.

towards a degree and by the Office of Financial Aid to determine loan eligibility.

Academic Criteria for Continuance

In order to be eligible to continue at The Citadel, a student must meet minimum standards regarding hours earned at The Citadel or properly transferred from another accredited institution and an acceptable cumulative grade-point average (GPA) must be maintained. Full-time students, those taking at least 12 credit hours each semester, must earn at least 24 semester hours each two-semester period. Part-time students must have passed at least 50 percent of the coursework attempted in the two previous semesters and included summer sessions. If a previously passed course is repeated, the hours may be used only once toward meeting requirements for hours passed.

The student must also meet the grade-point average requirement for the appropriate category of credit hours of record as listed in the table below. In determining the category for credit hours of record, hours transferred into The Citadel from other institutions are included as credit hours of record.

The column “Quality Hours Plus Transfer Hours” includes:
1. All credit attempted for which a grade of “A,” “B,” “C,” “D,” or “F” was received at The Citadel,
2. Course work transferred from other colleges, and
3. Courses taken on a Pass-Fail basis.

<table>
<thead>
<tr>
<th>Quality Hours</th>
<th>Grade-Point Avg for Continuance (on probability)</th>
<th>Grade-Point Avg for Continuance (without probability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-39</td>
<td>1.300</td>
<td>1.700</td>
</tr>
<tr>
<td>40-69</td>
<td>1.500</td>
<td>1.800</td>
</tr>
<tr>
<td>70-99</td>
<td>1.700</td>
<td>1.900</td>
</tr>
<tr>
<td>100 &amp; above</td>
<td>1.900</td>
<td>2.000</td>
</tr>
</tbody>
</table>

This table shows the minimum academic progress students must make toward attaining the minimum acceptable overall grade-point average of 2.000 as they approach the total number of hours required in the course of study of their selected major. For determining academic probation, criteria for continuance, dean’s list, graduation, and other academic matters, grade-point averages are not rounded.

Academic Probation

Undergraduate students are placed on academic probation for any semester when their cumulative grade-point average based on courses taken at The Citadel fails to meet requirements for continuance without probation as outlined in the Academic Criteria for Continuance table. Students will be removed from academic probation after the semester their cumulative grade-point average meets the requirements of the table. Students on academic probation are not making satisfactory progress, and restrictions, such as limiting the number of credit hours in which they may enroll, may be enforced.

Academic classification is used to track academic progress.

<table>
<thead>
<tr>
<th>Credits Earned</th>
<th>Academic Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 14</td>
<td>First Semester Freshman</td>
</tr>
<tr>
<td>15 – 29</td>
<td>Second Semester Freshman</td>
</tr>
<tr>
<td>30 – 44</td>
<td>First Semester Sophomore</td>
</tr>
<tr>
<td>45 – 59</td>
<td>Second Semester Sophomore</td>
</tr>
<tr>
<td>60 – 74</td>
<td>First Semester Junior</td>
</tr>
<tr>
<td>75 – 89</td>
<td>Second Semester Junior</td>
</tr>
<tr>
<td>90 – 104</td>
<td>First Semester Senior</td>
</tr>
<tr>
<td>105 and above</td>
<td>Second Semester Senior</td>
</tr>
</tbody>
</table>
Readmission Policy

A student who is discharged for academic reasons for the first time may apply for readmission after being out of school for one semester. Summer school does not constitute a semester in this instance. Students who are discharged for academic or disciplinary reasons may not, during the period of discharge, take courses for transfer to The Citadel. The deadline for the receipt of an application for readmission for Summer School is March 1st, for the spring term is October 1st, and for the fall term is June 1st.

Registration

Registration is conducted through Lesene Gateway. Students may not attend class until they are fully registered and have cleared their tuition bill through the Treasurer’s Office. Completed registrations will be honored on a first-come, first-served basis. Registration is not complete until all fees are paid. All fees are due by published calendar dates. Knowingly attending class without paying is an integrity violation and may result in dismissal from the College. Any changes in registration must be made prior to the end of the term’s Drop/Add period. Information concerning class times and important registration dates can be found for each academic term online at http://www.citadel.edu/root/registrar-courses.

Completion of coursework for a program in which a student has not been formally accepted does not imply admission into that program. A student may not pursue more than 15 credit hours of coursework for a program to which they have not been formally accepted.

Fall, spring, and summer course schedules are available online. Information on programs, classes, and fees can also be obtained from Citadeledu.

Drop/Add and Withdrawals

Formal notice of intent to drop or withdraw from any class is necessary in all cases. The dates for dropping and withdrawing from class are listed in the term calendar at http://www.my.citadel.edu/root/registrar-important-dates. To drop or add a course from the course schedule or to change sections within a course, a student must drop/add through Lesene Gateway. Approval to drop a course and receive a refund after the published drop date is granted only under extenuating circumstances (i.e. death in immediate family, serious medical issues, military deployment).

After the drop period, students who choose to withdraw must complete a withdrawal form available in the Registrar’s Office or online. Course withdrawal means a student is withdrawing from a course after the drop/add date has passed. A grade of "W" will appear on the student transcript. The "W" does not affect the student’s grade point average (GPA). Ceasing to attend a course does not constitute an official drop or withdrawal from the course. Any withdrawal request that occurs after the published withdrawal date must have a written justification for the late request to accompany the withdrawal form. Late withdrawal requests will be approved on a case-by-case basis by both the academic Dean and the Associate Provost for Enrollment Management.

Students enrolled in online classes are expected to fully participate in the course throughout the entire length of the term. Students who do not participate in any online class (posting to a discussion board, submitting an assignment, taking a quiz, etc.), for a period of 14 days will be automatically withdrawn from the course.

Advisement

Upon acceptance into a degree program, a student is assigned an advisor. It is the student’s responsibility to confer with this advisor at an early date and at periodic intervals to assure appropriate course selection and awareness of degree requirements.

Audit Policy

A student may elect to audit a course for no credit. Permission to audit must be obtained from the school/department offering the course and a form must be submitted. Students must possess an undergraduate degree from an accredited college or university to audit a graduate level course. Students cannot switch from credit to audit status, or vice versa, after two class meetings. Auditors must apply and be accepted as a non-degree seeking student and are permitted to register for a class on a “space available” basis. The audit tuition is the same as the regular credit hour tuition.

Course Load

Undergraduate students are considered full-time if they carry 12 credit hours accumulated over any combination of courses during a full semester. For students enrolled in one mini term per semester, six credit hours are considered full-time for the mini term. The semester hour load for students wishing to be classified as part-time is six credit hours during a full semester. If a student is enrolled in summer school, a maximum of five courses 15 credit hours, or 17 credit hours including lab courses may be taken. The maximum load allowed in any one term of summer school is seven hours; the maximum load allowed in each summer session is two courses (7 hours), regardless of how many terms are offered or whether the course is face-to-face or online.

Course Overload Policy

A maximum course load of 21 credit hours may be approved for either fall or spring semester. Overload requests for a 22nd hour can be made using the Registrar’s Office form and must be approved by the advisor and Dean of the student’s school. Approval for overloads are rare.

Pursuing a Double Major

Under certain circumstances, a student may wish to pursue
two different majors concurrently within the same baccalaureate degree. This will be permitted under the following conditions:

1. Students must declare their intentions to the Registrar no later than the fall semester of the junior year.
2. Both majors must be offered under the same baccalaureate degree.
3. Students must complete all requirements for each major.
4. Students, in addition to meeting a minimum overall GPA, must achieve the minimum GPA requirements of each major.
5. Requirements for both majors must be completed concurrently.

Students who have met these requirements will have both majors indicated on their transcript.

Summer School

All Summer School students are the academic and administrative responsibility of the Provost. Students residing in the barracks, regardless of academic status are the disciplinary responsibility of the Commandant; all other students remain as stated above.

Undergraduate transient admission to Summer School does not constitute admission to the regular academic session of The Citadel.

For students who do not register for courses for three consecutive semesters (fall, spring, summer) and have not formally withdrawn from The Citadel, nor been approved for a leave of absence, will result in their academic record being inactivated. A student, who would like to resume coursework after their record has been inactivated, will need to:

a. Complete and submit a Re-Enrollment Form
b. Submit additional material as required

Please note that this policy does not apply to students academically dismissed from The Citadel.

Transient Students

Transient students who desire to take courses at The Citadel to transfer back to their home institution must complete an application for admission as a non-degree student and pay the application fee. College transcripts or a Letter of Good Standing are required as part of the application process.

Course Substitution

Course substitutions are approved by the Department Chair and Dean of the School. Forms to initiate this procedure are available in the Registrar’s Office or online.

English Fluency Policy

In accordance with the laws of South Carolina, The Citadel ensures the English fluency of its teaching faculty. Should a student challenge the English fluency of a member of the faculty, standard procedures for student academic grievances will be followed. If a review committee is called for, the native language of one of the faculty members will not be English.

College Level Examination Program

Through College Level Equivalency Program (CLEP) Subject Examinations, undergraduate students are permitted to earn college course credits for knowledge they have gained in certain subject areas prior to beginning their college experience. Not all CLEP examinations are accepted by The Citadel. Therefore, the student must obtain prior approval through the Office of the Registrar. CLEP credits may be earned under the following conditions:

1. The score earned must meet or exceed the current minimum score recommended by CLEP for that subject area exam.
2. The amount of credit will be determined by the scope of the material measured.
3. Because of the laboratory experience is such an integral part of the Core Curriculum Science Requirement, credit for only the lecture portion of a science course may be earned through CLEP. The lab portions must be earned through a laboratory course.
4. Completing any portion of a requirement through CLEP must be approved by the head of the Department of Modern Languages. A complete listing of courses for which credit may be awarded through CLEP is available in the Office of the Registrar.

Combining Courses

Courses may be combined to meet a maximum of one general elective credit requirement under the following circumstances:

1. The courses to be combined must all be offered by the same department and must be related in some way.
2. The department head or Dean for the program in which the student is majoring must provide a recommendation and rationale for combining courses.
3. The Dean responsible for the academic program in which the student is majoring must grant final approval for the combining of courses.

Definitions

Elective refers to a course that is required for graduation and may be any three-credit course offered by the College.

Approved Elective refers to a course that must be selected from a list of courses provided by the individual school or department.

Non-Departmental Elective refers to a course that is required for graduation and must be taken outside the major department. Students are encouraged to study areas outside their major to ensure as broad an education as is practical.

Transfer Credits

Normally, only courses which are comparable in content and
credit hours to specific courses offered by The Citadel and in which grades of “C-“ or better have been earned at an accredited institution (e.g. Southern Association of Colleges, North Central Association of Colleges and Schools, etc.) will be considered for transfer. However, the Dean responsible for the academic program in which the student is majoring may accept credit for transfer to meet General Elective credits courses that are not offered by The Citadel but which are considered to be worthy of credit as electives and in which grades of “C-“ or higher have been earned. The respective department heads or Deans, as appropriate, are responsible for considering all transfer courses that are comparable to courses offered by The Citadel. Course work taken at another college and accepted for transfer by The Citadel need not be applicable to a student's major. Courses transferred from another college will not be noted in the student's grade-point average at The Citadel. Transcripts sent from other colleges to The Citadel become the property of The Citadel and cannot be issued to the student or a third party.

To ensure that courses taken away from The Citadel will be accepted for transfer, Citadel students should obtain written, prior approval through the Office of the Registrar.

Students are limited to 75% of degree requirements being completed with transfer credit. Within that 75%, a maximum of 76 hours may be transferred from a 2-year institution.

## Expenses & Financial Aid

### Fee Payment

The Citadel Treasurer's Office is responsible for the collection of monies due to The Citadel. All fees are due and payable at the time of registration. If fees are not paid by the date on the term calendar, the student may be dropped from registered classes. Checks should be made payable to The Citadel and mailed to 171 Moultrie Street, Charleston, SC 29409. Fees may also be paid online with Visa, Mastercard, Discover or American Express. Electronic check payments are available at no charge. Deferred payment plans may be arranged in advance of a semester through the Citadel Tuition Payment Plan. Forms are available on the Treasurer's webpage at www.citadel.edu/treasurer. The Citadel reserves the right to adjust fees at any time to meet the current cost of operation. Fee schedules are published each semester on The Citadel's web page. All correspondence concerning fees, payments, and status of accounts should be directed to the Treasurer's office.

### Financial Aid and Scholarships

The Office of Financial Aid and Scholarships administers student loan applications, grants, scholarships, and work-study programs. The office is located in Bond Hall, Room 138, and staff can be reached at (843) 953-5187 or by email at financialaid@citadel.edu.

## Forms and Deadlines

To apply for financial aid at The Citadel, all students should file a Free Application for Federal Student Aid (FAFSA) online at fafsa.ed.gov as soon as possible after October 1 each year. Additional information may be requested by the Office of Financial Aid and Scholarships. Students are responsible for checking their Lesesne Gateway accounts, completing all requested paperwork, and meeting financial aid requirements in a timely manner. Funds are limited, so late applications are considered for aid only if resources are still available.

<table>
<thead>
<tr>
<th>FAFSA Priority Deadline Dates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic year (fall and spring)</td>
<td>October 31</td>
</tr>
<tr>
<td>Fall only</td>
<td>October 31</td>
</tr>
<tr>
<td>Spring only</td>
<td>October 1</td>
</tr>
<tr>
<td>Summer</td>
<td>April 1</td>
</tr>
</tbody>
</table>

Applicants who have not completed all financial aid paperwork by June 30 should not expect to receive notification of awards prior to the beginning of fall semester. These applicants should be prepared to pay for their tuition, fees, and other costs by established fee payment deadlines. Students are reimbursed if subsequently determined to be eligible for financial aid.

## Determining Financial Need

The amount of financial aid is based on the FAFSA form the applicant files after October 1 each year. This form solicits information about the family's current financial situation and produces an "expected family contribution" (EFC). Adjusted gross income data from tax forms are used, along with current asset information to determine family resources. Allowances are made for federal and state taxes, social security, employment (when both parents work), unusual medical and dental expenses, and family size. Other factors considered include any unusual expenses and the number of family members in college. In its simplest definition, financial need is the difference between what a student will pay to attend college and the expected family contribution, as determined by the need analysis. If costs exceed the amount of family contribution, then the applicant has “demonstrated” financial need.

### Dependent or Independent Status

Federal student aid programs are based on the premise that parents have the primary responsibility of financing their children's education. However, independent students are not required to submit parental data. Students who fall into at least one of the following categories are considered independent:

- He/she is at least 24 years old by Dec 31 of the academic year.
- He/she is a graduate student.
- He/she is married.
- He/she is currently serving on active duty in the U.S. Armed Forces for purposes other than training.
- He/she is a veteran of the U.S. Armed Forces.
• He/she has children (or other dependents) and will provide more than half of their support.
• He/she was in foster care or deemed a dependent or ward of the court.
• He/she was an emancipated minor or in legal guardianship as determined by a court.
• He/she is determined to be an unaccompanied youth who is homeless or self-supporting and at risk of being homeless.

Federal Eligibility Requirements

Any student who is accepted for admission is eligible to request financial assistance. However, there are several general eligibility requirements a student must meet to receive federal financial aid:
1. A student must be admitted to The Citadel as a regular or provisional student.
2. A student must be a U.S. citizen, or a national or permanent resident.
3. A student may not receive aid if he or she is in default at any institution on any Federal Student Loan Program.
4. Students must be enrolled at least half-time. This is defined as 4.5 hours/semester for graduate students and six (6) hours/semester for undergraduate students. The only exception to this rule will be internships and practicums, which, given their somewhat unique composition and requirements, qualify a student for half-time status. This definition of half-time status is important to be eligible for financial aid and to qualify for in-school deferment on prior federal student loans.
5. A student may not receive aid if he or she owes a repayment at any institution on a Pell Grant, Supplemental Grant, or State Student Incentive Grant.
6. A student must have the minimum grade point average and must make satisfactory academic progress (SAP) toward a degree to continue to receive federal financial aid.
7. A graduate certificate student is not eligible for federal financial aid.

Types of Financial Aid

Please visit http://www.citadel.edu/finaid for detailed information about the various financial aid programs offered.

Satisfactory Academic Progress (SAP) for Financial Aid Recipients

In compliance with regulations governing federal and/or state financial aid programs, The Citadel is required to monitor each student to be certain that he or she is maintaining Satisfactory Academic Progress (SAP) in his or her course of study. SAP standards are separate from The Citadel's academic policies and are reviewed annually at the end of each spring semester.

How the Policy Works
Students who fail to meet published SAP standards will be ineligible to receive federal or state financial aid funds. However, those students failing to meet the minimum standards, as prescribed in this policy, may appeal their status by following outlined conditions.

Academic Year
The academic year for SAP determination is comprised of the fall, spring, and summer terms.

Minimum Standards
Unsatisfactory academic progress is defined as a failure to meet at least one of the following standards:

Undergraduate Students
1. Academic Progress
   a. Full-time students (enrolled in at least 12 hours/semester) must earn 24 credits hours in an academic year. Full-time students enrolled in one semester are considered to be meeting progression standards by earning at least 12 hours.
   b. Part-time students (enrolled in less than 12 hours/semester) must earn at least 66% of credit hours attempted in an academic year.
2. GPA – A student's GPA must meet the required minimum for their grade level according to The Citadel's academic policies for continuance.
   a. 1.3 with < 39 attempted hours
   b. 1.5 with 40 – 69 attempted hours
   c. 1.7 with 70 – 99 attempted hours
   d. 2.0 with > 99 attempted hours
3. Attempted credit hours cannot exceed 207 hours (more than 150% of program length).

SAP Appeal
Students who have not met SAP have the opportunity to complete an appeal to regain eligibility for federal aid. Completion of this process does not guarantee reinstatement of federal financial aid. Students are responsible for full payment of tuition/fees regardless of financial aid status. It is also the student's responsibility to be aware of and to meet all fee payment and financial aid deadlines.

The SAP Appeal form is available on the Office of Financial Aid & Scholarship's webpage on The Citadel website at citadel.edu.

The SAP Appeal must include:
1. A completed SAP Appeal Form and Academic Improvement Plan approved by Academic Affairs and signed by both the advisor and the student, and
2. A letter written by the student that defines why the student failed to make SAP and what has changed that enables the student to meet SAP at the next evaluation.

If a student fails to either regain regular SAP eligibility after one semester or meet the conditions of the Academic Improvement Plan, the student is ineligible to receive federal financial aid (Title IV aid).

Appeal Deadlines
Completed appeal forms must be turned in two weeks before the end of the term for which the appeal is filed.

Grades
Only letter grades are given to evaluate a student's progress.
The following definitions of letter grades are applicable:

'A' Superior
'B' Very Good
'C' Satisfactory; Acceptable
'D' Marginal; Passing
'F' Unsatisfactory
'P' Grade assigned in pass/fail courses that do not carry credit hours to designate passing performance
'S' Grade assigned in pass/fail courses that carry credit hours to designate that a grade of "A", "B" or "C" has been earned and credit has been awarded
"U" Grade assigned in pass/fail courses and in ENGL 101 to designate that a grade of "D" or "F" has been earned and no credit has been awarded
"W" Withdrawal from a course prior to the official deadline
"I" An Incomplete is awarded when course requirements have been very nearly met but for authorized reasons (illness, injury, family emergency, etc.) cannot be completed during the current semester.
"IP" Grade assigned for courses in which requirements are not expected to be met in one academic term. The grade of "IP" must be removed after two full semesters, or the "IP" becomes an "F". The summer session will not be considered a semester in this case. Under extenuating circumstances, an extension may be awarded by the Associate Provost for Academic Affairs with the recommendation of the instructor. The removal of the "IP" is the responsibility of the student. Students may not enroll in a course in which they currently have an "IP".

Students who are enrolled in audit courses will not receive financial aid for these courses.

Students can access midterm progress and semester grade reports online by using BANNER Self-Service through the Lesesne Gateway portal.

Taking or Repeating Courses to Improve the GPA/Grade Replacement
The regulatory definition for full-time enrollment status (for undergraduates) has been revised to allow a student to retake (one time only per previously passed course) any previously passed course. For this purpose, passed means any grade higher than an "F", regardless of any school or program policy requiring a higher quality grade or measure to have been considered to have passed the course. This retaken class may be counted towards a student's enrollment status, and the student may be awarded Title IV aid for the enrollment status based on inclusion of the class. A student may be repeatedly paid for repeatedly failing the same course (normal SAP policy still applies to such cases), and if a student withdraws before completing the course that he or she is being paid Title IV funds for retaking, then that is not counted as his or her one allowed retake for that course. However, if a student passed a class once, then is repaid for retaking it, and fails the second time, that failure counts as their paid retake, and the student may not be paid for retaking the class a third time.

Transfer Credits
When evaluating SAP, a student's transfer credits, accepted by The Citadel toward completion of the student's degree program, will count as both credit hours attempted and hours earned.

Change of Major
Students that have changed majors and earn more than the maximum allowable number of credit hours toward graduation will be required to submit an SAP Appeal.

Second Degrees
Students that are completing a second degree will be required to submit an SAP Appeal to explain the reason behind earning more than 150% of allowable credit hours.

Financial Aid Funds Covered By SAP Standards
- Federal Pell Grant
- Federal Supplemental Educational Opportunity Grant (SEOG)
- Federal Work Study
- Federal Direct Loan, subsidized and unsubsidized
- Federal Direct PLUS Loan
- Federal Direct Graduate PLUS Loan
- South Carolina Teachers Loan
- South Carolina Career Changers Loan
- South Carolina Palmetto Fellows Scholarship
- South Carolina LIFE Scholarship
- South Carolina Need-Based Grant
- Other federal/state programs as required
- Some Private Educational Loans (as required by the lender)

Financial Aid Refund and Repayment Policy

Refunds
Refunds will be returned to the programs from which the student received aid. The Higher Education Act of 1998, Public Law 105-244, substantially changed the way funds paid toward a student's education are managed should the student, as a recipient of federal financial aid, withdraw from school. If a student who was awarded financial aid withdraws from school, he/she is eligible for the "institutionally-determined refund" that remains after the immediate repayments of the financial aid award to the Office of Financial Aid & Scholarships. This policy also applies to students on whose behalf a parent has borrowed a Title IV loan. Refunds are returned to the programs that awarded the student aid. In the case of federal financial aid, a statutory schedule is used to determine the amount of federal financial aid that has been earned based on the period the student was in attendance. Up through the 60% point, in each payment period of enrollment, a pro rata schedule is used to determine how much federal financial aid the student will receive. After the 60% point, in the payment period of enrollment, a student has earned 100% of the federal funds awarded for the period.

<p>| The percentage earned will be calculated based on the following schedule: |
|-------------------|-------------------|
| Week 1            | 6 percent         |
| Week 2            | 12 percent        |
| Week 3            | 18 percent        |
| Week 4            | 25 percent        |
| Week 5            | 31 percent        |
| Week 6            | 37 percent        |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>43 percent</td>
</tr>
<tr>
<td>8</td>
<td>50 percent</td>
</tr>
<tr>
<td>9</td>
<td>56 percent</td>
</tr>
<tr>
<td>10</td>
<td>60 percent</td>
</tr>
<tr>
<td>11-16</td>
<td>100 percent</td>
</tr>
</tbody>
</table>

For example, if a student has received $1,000 in Federal Financial Aid and withdraws within the first week of classes, that student will receive 6 percent ($60) of the aid award applied to total charges. The remaining $940 will be returned to the Federal Financial Aid programs in the following order:

1. Unsubsidized Student Loans
2. Subsidized Student Loans
3. Perkins Loans
4. PLUS Loans/Graduate PLUS Loans
5. Federal Grants
6. Other Assistance under Title IV

The refund and repayment provisions mandated by the federal government for federal aid recipients apply when a student receives financial aid funds and withdraws, drops out, takes an unapproved leave of absence, fails to return from an approved leave of absence, is expelled, or otherwise fails to complete the period of enrollment for which he or she was charged. The refund and repayment requirements DO NOT APPLY to a student who:

- Withdraws, drops out, or is expelled before his or her first day of class, or
- Withdraws from some classes, but continues to be enrolled in other classes, or
- Does not receive funds for the period in question.

(Students whose parents received a PLUS Loan are considered to have received funds and are covered for the refund and repayment requirements.)

Repayments

If a student’s non-instructional educational expenses (allowances as prescribed below) incurred up to the time of withdrawal exceed the amount of cash disbursement, the student does not owe a repayment. If cash disbursed exceeds the non-instructional costs of education incurred up to the time of withdrawal, the student does owe a repayment. This repayment is the difference between costs incurred and the actual cash refund received. Non-instructional expenses are determined by calculating the percentage of room, board, books, supplies, travel, and personal expenses incurred during the portion of the term a student is enrolled. Off-campus board and personal expenses are prorated on a weekly basis. There is no proration of on-campus room charges. A percentage of books, supplies, and travel costs is allowed based on length of enrollment.

Student Aid Accounts to be Refunded and Repaid

Once the amounts to be refunded and/or repaid are determined, the aid programs from which the student received funds will be reimbursed in the following order:

1. Federal Direct/Stafford loans
2. Federal Perkins loans
3. Federal PLUS loans received on behalf of the student
4. Federal Pell Grants
5. Federal SEOG Grants
6. Other Title IV programs
7. Other federal, state, private, or institutional student financial assistance received by the student for which refunds are required
8. The student

Other Assistance

Vocational Rehabilitation Scholarships: This program provides for education and training if the student has a physical or mental disability that is a substantial handicap to employment and if there exists reasonable expectation that vocational rehabilitation services may lead to gainful employment. Additional information is available through the Department of Vocational Rehabilitation in the student’s home state.

College Budget Plans: The Citadel Tuition Payment Plan (CTPP) allows all students and families to finance the cost of Tuition, Auxiliary Fees (Housing/Room/Board) and OneCard. The plan is offered as a service to the student, allowing the student to finance education and related costs over the period of a semester. To calculate the amount to include in the plan, students should subtract financial aid and any scholarships from their balance and only place their uncovered expenses in the payment plan. There is a $50 enrollment fee per term. The plan is for four equal payments. Enrollment deadlines can be found on the Treasurer’s web page at www.citadel.edu\treasurer. Failure to pay any outstanding balance by the end of the semester will result in a registration hold being placed on their account until the balance is paid off.

Veterans Services: Services are administered through the Veteran Student Success Center in conjunction with the Financial Aid Office. Veteran Services are intended to meet the needs of students receiving benefits under the following GI Bill ® programs:

- Ch. 30—Montgomery GI Bill®—Active Duty, Veterans
- Ch. 31—Veterans Readiness and Employment
- Ch. 33—Post 9/11 GI Bill®
- Ch. 35—Dependents’ Educational Assistance Program
- Ch. 1606—Montgomery GI Bill®—Selected Reserve

Due to the complexity of VA educational benefits, students are encouraged to contact The Citadel’s Veterans Student Success Office well in advance of the beginning of the semester. Students who have already applied for benefits should submit a copy of their Department of Veterans Affairs Certificate Eligibility. In compliance with federal regulations, students are required to follow guidelines set by the Department of Veterans Affairs. VA Certification Policies and Procedures can be found on The Citadel’s website under Veterans Services. Staff can be reached at 843-953-9824 or email at va_benefits@citadel.edu.

Tuition Billing

The Treasurer’s Office sends bills through Lesesne Gateway. Students will not receive bills through U.S. mail. Your billing invoice is available to view and print through the Student Bill Payment website. When your semester bill is ready to be viewed online, an email will be sent to your Citadel email address.
Tuition due dates are determined in advance and may vary from one academic year to the next. The Fall semester’s payment is generally due on or about August 5th. The Spring semester’s payment is generally due on or about January 2nd.

Tuition payment plans are available through the treasurer’s office. Participation in these plans are voluntary and require a $50 administration fee per semester.

Veteran Benefits Billing

Our policy is to report tuition and fees after drop/add. Only the tuition portion of the Ch. 33, Post 9/11 GI Bill® or Ch. 31, Veteran Readiness & Employment will be deferred. Students are still responsible to pay by the bill due date the portion of their bill that is not covered by the Post 9/11 GI Bill®. Financial Aid and payment plans are available. For more information, visit the Financial Aid Website or the Treasurer’s Office websites.

Refunds

No fees are refunded after the published drop deadline. This date is usually following two class meetings and is published in the term calendar at http://www.my.citadel.edu/root/registrar-important-dates. To obtain the appropriate refund, a student must drop the course via Lesesne Gateway. The Citadel Graduate College may authorize a refund for extenuating circumstances after the scheduled refund date if a formal appeal is made in writing. Extenuating circumstances are defined as a death in immediate family, serious medical issues, or military deployment. Registration, technology, infrastructure, and application fees are not refundable.

Application for Resident Status for Tuition and Fee Purposes

Any student or prospective student who is uncertain about payment of in-state tuition and fees has the responsibility of securing a ruling from The Citadel by providing all relevant information on special application forms. These forms can be obtained from the Office of the Registrar, Bond Hall, Room 173, or online at http://www.citadel.edu/registrar/forms/. Completed forms must be returned to that office at least four to six weeks prior to registration for any semester or summer term for which the student is attempting to qualify for in-state tuition and fee rate.

Academic Regulations and Procedures

Requirements for Graduation

In addition to the program requirements, the following requirements must be met for graduation:

Coursework & GPA Requirements

For graduation, an undergraduate student must complete one of the departmental major courses of study stated in the catalog of record and must achieve a minimum cumulative grade-point average of 2.0 and a minimum grade point average of 2.0 in all coursework in the major. For undergraduate Education majors, the cumulative and major grade-point averages must be a 2.750. Courses used to calculate the grade point average in the major are found in the degree program requirements.

EUGS 101 Introduction to The Citadel Experience

All students must complete EUGS 101 in their first semester at The Citadel. This one-credit-hour online introductory course provides an overview of services offered by The Citadel as well as an overview of The Citadel’s three Core Values of Honor, Duty, and Respect. Undergraduates are required to complete EUGS 101 within the first two semesters enrolled at The Citadel, preferably in the first semester. Those who do not pass EUGS 101 within the timeframe will not be allowed to register for the next semester until the course is completed and the student passes with a “C” grade or better.

Protection of Minors

The Citadel is committed to the safety of all individuals in its community. The College has particular concern for those who are potentially vulnerable, including minor children, who require special attention and protection. Our online training requirement establishes guidelines for those in the college community who may work or interact with individuals under 18 years of age, with the goal of promoting the safety and wellbeing of minors.

All degree-seeking undergraduate students who enroll in Citadel course(s) are required to successfully complete the Citadel’s protection of minors training module at the beginning of their enrollment. Cadets, Veteran Day students, and Active Duty students complete the online module their first semester (fall or spring) at The Citadel. Training is coordinated by The Commandant’s Office for Cadets, and the Veteran Success Center for Veteran Day and Active Duty Students. All other undergraduates complete the training module through their participation in EUGS 101. Any undergraduate student who has completed equivalent training in the last five years may provide a copy of their certificate of completion by uploading it through the compliance office at compliance@citadel.edu. Undergraduates who do not complete the training module (and EUGS when required) within the first two semesters, fall and/or spring term, of enrollment will not be allowed to register for the next semester until proof of completion is presented to the compliance office.

Dress Code Policy for Veteran Students and Fifth-Year Day Students
All veteran students and fifth-year day students are expected to be cleanly and neatly dressed. This is particularly important as they serve as role models for other students on campus. Proper dress is business casual clothing (e.g., khaki pants or denim jeans and a collared shirt/polo shirt for males and denim jeans/slacks/skirt and a collared shirt/polo/blouse for females). Jeans that are frayed, patched, or contain holes are unacceptable. Additionally, shoes must be worn at all times. Specific types of clothing (e.g., frayed or torn jeans, jean shorts, running shorts, PT shorts, cut-off shorts, warm-up clothes, bathing suits, beach cover-ups, tank tops, halter tops, tube tops, flip flop shoes, etc.) are not proper attire for the classroom, library, or other academic areas. During the summer sessions, faculty and staff follow a more relaxed dress code, and a similar approach to the dress code will apply to students.

Additional Dress Code requirements apply primarily to cadets with Day Student Status:
1. Regulations pertaining to body piercing and tattoos are the same as those for members of the Corps of Cadets.
2. A broken uniform is unattractive anywhere, but it is especially unsuited for a military college campus or classroom. Portions of cadet uniforms are not, therefore, to be worn by non-cadets or cadets with day student status.
3. Students’ hair (males and females) will be neatly trimmed and styled, as will mustaches and sideburns, if applicable.
4. Students will wear business attire when members of the Corps of Cadets are required to appear in full dress or white uniforms.

For students who violate these dress code rules, and who are not in compliance with minimal standards for personal appearance, the following protocols will apply:
1. For a first offense, a student will be required, upon direction of a campus authority, to leave campus until such discrepancies are corrected.
2. For a second offense, a student who fails to adhere to the dress code policy will be required to meet with the Associate Provost of Enrollment Management shortly after the violation occurs. In this meeting, the student will be educated on the policy and asked to sign a formal, written agreement of future compliance with the dress code. The Associate Provost has the option of applying additional sanctions should it be deemed necessary to gain compliance.
3. Additional violations of the dress code will result in progressively punitive measures up to suspension from the institution as per the Student Code of Conduct.

The Citadel Student Honor Code

Honor Code Statement: It is the responsibility of all community members to promote, abide by, and enforce the following honor code: “A Citadel student (e.g. graduate, undergraduate, or veteran) does not lie, cheat, steal, nor tolerate those who do.”

Every student (which includes undergraduates, graduate students, day veterans, fifth-year day students, and all active duty students) must uphold the honor code as well as The Citadel’s Core Values of Honor, Duty, and Respect. Each student is required to represent themselves honestly in all college business matters and on all documents. Each student does their own work and refrains from any form of academic dishonesty, including plagiarism and cheating. In personal conduct, each student acts in a professional and ethical manner and refrains from any form of disrespectful behavior to any other member of The Citadel community.

In addition to students enrolled in degree programs and certificates, or as part of a joint program with other institutions, this honor code is also applicable to transient students and cadets who enroll in courses during the summer.

Definition of Terms:
In general, four types of conduct fall under the honor code: lying, cheating, stealing, and the toleration of those who engage in any of these activities.

1) Lying. Defined as any attempt to deceive, falsify, or misrepresent the truth in any matter involving college business. This includes but is not limited to matters involving academic standing, participation in courses, financial information, or any false statements to faculty, staff, administrators, or university officials.

2) Cheating. Defined as taking or attempting to take, or otherwise procure intellectual property in an unauthorized manner; selling, giving, lending, or furnishing to any unauthorized person by a student enrolled in that course, material which can be shown to contain the questions or answers to any exam from any course offered at The Citadel. Academic Dishonesty also includes plagiarism, including fabricating, forging, or falsifying laboratory results or reports, or using work from other courses or from previous assignments for a current class.

The term cheating includes, but is not limited to: 1) the use of sources beyond those authorized by the instructor for written assignments; 2) the use of any unauthorized assistance in taking exams or quizzes; 3) the unauthorized acquisition of tests or other academic material belonging to a faculty or staff member or a student.

The term plagiarism includes, but is not limited to, the use of published or unpublished work of another person without full and clear acknowledgement. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic material.

3) Stealing. Defined as taking without authority, personal, government, or college property.

4) Toleration. Defined as the failure to report a case of lying, cheating, or stealing as defined above to the proper Honor Council authorities.

Honor Council Composition:
Faculty: Six members; one from each Academic School and one from the Library. Honor Council members are appointed by Graduate Council and serve three-year terms.

Students: Two members appointed by The Citadel Student
Chair: A faculty member elected by members of the Council. Calls meetings, ensures procedures are followed, and is non-voting but casts the deciding vote in the event of a tie.

Training of Honor Council Members: All members are required to participate in a workshop/training seminar on Citadel Honor Code and procedures. Note: this training should be similar in nature to what cadet honor court members receive on procedures and content.

**Procedures:**

Any student, faculty member, or administrator may charge a student with an honor code violation. All accused students participating in Honor Council hearings are guaranteed the following rights during a hearing:

1. The right to a representative. In all college hearings and boards in which a student faces suspension, dismissal or expulsion, the student may be represented by up to two student representatives. Representatives must be students in the same academic program as the student facing disciplinary action, i.e., graduate students or undergraduate students may not serve as representatives for cadets, nor may cadets serve as representatives for graduate or undergraduate students. Representatives may participate in the board or hearing, including speaking directly to the board or hearing officer and questioning witnesses.

2. The right to question all witnesses. In cases where the complainant is an alleged victim, accommodations may be made.

3. The right to present evidence and call witnesses.

4. The right to decline making any statements or answering questions. In doing so, the Council may draw inferences, either positively or negatively, from such a refusal.

5. The right to an audio copy of the hearing upon written request.

6. The right to appeal the decision of the Honor Council.

**Honor Council Hearing Procedural Guidelines:**

All student conduct hearings shall be conducted according to the following guidelines except as provided below:

1. Hearings will be conducted in private.

2. The complainant, accused student, and their representatives, if any, shall be allowed to attend the entire portion of the hearing at which information is received (excluding deliberations). Admission of any other person to the hearing shall be at the discretion of the Honor Council Chair.

3. In hearings involving more than one accused student, the Honor Council Chair, at his or her discretion, may permit the hearings concerning each student to be conducted either separately or jointly.

4. The complainant and the accused student have the right to be assisted by a representative of his or her choosing. Representatives must be students in the same academic program as the student facing disciplinary action, i.e., graduate students or undergraduate students may not serve as representatives for cadets, nor may cadets serve as representatives for graduate or undergraduate students. Representatives may participate in the board or hearing, including speaking directly to the board or hearing officer and questioning witnesses.

5. The complainant and the accused student may arrange for witnesses to present pertinent information to the hearing. Witnesses will provide information to and answer questions from the Honor Council.

6. Pertinent records, exhibits, and written statements may be accepted as information for consideration during the hearing at the discretion of the Honor Council Chair.

7. All procedural questions are subject to the final decision of the Honor Council Chair.

8. After the portion of the hearing concludes in which all pertinent information has been received, the Honor Council shall determine whether the accused student is in violation of the Non-Cadet Honor Code.

9. The determination shall be made on the basis of a preponderance of the evidence—whether it is more likely than not that the accused student violated the Honor Code. Formal rules or process, procedure, and/or technical rules of evidence, such as those applied in criminal or civil court, are not used in these proceedings.

10. There shall be a single audio recording of all student conduct hearings (not including deliberations). Deliberations should not be recorded. The record shall be the property of The Citadel. If an accused student, with notice, does not appear for a hearing, the information in support of the charges shall be presented and considered even if the accused student is not present.

**Hearing Protocol:**

I. Introductions of the participants in the hearing

II. Chair or Administrator reviews hearing process and procedures

III. Chair or Administrator confirms charges and statements of responsibility

IV. Complainant/university calls witnesses

   A. Complainant asks questions of witnesses

   B. Board/Administrator asks questions of witnesses

   C. Accused student asks questions of witnesses

   D. All parties have opportunity to ask any additional questions

V. Accused student calls witnesses

   A. Accused student asks questions of witnesses

   B. Board/Administrator asks questions of witnesses

   C. Complainant asks questions of witnesses

VI. All parties have opportunity to ask any additional questions to accused student and/or complainant

VII. Deliberations by Board: Student will be notified of the decision in writing via university e-mail, with a hardcopy sent by registered mail, within three business days.

**Range of Sanctions:**

Note: This list is not exhaustive and may be modified to meet particular circumstances in any given case. All sanctions become a part of student’s official record. Final appeals of Honor Council rulings are made to the President. The procedure for appeals is found in the campus policies and procedures manual.

1. Expulsion—Permanent forced withdrawal from The Citadel. Although this may be imposed as a first offense for serious cases, it is usually imposed after other disciplinary
methods have not achieved desired results. In all cases in which expulsion is appropriate, the Associate Provost of Enrollment Management will submit documentation and findings to the President of the college for final disposition. The President may elect, at his discretion, to impose another penalty. The student will be notified of the President’s decision, and that decision is final. A student’s suspension or expulsion will be noted on his or her transcripts.

2. Dismissal—Forced withdrawal from The Citadel for two semesters.
3. Suspension—Forced withdrawal from The Citadel for one semester. In instances of both dismissal and suspension, students may not visit campus or participate in any campus-related activities. An exception to this rule is if the student is seeking clarification of his or her academic record and a physical visit to campus is required.
4. Reprimand—Written notice to student that behavior was unacceptable and that further issues could result in suspension or expulsion.
5. Restriction—Loss of privileges including but not limited to parking on campus, access to university facilities, etc.
6. Course Withdrawal—From the course in which the offense occurred.
7. Grade Change—Only for cases involving academic integrity. Such a sanction must be approved by the Provost or the Associate Provost of Enrollment Management.
8. Restitution—Reimbursement for physical damages or loss of property.

Appeals:
Grounds. An appeal does not provide a second forum in which to present the case. Appeals deal only with how a decision has been reached and not with the decision itself. The following are the exclusive grounds for all disciplinary and academic appeals:
1. That the hearing officer or board failed to provide due process;
2. That significant information has been discovered since the board or hearing, which would probably change the result, but which could not, in the exercise of due diligence, have been presented to the board or hearing.

A review by the President is not considered an entitlement but is within the scope of authority of the President. This is the final appeal at the institution and if applicable, all imposed sanctions are implemented after the President issues his decision.

Title IX at The Citadel

Title IX of the U.S. Education Amendments of 1972 (“Title IX”) is a federal civil rights law that prohibits discrimination on the basis of sex in education programs and activities. The Citadel does not discriminate on the basis of sex in the education programs or activities that it operates including admissions and employment.

Under Title IX, discrimination on the basis of sex can also include sexual harassment which is defined as conduct on the basis of sex that satisfies one or more of the following:

1. An employee of the College conditioning the provision of education benefits on participation in unwelcome sexual conduct (i.e., quid pro quo); or
2. Unwelcome conduct that a reasonable person would determine is so severe, pervasive, and objectively offensive that it effectively denies a person equal access to the institution’s education program or activity; or
3. Sexual assault (as defined in the Clery Act), dating violence, domestic violence, or stalking as defined in the Violence Against Women Act (VAWA).

Any person may report sex discrimination, including sexual harassment (whether or not the person reporting is the person alleged to be the victim of conduct that could constitute sex discrimination or sexual harassment), in person, by mail, by telephone, or by electronic mail, using the contact information listed for the Title IX Coordinator, or by any other means that results in the Title IX Coordinator receiving the person’s verbal or written report. Such a report may be made at any time (including during non-business hours) by using the telephone number, electronic mail address, or by mail to the office address listed for the Title IX Coordinator. The following person has been designated to handle inquiries related to Title IX: Valerie Mercado, Title IX Coordinator; 171 Moultrie St, Bond Hall 369, Charleston, SC, 29409; 843-953-6881; vmercado@citadel.edu.

The Citadel Policy https://www.citadel.edu/root/title-ix provides information on The Citadel’s grievance procedures, including how to report or file a complaint and how The Citadel will respond.

Inquiries can also be made to the Assistant Secretary. The Assistant Secretary contact information is U.S. Department of Education, Office of Postsecondary Education, 400 Maryland Avenue, S.W., Washington, DC 20202, Main Telephone: 202-453-6914.

Academic Standards

Catalog of Record

The catalog bearing the number of the academic year in which undergraduate students enter The Citadel will be their catalog of record for matters of academic policy.

When a student is readmitted after an absence of at least three academic semesters (summer sessions will not be considered as semesters for this purpose), the catalog bearing the number of the academic year in which the student is readmitted will be the catalog of record for matters of academic policy and graduation requirements.

Class Attendance

Regular attendance is required of all Citadel students, and the attendance record maintained by the instructor is official. In case of absences due to illness or other circumstances beyond their control, students should notify the instructor as soon as
Online Course Attendance Policy

Distance education (online) students are subject to The Citadel's attendance policy. Attendance in a distance education (online) course is defined by activate participation. Logging into Canvas does not qualify as sufficient evidence of attending, as per federal financial aid guidelines, and nonattendance may affect financial aid and/or veteran's benefits. Completion of tests, submission/completion of assignments, and participation in discussion forums are activities used to document enrollment. Students who have not documented enrollment and participation by the withdrawal period will be administratively dropped from the roll and the last date of attendance will be determined by participation of the student in class activities.

Confidentiality of Student Records

The Citadel maintains and discloses information from student records in accordance with the provisions of the “Family Educational Rights and Privacy Act of 1974” (FERPA), as amended. This law requires that educational institutions maintain the confidentiality of student educational records. The Citadel accords its students all rights under the law. FERPA coverage applies to all educational records that contain a student's name, social security number, or other personally identifiable information, in whatever medium, to include electronic form. No one outside of The Citadel shall have access to nor will the institution disclose any information from a student’s educational records without the written consent of the student except in compliance with the provisions of Federal and State law.

Educational records may be disclosed to personnel within the institution who have a legitimate educational interest, to parents of students who are dependents as defined by IRS standards, to persons or organizations providing students financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, or in an emergency, to persons in order to protect the health or safety of the student or others.

Within The Citadel community, only those members, individually or collectively, acting in the student's educational interests are allowed access to student educational records. These members include the Board of Visitors, Faculty, and personnel in the Offices of the President, Provost and Dean of the College, Associate Provost of Academic Affairs, Associate Provost of Enrollment Management, Registrar, and Vice President for Finance and Business Affairs. Directory information about a student may be disclosed at the discretion of The Citadel without the consent of the student unless the student has notified the Registrar within two weeks of the beginning of the academic year (fall semester) that the student refuses to allow the disclosure of such information. Any student desiring to keep directory information confidential must give notice at the beginning of each academic year and the notice is valid only for that year.

Course Cancellation

It occasionally becomes necessary to cancel a course. The Citadel reserves the right to cancel any course for which there is insufficient enrollment. This cancellation may be done without notice. Students affected by a course cancellation will receive due consideration and notification by the department offering the course. If no other satisfactory arrangements can be made, the student will receive a complete refund of all tuition and fees paid.

Professional Conduct

Responsibility for professional conduct rests with students as adult individuals and as members of The Citadel community. Students are expected to conduct themselves as responsible adults. All members of the campus community are expected to use reasonable judgement in all aspects of campus life and activity and to show due concern for the welfare and rights of others. Students must adhere to all federal, state, and local laws.

The Citadel protects freedom of action and speech, so long as the exercise of this freedom is not of an inflammatory or demeaning nature and does not interfere with the operation of the College. The Citadel’s Conduct Policy prohibits the possession of drugs, destruction of property, making false statements of emergencies, physical or verbal abuse, or harassment of any sort.

Students who violate the rules and regulations of The Citadel are subject to expulsion or lesser sanctions. These rules and regulations are published in “Regulations for Non-Cadet Students for Fall and Spring Semester and All Students, including Cadets, for Summer School,” which can be found online at http://www.citadel.edu/root/images/BOV/Policies/03-107-regulations-for-non-cadets.pdf

The Provost or designee is responsible for administering the disciplinary conduct code for Students unless they reside in the barracks during Summer School, in which case the commandant is responsible for discipline.

Grades

Only letter grades are given to evaluate an undergraduate student's progress. The following definitions of letter grades are applicable:

a. "A" represents superior attainment on the part of the student.
b. "B" represents work that is clearly above the average, but not superior.
c. "C" represents average attainment on the basic standards set for the course.
d. "D" represents minimum attainment of the basic standards.
f. "F" represents failure.
g. "W" represents withdrawal from a course prior to the official deadline which is indicated in the college calendar and is no earlier than the Wednesday following the midterm grading period. Beyond that point, students will receive the grade of "F" should they fail to complete the course or complete it unsuccessfully. Under extenuating circumstances, the grade of "W" may be awarded after the established deadline to withdraw from a course. Such an action is taken only upon the recommendation of the instructor and requires the concurrence of the Dean responsible for the student’s academic program. Supporting evidence is the responsibility of the student and must be submitted in writing to the responsible Dean.
h. "I" The notation of "I" (for Incomplete) is used in instances when course requirements have been very nearly met but for authorized reasons (illness, injury, family emergency, etc.) cannot be completed during the current semester. To be eligible for the grade of "I," students’ work must be satisfactory at the time they are forced to terminate participation in the course. Unsatisfactory work will result in a failing grade. The grade of "I" must be cleared during the next semester in residence or within one year, whichever comes first, or the "I" becomes an "F." The summer session will not be considered a semester in this case. Students may not officially enroll in a course in which they currently have an "I." An extension of time due to extenuating circumstances may be authorized by the Dean responsible for academic program upon the recommendation of the instructor. The removal of the incomplete is the responsibility of the student. The grade of "IP" is assigned for courses in which requirements are not expected to be met in one academic term.
i. "IP" The grade of "IP" must be removed in the next full semester, or the "IP" becomes an "F." The summer session will not be considered a semester in this case. Under extenuating circumstances, an extension may be awarded by the Associate Provost of Academic Affairs with the recommendation of the instructor. The removal of the "IP" is the responsibility of the student. Students may not enroll in a course in which they currently have an "IP".

Grade-Point Average Computation

In computing the undergraduate grade-point average, grades are weighted as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality-Points Per Semester Hour</th>
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<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F, I, W, IP, P, S, and U</td>
<td>0</td>
</tr>
</tbody>
</table>

The grade-point average for any semester is determined by dividing the total number of quality points earned by the total number of hours for which the following grades were received: A, B, C, D, or F.

The cumulative grade-point average on which graduation, academic probation, and academic discharge are based is determined by dividing the number of quality hours attempted at The Citadel by the number of quality hours attempted at The Citadel. The number of quality hours for this purpose includes all credit hours attempted at The Citadel for which the following grades were received: A, B, C, D, or F. The number of quality points earned includes all quality points associated with quality hours earned at The Citadel. The Citadel does not award plus and minus grades for the undergraduate programs.

Dean’s List and Gold Star

The Dean’s List is a recognition given to undergraduate students who have earned 12 or more semester hours excluding Pass-Fail hours whose semester grade-point average is 3.200 or higher, with no grade of “F” and no grade below “C.” A Dean’s List certificate will be awarded to students who meet the requirements for Dean’s List for the work in a semester. Dean’s List is not issued for the summer semester.

Gold Stars are awarded to those students on the Dean’s List who have made a grade-point average of 3.700 or higher for the work of a semester. A Gold Star Recognition certificate will be awarded to students who meet the GPA requirements. Gold Stars are not issued for the summer semester.

Change of Grade

Any change of grade deemed necessary by the faculty member concerned must be based on instructor error and made within one month after the beginning of the next semester in attendance following the recording of the grade. In no case will a grade be changed after one month into the second semester after it was awarded. The summer session will not be considered a semester in this case. After grades in a course have been submitted to the Registrar’s Office, every request for a change of grade must be approved by the department head and the Dean responsible for the academic program. Grade reports are available at the end of each semester and summer session.

Taking or Repeating Courses to Improve the GPA/Grade Replacement

A student may not take or repeat a course which is taught at a lower level than or serves as a prerequisite for a course which the student has already completed. Courses may be repeated under the following conditions:
1. No course may be repeated once a grade of “B” or higher has been earned.
2. If a course is repeated, the last grade of record is used to determine whether course requirements for graduation have been met.
3. If a previously passed course is repeated, the hours may be used only once toward meeting requirements for total hours passed.
4. When courses are repeated under the conditions described above, the original course grade will be replaced by the newer grade when calculating students’ Grade Point Averages (GPAs), quality hours, and earned credit hours. Both the old and new grades will appear on students’ transcripts, but only the newer grade will be used in calculating GPAs. It is the student’s responsibility to complete the grade replacement form to initiate this process.
5. The maximum number of hours for which Grade Replacement will be allowed over the course of a student’s undergraduate career is 16. If a student repeats more than 16 hours of credit, both the old and the new grade will be used to calculate the student’s Grade Point Average (GPA), quality hours, and earned credit hours.
6. For the purpose of determining graduation honors (e.g., cum laude, etc.), both the old grade and the new grade will be used in making the GPA calculation to determine honors eligibility.
7. Students are not eligible for grade replacement after they have completed their degree program.
8. Once grade replacement has been required and applied, it cannot be reversed.

**Academic Forgiveness**

Any undergraduate student who has been separated from The Citadel for 48 or more consecutive months is eligible to apply for Academic Forgiveness. Upon readmission, a student seeking to apply for Academic Forgiveness must first complete 24 hours at The Citadel with a Grade Point Average (GPA) of 2.0 or higher on those 24 hours in order to apply for Academic Forgiveness.

To apply for Academic Forgiveness, a readmitted student who has met the minimum GPA requirement on 24 hours must make a formal written request for an academic “fresh start” and must meet in person with the Associate Provost for Academic Affairs to discuss that application.

If a student is granted Academic Forgiveness, then all previous coursework completed at The Citadel will be treated as transfer credit (i.e., as pass/fail coursework) for the purpose of computing the student’s cumulative Citadel GPA; in addition, courses which the student previously passed at The Citadel with a grade of “D” will continue to be counted in the student’s total earned hours and will not have to be repeated. All previous grades will remain on the student’s permanent record, but they will not be computed in the student’s GPA. The transcript will contain this notation: “Academic Forgiveness was granted as of (date of readmission); grades earned at The Citadel prior to this date are not included in this student’s GPA calculation.” Students who have been granted Academic Forgiveness will not be eligible to receive graduation honors (e.g., cum laude, etc.).

**Pass-Fail**

Undergraduate students with cumulative grade-point average of 2.0 or higher may elect to take elective courses on a Pass-Fail option. Normally, no more than one course may be taken under this option each semester. A student may take the Pass-Fail option only on courses which meet elective requirements. Students may not change their decision to take a course on the Pass-Fail basis after the first two weeks of the term. Courses completed on the Pass-Fail option carry graduation credit, but quality points are not awarded. These courses are not included in grade point ratio computations. Instructors report grades as usual, A through F. The Registrar’s Office translates grades as follows:

- The grades of “A” through “C” as “S” (satisfactory, pass-for credit)
- The grades of “D” or “F” as “U” (unsatisfactory, fail-no credit)
- Students desiring to take a course on the Pass-Fail option should contact the Registrar’s Office.

**Pass-Fail Courses**

For certain courses, such as internships, workshops, professional development courses, etc., a grade of pass or fail may be appropriate. Students taking courses of this nature need to discuss such arrangements with their advisor. Quality points will not be awarded for pass or fail work, and performance that is barely adequate (C+ or below) will not receive credit.

**Grade of “I”**

Incomplete “I” grades must be made up during the term following the recording of the grade. A grade of “I” received in the fall term must be made up by the end of the following spring term. A grade of “I” received in either the spring or summer term must be made up by the end of the following fall term. An extension of time not to exceed one additional term may be authorized for extenuating circumstances by the appropriate dean. Grades not made up within the authorized time limit will convert to a grade of “F,” and such courses will be included in calculating the GPA.

**Cumulative Grade-Point Average**

In addition to completing all specific program requirements, in order to remain in good academic standing, The Citadel requires undergraduates to maintain a 2.0 GPA.

**Graduation**

The Citadel is committed to making the graduation and the commencement experience a special one for its students. The
following policy outlines the procedures for applying to graduate and participation in the annual Undergraduate and Graduate School combined commencement ceremony. It is each student's responsibility to apply to graduate. There are three graduation dates each calendar year. There is a May graduation date at the end of the spring period of instruction, an August graduation date at the end of the summer period of instruction, and a December graduation date at the end of the fall semester period of instruction.

Graduation

1. Applications for graduation are available on Lesesne Gateway, via the Student Tab. Failure to apply by the deadline incurs a late fee, may delay receipt of the diploma, and may prevent the student from participating in the commencement ceremony.

2. The graduation date is the term in which the student completes all requirements. An incomplete grade is a delay in the completion of a requirement, and the posting of the final grade determines the completion of that requirement.

3. Do not select a graduation date until you plan to meet all requirements by that date as applications are processed and diplomas are ordered based on your graduation application. If the graduation date submitted is not met, a new application will be required along with applicable fee, and the diploma will need to be reordered.

4. To be recommended for a degree, students must satisfactorily complete the program requirements and non-program requirements for the degree. Students must be free from all financial indebtedness to The Citadel.

5. Students may apply for graduation and participate in commencement during the academic year in which they are completing their degree requirements.

Participation in the Commencement Ceremony

1. Students must indicate on their application for graduation they intend to participate in commencement ceremonies. If a student does not confirm intent, they will not be permitted to participate in the ceremony.

2. All grade-point average (GPA) requirements have been met. That is, the cumulative and major grade-point averages for undergraduate students must be at least 2.000. For undergraduate Education majors, the cumulative and professional education grade-point averages must be a 2.750. Courses used to calculate the grade point average in the major can be found in the degree program requirements.

3. Undergraduate students must be no more than 15 credit hours short of meeting degree requirements.

4. Students must properly wear official regalia for the commencement ceremony.

5. Students who complete all coursework and degree requirements during the summer session following that year's commencement exercises may participate in that ceremony or can decide to participate in the commencement ceremony the following year.

6. In some cases, students have completed their program requirements but are unable to participate in the commencement ceremony during the year they intended to graduate (e.g. military deployment, career relocation, or illness). In such cases, students may apply to graduate and participate in the next year's commencement ceremony. Students exceeding this one year of eligibility will not be allowed to participate in the commencement ceremony.

7. Children, parents, step-parents, or grandparents who are either graduates of the Corps of Cadets, the Veterans Program, or The Citadel Graduate College may present diplomas to their children, parents, step-parents, grandchildren or grandparents at the commencement ceremony. The graduate must provide The Citadel with their full name, relationship, and graduation year before the stated deadline and for approval.

Commencement Honors

A degree summa cum laude is awarded to undergraduate students in the graduating class who have achieved a grade-point average of 3.900-4.000. A degree magna cum laude is awarded to undergraduate students in the graduating class who have achieved a grade-point average of 3.700-3.899. A degree cum laude is awarded to undergraduate students in the graduating class who have achieved a grade-point average of 3.500-3.699.

Intellectual Property Policy Preamble

The Citadel has among its primary purposes teaching, research, and the expansion and dissemination of knowledge. Products of these endeavors include the development and use of intellectual property. It is the policy of the College that its faculty, staff, and students carry out their scholarly work in an open and free atmosphere that encourages publication and creation of such works without constraint but consistent with applicable laws and College policy. This policy will be in accord with the guidelines and criteria published in The American Association of University Professors’ “Statement of Copyright” (Policy Documents and Reports. Ninth Edition, 2001, or subsequent editions).

Intellectual Property

Ownership of intellectual property will reside with the originator, whether a member of the faculty, staff, or a student, unless: (a) the property is created at the specific direction of the College; or (b) the originator has made exceptional use of College resources in creating it.

At the time when the work is directed by the College or at the time when the College makes exceptional resources available to the originator of intellectual property, the Provost and the originator will together determine ownership and will negotiate a written agreement concerning that property. These determinations will be made on a case-by-case basis.

Nondiscrimination Policy

The Citadel is committed to providing equal opportunities to men and women students in all campus programs, including intercollegiate athletics, in order to make The Citadel the best
coeducational college in America.

This commitment requires that no discrimination shall occur in our admissions policies, academic programs or services, as well as employment practices on the basis of sex, race, color, religion or national origin. This policy is in accordance with Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 as amended. Inquiries concerning the application of Title IX and other nondiscrimination laws may be referred to The Citadel's Affirmative Action Officer and Title IX Coordinator, Bond Hall, Room 369, 171 Moultrie Street, Charleston, South Carolina, 29409, 843-953-6989, or the Assistant Secretary of Education, Civil Rights Division, US Department of Education, Washington, DC 20201-2516.

Repeating a Course

Courses may be repeated only under the following circumstances:

- No courses may be repeated once a grade of "B" or higher has been earned.
- If a class in which a "C+" or "C" was earned is repeated, it may be repeated only one time.
- If a course is repeated, the last grade of record is used to determine whether course requirements for graduation have been met.
- The hours may be used only once toward graduation.
- All courses, previously passed or repeated, will be figured in the student's GPA. No grade previously recorded is removed from the transcript.

Satisfactory Progress and Length of Academic Program

Unless otherwise stated, students are expected to complete all degree requirements within a six (6) year period from the time of registration for the first course in their program. Students who are continuously enrolled and do not finish their degree requirements in the six year time frame, student's will be moved into the most recent catalog at the beginning of their seventh year and will be required to meet any new course and graduation requirements in the new catalog.

Student Academic Grievances

The academic grievance process of the college is reserved for the most serious alleged offenses. These matters deal not with differences of opinion, but with violations of due process; denial of individual rights; or unequal treatment/discrimination based on sex, race, color, or national origin. Students who feel that they have an academic grievance are directed first to confer with the instructor or other individual(s) involved. Where this does not result in satisfaction or if this step is not feasible, the student should present the grievance in writing to the lowest appropriate level not involved in the grievance, department head or Dean.

If the student does not receive a response within a reasonable period of time, normally considered two weeks, a copy of the written grievance may be provided to the next higher academic level not previously involved in the grievance, i.e. the department head or the school Dean, with a request for assistance in resolving the grievance. A final appeal for satisfaction may be made to the Provost. The purpose of this process is to permit each level of the academic level of authority to have the opportunity to resolve the grievance satisfactorily. Students are encouraged to provide a courtesy copy of grievances and appeals to the Associate Provost for Enrollment Management for the record. The Associate Provost will monitor time lines and processes for compliance with procedure and will inform the appropriate level of the academic authority if procedure is not followed.

Student Appeal of Final Grade

A student will have three weeks from when final grades are released to begin this process.

1. The student presents his/her concerns in writing to the instructor and then discusses these concerns. The instructor will respond to the student within three business days. If the student's concerns are not resolved or if the instructor fails to respond within the allotted time, the student can proceed to the next step.

2. The student presents his/her concerns in writing to the department head. (In the event the instructor is the department head, then the dean will play this role, and if the instructor is a dean, then the Associate Provost of Operations will play this role.) The student then meets with the department head to discuss these concerns. The department head will respond to the student within three business days. If the student's concerns are not resolved or if the department head fails to respond within the allotted time, the student can proceed to the next step.

3. The student presents his/her concerns in writing to the dean. (If the student is uncertain of who the dean is, he/she should contact the Associate Provost who will direct the student appropriately.) The student then meets with the dean to discuss these concerns. If the student is not satisfied with the outcome of the discussion, the student will submit a grade appeal form and provide required material to the dean of the school within four weeks from when grades were released.

Examples that can lead to a grade appeal include:

a. The instructor has miscalculated a final grade.
b. The instructor has violated the grading policies outlined in the syllabus.
c. The instructor has violated a college or departmental policy or procedure.

4. The dean will form a grade appeal committee consisting of at least three (3) tenured or tenure-track faculty (two from the relevant academic department and one from outside the department). The dean will provide direction to the committee, including emphasizing the importance of maintaining the confidentiality of the process.

5. The dean may request materials as needed from the instructor regarding the grade appeal, including but not limited to grades, syllabus, and assignments, for the grade appeal committee.
6. The dean may request additional information from the student as needed for the grade appeal committee, as well as ask the student to draft a detailed letter about why he/she is appealing the grade. Note: The grade appeal committee does not interact with the student or instructor. Any needed materials are to be gathered and disseminated by the dean.

7. The grade appeal committee submits its recommendation to the Associate Provost. Potential recommendations that may be forwarded include, but are not limited to:
   a. Change of grade
   b. Late Withdrawal
   c. Change of grade to Pass/Fail option
   d. Opportunity to repeat class at no cost
   e. Appeal is denied

8. The Associate Provost will notify the student and instructor of the appeal decision within 15 business days of receipt of the grade appeals form. The names of the members of the grade appeal committee are not shared in the decision letter nor are they shared with the course instructor or the student.

Student Responsibility

The College and departments establish certain academic requirements that must be met before a degree is granted. Advisors, department heads, and Deans are available to help the student understand and arrange to meet these requirements, but the student is responsible for fulfilling them. If, at the end of a student’s course of study, the requirements for graduation have not been satisfied, the degree will not be granted. For this reason, it is important for each student to be acquainted with all academic, financial, and administrative requirements within the prescribed deadlines and time limits.

Transcript

A transcript is a confidential document and is released only when students make a request online at www.citadel.edu/root/registrar-transcripts. The transcript fee is based on the method of delivery. Transcripts can be sent electronically, mailed, or picked up in the Registrar’s Office. An official college transcript is one that is sent directly from The Citadel to the requestor. It bears the College’s seal, along with a date and official signature. Most colleges require the official record. Transcripts sent from other colleges to The Citadel become the property of The Citadel and cannot be issued to the student as a third party.

Leave of Absence Policy

There are many reasons why undergraduate students could miss courses in a given academic year. These include medical reasons, military deployment, temporary changes in job status, or other reasons. In an effort to better identify students in these situations, along with providing a mechanism that grants a respite from the time limits for degree completion, a leave of absence policy has been created. This policy also excludes students who have not enrolled in courses in a given semester. Since they will be recognized as “on leave,” these students will not be included in the list of students eligible to be contacted by The Citadel. The following outlines the parameters of The Citadel’s Leave of Absence Policy.

Leaf of Absence Request

Students who intend to take a pause from enrolling in courses for up to three semesters in a given academic year can communicate this to the Office of the Registrar through an online web form, available at http://www.citadel.edu/registrar-forms. Students may request a leave of absence for up to three semesters in an academic year (including summer, which constitutes a single term). Students with an approved leave of absence need not reapply for admission to the College unless the leave extends beyond three semesters in a given academic year. In such cases, they must request to reactivate their student record for their program of study using the form available on the Registrar’s Office webpage mentioned above.

A leave of absence request should normally occur prior to the drop/add date. If the student’s request is made after these deadlines, a reasonable and compelling explanation for the delay must accompany the request. In such cases, supporting documentation (e.g., medical, mental health, deployment, temporary job transfer) should be provided with the request. The decision to grant the leave of absence is at the discretion of the Associate Provost of Enrollment Management. Students who request a leave of absence after the drop/add date during the semester may be responsible for at least a portion of the tuition for the classes in which they are enrolled. In such cases, students should consult with the Treasurer’s Office as well as the Office of Financial Aid to determine if their time away from campus affects their student loan eligibility.

Student Services

Student Success Center

The Citadel’s Student Success Center (SSC) provides a wide range of academic support services. Included among these are the enhancement of writing, mathematical, and reading skills; the general improvement of academic performance in all subject areas; and an emphasis on retention throughout The Citadel’s academic community. In addition to individual and small-group tutorials held in the Center, the staff conducts requested workshops for both graduate and undergraduate classes.

In all of its activities, the Center strives to assure that its efforts are consistent not only with the mission statement of The Citadel, but also with the objectives of the academic departments and specific graduate programs. Although there may be an occasional exceptional situation in which it is appropriate to restrict the nature of the assistance that may be offered by the Center (e.g., because of specific program accreditation issues that might impact, say, a particular assignment), all students are encouraged to take advantage of the resources offered by the Student Success Center.

Campus Alcohol and Drug Information Center (CADIC)
The Citadel prohibits the use of illegal drugs by faculty, staff, and cadets, and it supports only the legal use of prescription drugs, alcohol, and tobacco. The Citadel has a clear and unwavering policy of zero tolerance to drugs. Whether on or off campus, the possession, solicitation, distribution, sale or use of hallucinogenic, narcotic, other controlled drugs or substances, or any drug paraphernalia, except in accordance with a legal prescription for such substances for the student possessing and using it, will result in permanent expulsion. The Citadel reserves the right to test members of the Corps and conduct periodic searches of campus property for the presence of illegal drugs and controlled substances. The use of tobacco or smoking products of any type is prohibited on property owned or controlled by The Citadel except for campus residences (not including the barracks) and as authorized by the President. The Alcohol and Drugs Policy is here. The Tobacco-Product Free Campus Policy is here.

For private and confidential assistance with alcohol, tobacco and other drug concerns, please contact the Director of the Campus Alcohol and Drug Information Center (CADIC), Mr. Kevin M. Modglin, kmodglin@citadel.edu, 843-953-0510 [office], 843-813-6326 [cell/text] or visit in Mark Clark Hall, Room 217. Remote appointments via Skype, Zoom, or FaceTime are also available. Additional information is available at www.citadel.edu/root/cadic.

Disability Services

Services for Students with Disabilities empowers students to manage challenges and limitations that may be characteristic of their particular disabilities. Our professionally trained staff provide students with exceptional services as they transition to college or continue their studies at The Citadel. The office serves students with learning, physical, health, or psychiatric disabilities by managing the varying demands of The Citadel experience. In addition, to serving students, the staff assists The Citadel community in making programs, services, and activities accessible to everyone. The Student Success Center provides services and academic accommodations for both graduate and undergraduate students with documented disabilities.

Office of Multicultural and International Student Services

Bridging together history, tradition & cultures within The Citadel Family and around the world, the Office of Multicultural and International Student Services enhances the undergraduate experience through co-curricular programs and culturally relevant services that are meant to empower students in their identity, build community, and help a diverse group of students find their individual and collective voices.

Veteran Student Success Center

The Citadel’s Veteran Student Success Center provides an array of resources and support for veteran students and those still serving in the military, as well as their dependents. In addition to providing a physical space where students can gather, the center serves as an on-ramp to navigating and accessing military-related education benefits.

Our services are intended to empower veteran and military students at every point in their academic journey, whether they are new to The Citadel, pursuing post-graduate work or seeking to enter the workforce.

Class Ring

All students graduating from bachelor or master level degree programs are eligible for the undergraduate/graduate Class ring. Students may order their ring upon completion of fall but the final two semesters of coursework and must possess an overall 2.0 GPA. To place a class ring order, contact the Alumni Center at (843) 953-7698. The Alumni Center will verify eligibility with the Registrar.

Housing

Housing in barracks is available to any student enrolled in classes at The Citadel during Summer School. However, it is not mandatory for any student to live on campus during Summer School. The online “Schedule of Summer Classes” provides information on the cost of living in barracks housing.

Parking

Ample and secure parking is available on campus for Graduate and undergraduate on-campus students and all on-campus summer school students. All automobiles parked within The Citadel gates are required to have a parking decal. Using your @nation.citadel.edu email address to order and pay for your decal online at https://citadelaimsparking.com/ and then pick it up in person at 208 Richardson. If you cannot order the pass online, come by the office and it will be billed to your student account. Two and three wheel motorized vehicles may not be operated on campus.

Recreation

Campus recreational facilities are available to students enrolled in classes. These facilities include the Deas Hall weight room, racquetball courts, swimming pool, gymnasium, tennis courts, track, boating center, and The Citadel Beach House located on the Isle of Palms. Students must show The Citadel identification card to use these facilities.

Student Identification Cards

Summer School students attending on-campus courses obtain a Citadel identification card as well as all students attending fall and spring terms. This card is necessary for accessing student services such as the library.

Cadets and Evening/Online Program

In some instances, students may decide to transfer from the South Carolina Corps of Cadets (SCCC) to an Evening or Online degree program. If a cadet is in good academic standing and is not serving a suspension or dismissal from the SCCC for disciplinary or honor issues, he or she may simply apply to the undergraduate transfer program through the College Transfer
In such cases, a review of the cadet’s transcripts will be made by the Associate Provost or designee, who will also explain the differences between the two programs, including a different class ring, diploma, and participation in the undergraduate commencement ceremony which is different from the Cadet ceremony. The Registrar’s Office will amend the degree audit to reflect the differences in general education and degree requirements.

If a cadet has been suspended or dismissed from the SCCC for academic reasons and wishes to apply to a major in the Evening or online undergraduate program after serving the imposed punishment, the student is required to meet with the Associate Provost of Academic Affairs who will, if appropriate, create an academic improvement plan that the student agrees to follow as a condition of reinstatement to The Citadel. If a cadet is suspended or dismissed from the SCCC for non-academic reasons, admission into an undergraduate transfer program after serving the imposed punishment is contingent upon completing the criteria, if any, for reinstatement outlined in his or her special order. A copy of the special order, along with documented evidence of completion of the stipulations, should be presented to the Associate Provost of Academic Affairs, who will determine if all the conditions for reinstatement have been met.

Although transfer from the SCCC into the Evening or Online programs is usually permanent, a former cadet in good standing in one of these programs may petition to be readmitted to the SCCC. The student seeking reinstatement in the SCCC must make written application to the Associate Provost for Academic Affairs, explaining the reason for the proposed transfer. The student must meet all criteria for readmission, and, if approved by the Associate Provost for Academic Affairs to return to the SCCC, must follow the readmission process as put forth in the SCCC catalog.

If a cadet has been expelled or resigned from the SCCC for any reason, he or she is not eligible to return to The Citadel in any program.
EVENING/ONLINE
UNDERGRADUATE
DEGREE PROGRAMS
Bachelor of Arts in Criminal Justice

Department of Criminal Justice
843-953-0319
www.citadel.edu/root/eveningundergraduatestudies-
2-2-programs/criminal-justice

Dr. Matthew Zommer
mzommer@citadel.edu

The online degree completion program in criminal justice was created to provide students with an opportunity to receive a four-year degree from The Citadel online. The requirements for the major consist of a total of 65 general elective credit hours and 55 upper division credit hours.

Mission Statement

The mission of the Criminal Justice program is to foster an intellectually stimulating educational experience that prepares students to work within the criminal justice system and its related fields, as well as laying the academic foundation for graduate study. This is accomplished by developing students’ understanding of the causes of crime, which includes a grasp of the larger social context in which crime occurs, the operation and effectiveness of agencies within the criminal justice system, as well as developing students’ analytical skills that enable them to conduct and evaluate criminal justice-related research.

Expected Student Learning Outcomes

Upon completion of the program, students should generally possess:

• An understanding of the theories relating to crime causation and criminality
• An understanding of the interdisciplinary nature of the criminal justice system
• Skills that enable the student to conduct and evaluate criminal justice-related research
• Advanced reading, writing, and verbal communication skills
• An understanding of administrative principles and practices found in criminal justice agencies

Transfer Articulation from South Carolina Technical Colleges

Please note that the table below is only an advising tool with a suggested sequence of courses for students who are beginning their college coursework within the South Carolina Technical College System with the intent to transfer to The Citadel. The Citadel’s degree completion programs offer significant flexibility with course selection and transfer credits that provides additional choices as noted in the official degree.

Completion program of study.

Within the minimum 30 hours required transfer credits for admission into the program, all transfer students into this program are recommended to have transfer credit for:

English Composition (six hours)
Mathematics (three hours)
Physical Science (eight hours)
Criminal Justice – Introduction to Criminal Justice
Computer – Introduction to Computers

Program of Study

Courses Taken at a South Carolina Technical College (or equivalent): 65 credit hours

Writing/English Composition (six hours)

Humanities/Foreign Language (six hours)

History (six hours)

Mathematics (six hours)

Physical Science (eight hours)
Courses must have lab, not necessarily sequential

Social Science (six hours)

Criminal Justice Major (six hours)
CRJ-101 Introduction to Criminal Justice 3
CRJ-125 Criminology 3

Lower Division Electives 21 hours (Any Courses Apply)

Recommended for technical college CRJ Students
CPT-101 Intro to Computers
CRJ-120 Constitutional Law
CRJ-130 Police Administration
CRJ-210 Juvenile and the Law
CRJ-220 Judicial Process
CRJ-236 Criminal Evidence
CRJ-242 Correctional Systems

Recommended for technical college AA Students
CPT-101 Intro to Computers
Oral Communications
Literature
Humanities/Social Sciences/Communication

Courses Taken at The Citadel: 55 credit hours

EUGS-101 Introduction to The Citadel Experience 1
(Must be taken in first semester at The Citadel)

Required courses if not taken at a technical college
CRMJ-201 Intro to Criminal Justice 3
CRMJ-202 Criminology 3
Required Courses
CRMJ-370 Police Systems 3
CRMJ-380 Corrections 3

Upper Level Elective Courses in the Major:
33 Credit Hours
(Must be at 300 level or higher)

Note: CRMJ-201 is a prerequisite for all criminal justice courses except CRMJ-202. Students may choose from the following list of upper level elective courses in criminal justice. Other courses may be included as they are developed and approved by the department.

CRMJ-330 Emergency Management 3
CRMJ-331 Cyber Investigations 3
CRMJ-332 Comparative Homeland Security 3
CRMJ-333 Immigration and Security 3
CRMJ-371 Criminal Law 3
CRMJ-372 Critical Issues in Law Enforcement 3
CRMJ-373 Criminal Evidence 3
CRMJ-375 Criminal Justice Administration 3
CRMJ-381 Organized Crime 3
CRMJ-382 Drugs and Crime 3
CRMJ-383 Comparative Criminal Justice Systems 3
CRMJ-384 International Crime 3
CRMJ-385 Juvenile Delinquency 3
CRMJ-386 Research Methods in Criminal Justice 3
CRMJ-387 Criminal Investigation 3
CRMJ-388 White Collar Crime 3
CRMJ-389 Justice in Latin America 3
CRMJ-390 Victimology 3
CRMJ-391 Criminalistics 3
CRMJ-392 Computer Crime 3
CRMJ-393 Homicide 3
CRMJ-465 Special Topics in Criminal Justice 3
CRMJ-470 Ethics 3
CRMJ-471 Psychology of Crime 3
CRMJ-472 Crime Prevention 3
CRMJ-498 Independent Study 3
CRMJ-499 Internship 3
INTL-210 Homeland Security 3
INTL-310 Intelligence Collection Systems & Programs 3
INTL-311 US Intelligence Systems & Failures 3

Three of the following courses can count as an upper level elective in the major:

Electives: (three courses, nine credit hours)
PSCI-302 Urban Politics 3
PSCI-310 Domestic Terrorism 3
PSCI-311 The Civil Rights Movement & American Politics 3
PSCI-342 International Terrorism 3
PSCI-361 Law and Legal Process 3
PSCI-392 Political Theory 3
PSCI-401 Public Policy Process 3
PSCI-461 Issues in Contemporary Constitutional Law 3
PSCI-462 Constitutional Law: Civil Rights & Liberties 3
SOCI-201, 202 and any 300-400 level course in sociology

Credit for CRMJ-498 (Independent Study) and CRMJ-499 (Internships): Approval is required from the participating faculty member and the department head.

Upper Level Elective Courses: 15 Credit Hours
(Must be courses at the 300-400 level)

Total Credit Hours: 120 credit hours

Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of CRMJ and INTL will count towards the major GPA.
Bachelor of Arts in Intelligence & Security Studies

Department of Intelligence & Security Studies
843-953-6886
www.citadel.edu/root/eveningundergraduatestudies-s-2-2-programs/intelligence

Dr. Larry Valero lvalero@citadel.edu

The degree completion program in intelligence and security studies was created to provide students with an opportunity to receive a four-year degree from The Citadel online. The requirements for the major consist of a total of 59 general elective credit hours and 61 upper division credit hours.

Mission Statement

The mission of the Intelligence & Security Studies program is to foster an intellectually stimulating educational experience that prepares students to work within the intelligence and security studies community and its related fields, as well as laying the academic foundation for graduate study. This is accomplished by developing students’ understanding, knowledge, skills, and abilities valued by the U.S. Intelligence Community (IC). This major seeks to develop each student’s capabilities for critical thinking and systematic analysis and is designed to increase the student’s knowledge of effective leadership for national security.

Expected Student Learning Outcomes

Upon completion of the program, students should generally possess:

- An understanding of global and national threats to U.S. security;
- Knowledge of organizational structures and operations of civilian and military intelligence agencies;
- An understanding of national and international intelligence and security strategies;
- Knowledge of intelligence management principles, tools, and applications;
- An understanding of leadership principles as they apply to military and civilian intelligence agencies;
- An understanding of the role of ethics and integrity for intelligence and security professionals;
- The ability to perform tactical, operational, and strategic analysis;
- An understanding of collection strategies in military and civilian intelligence;
- Knowledge of global, national, and regional threats to security;
- The ability to utilize critical thinking skills in all areas of collection and analysis;
- Enhanced written and oral skills in communicating intelligence findings to policy/decision makers at all levels.

- An understanding of the functional areas of intelligence (collection, analysis, counterintelligence, covert action, and intelligence management) and how each can advance national objectives;
- The ability to collaborate and work effectively in teams;
- Knowledge of the principles and fundamentals of cybersecurity.

Transfer Articulation from South Carolina Technical Colleges

Please note that the table below is only an advising tool with a suggested sequence of courses for students who are beginning their college coursework within the South Carolina Technical College System with the intent to transfer to The Citadel. The Citadel’s degree completion programs offer significant flexibility with course selection and transfer credits that provides additional choices as noted in the official degree completion program of study.

Within the minimum 30 hours required transfer credits for admission into the program, all transfer students into this program are recommended to have transfer credit for:

- English Composition (six hours)
- Mathematics (three hours)
- Physical Science (eight hours)

Program of Study

Courses Taken at a South Carolina Technical College (or equivalent): 59 credit hours

Writing/English Composition (six hours)

Fine Arts/Humanities/Ethics/Foreign Language/other courses with significant cross-cultural content (six hours)

History (six hours)

Mathematics (six hours)

Physical Science (eight hours)

Courses must have lab, not necessarily sequential

Social Science (six hours)

Lower Division Electives 21 hours (Any Courses Apply)

Courses Taken at The Citadel: 61 credit hours

EUGS-101-Introduction to The Citadel Experience (Must be taken in first semester at The Citadel)

Required Core Courses: 18 credit hours

CSCI 227 Introduction to Cybersecurity
INTL 201 Introduction to Intelligence Studies
INTL 210 Homeland Security

32 College Transfer Program Undergraduate Academic Catalog
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>INTL 301</td>
<td>Advanced Analytics</td>
<td>3</td>
</tr>
<tr>
<td>INTL 310</td>
<td>Intelligence Collection Systems &amp; Programs</td>
<td>3</td>
</tr>
<tr>
<td>INTL 403</td>
<td>Intelligence Capstone</td>
<td>3</td>
</tr>
</tbody>
</table>

**General Intelligence Elective Courses in the Major:**

**24 credit hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 202</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 207</td>
<td>Bioterrorism</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 331</td>
<td>Cyber Investigations</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 332</td>
<td>Comparative Criminal Justice Systems</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 333</td>
<td>Immigration and Security</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 381</td>
<td>Organized Crime</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 384</td>
<td>International Crime</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 392</td>
<td>Computer Crime</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 327</td>
<td>Computer Security</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 427</td>
<td>Advanced Cybersecurity</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 301</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 311</td>
<td>Economic Geography</td>
<td>3</td>
</tr>
<tr>
<td>HIST 206</td>
<td>History of the Non-Western World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 326</td>
<td>Europe Since 1914</td>
<td>3</td>
</tr>
<tr>
<td>HIST 356</td>
<td>The History of Africa</td>
<td>3</td>
</tr>
<tr>
<td>HIST 362</td>
<td>Modern Middle East</td>
<td>3</td>
</tr>
<tr>
<td>HIST 388</td>
<td>U.S. Foreign Relations since 1898</td>
<td>3</td>
</tr>
<tr>
<td>HIST 389</td>
<td>The Global Cold War, 1917-1991</td>
<td>3</td>
</tr>
<tr>
<td>INTL 311</td>
<td>Intel Successes and Failures</td>
<td>3</td>
</tr>
<tr>
<td>INTL 312</td>
<td>America’s Drone Campaign Since 9/11</td>
<td>3</td>
</tr>
<tr>
<td>INTL 401</td>
<td>Intelligence Support to Military Operations</td>
<td>3</td>
</tr>
<tr>
<td>INTL 402</td>
<td>The Military Instrument of Power</td>
<td>3</td>
</tr>
<tr>
<td>INTL 464</td>
<td>Intelligence Internship</td>
<td>3</td>
</tr>
<tr>
<td>INTL 465</td>
<td>Special Topics in Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 310</td>
<td>Domestic Terrorism</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 332</td>
<td>National Security Policy</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 336</td>
<td>Russia and the Commonwealth of Independent States</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 339</td>
<td>Middle Eastern Affairs</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 342</td>
<td>International Terrorism</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 346</td>
<td>Multinational Peacekeeping</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 401</td>
<td>Political Issues and Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 431</td>
<td>American Foreign Relations</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 433</td>
<td>Topics in International Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Students are required to take six upper level (300+) elective courses outside of General Intelligence Elective Course List:**

**18 credit hours**

**Total Credit Hours: 120**

**Computation of Major GPA**

All undergraduate courses taken at The Citadel with a subject prefix of ANTH, CRMJ, INTL, and PSCI will count towards the major GPA.
Bachelor of Arts in Political Science

Department of Political Science
843-953-5072
www.citadel.edu/root/eveningundergraduatestudies-2-2-programs/political-science

Dr. Dubose Kapeluick, Department Head
843-953-2037
dubose.kapeluck@citadel.edu

Brad Collins, Advisor
843-953-4852
collinsb1@citadel.edu

Mission Statement

The mission of the degree completion program in Political Science is to foster an intellectually stimulating experience that prepares students to work within political science and its related fields as well as laying the academic foundation for graduate study.

Majoring in political science affords students an opportunity to obtain a broad liberal arts education that enriches their lives and acquaints them with the rights and responsibilities of citizenship. As a central element of a liberal arts education, political science provides preparation for graduate education and for the pursuit of useful and satisfying careers.

While our faculty represents a wide variety of theoretical and methodological approaches, we share a strong interest in solving the puzzles of contemporary political life. In carrying out its teaching mission, the political science faculty is devoted to providing individualized attention aimed at encouraging students to enhance their critical-thinking and problem-solving skills while further honing real-life skills related to reading, writing, listening and speaking.

Transfer from South Carolina Technical Colleges

Please note that the table below is only an advising tool with a suggested sequence of courses for students who are beginning their college coursework within the South Carolina Technical College System with the intent to transfer to The Citadel. The Citadel's degree completion programs offer significant flexibility with course selection and transfer credits that provides additional choices as noted in the official degree completion program of study.

Transfer Articulation from South Carolina Technical Colleges

Please note that the table below is only an advising tool with a suggested sequence of courses for students who are beginning their college coursework within the South Carolina Technical College System with the intent to transfer to The Citadel. The Citadel's degree completion programs offer significant flexibility with course selection and transfer credits that provides additional choices as noted in the official degree completion program of study.

Within the minimum 32 hours required transfer credits for admission into the program, all transfer students into this program must have transfer credit for:

- English Composition (six hours)
- Mathematics (three hours)
- Physical Science (eight hours)
- Political Science – American Government; State and Local Government; Introduction to International Relations
- Criminal Justice - Criminology
- Computer – Introduction to Computers

Program of Study

Courses taken at a South Carolina Technical College (or equivalent): 68 credit hours

- Writing/English Composition (6 hours)
- Humanities/Foreign Language (6 hours)
- History (6 hours)
- Mathematics (6 hours)
- Science (8 hours with lab, not necessarily sequential)
- Social Science (9 hours)
  - PSC 201 American Gov. 3
  - PSC 215 State and Local Gov. 3
  - ECO 210 Macroeconomics 3
- Lower Division Electives (27 hours)
  - Oral Communication 3
  - CPT 101 Introduction to Computers 3
  - SOC 101 Introduction to Sociology 3
  - PSC 220 Introduction to International Relations 3
  - CRJ 125 Criminology 3
- Any courses in Humanities/Social Sciences/Communication (for a total of 9 hours)

Courses taken at The Citadel: 52 credit hours

EUGS 101-Introduction to The Citadel Experience 1

Courses taken at The Citadel: 52 credit hours

Required Major Courses: 6 hours
Upper Level Elective Courses in Major: 15 hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRMJ 465</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 202</td>
<td>Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 499</td>
<td>Internship*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Law and Legal Studies Subfield Electives: 12 hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCI 301</td>
<td>American Parties and Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 302</td>
<td>Urban Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 304</td>
<td>American Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 305</td>
<td>American Presidency</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 306</td>
<td>Legislative Process</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 307</td>
<td>Southern Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 308</td>
<td>Public Opinion</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 310</td>
<td>Domestic Terrorism</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 311</td>
<td>The Civil Rights Movement and American Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 371</td>
<td>Leadership in Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 393</td>
<td>Research Methods in Political Science</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 396</td>
<td>Politics and the Media</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 402</td>
<td>Politics of Bureaucracy</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 403</td>
<td>Topics in American Government &amp; Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 431</td>
<td>American Foreign Relations</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 492</td>
<td>Special Topics in Political Science: Modern Ideologies</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 498</td>
<td>Independent Study*</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 499</td>
<td>Internship*</td>
<td>3</td>
</tr>
</tbody>
</table>

Pre-Law and Legal Studies Subfield Electives: 12 hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCI 304</td>
<td>American Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 311</td>
<td>The Civil Rights Movement and American Politics</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 331</td>
<td>International Law</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 393</td>
<td>Research Methods in Political Science</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 402</td>
<td>Politics of Bureaucracy</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 463</td>
<td>Topics in Law and Legal Studies</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 498</td>
<td>Independent Study*</td>
<td>3</td>
</tr>
<tr>
<td>PSCI 499</td>
<td>Internship*</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 201</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 202</td>
<td>Criminology</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 411</td>
<td>Writing in the Professions</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201</td>
<td>Principles of Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 465</td>
<td>Special Topics in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 371</td>
<td>Criminal Law**</td>
<td>3</td>
</tr>
<tr>
<td>CRMJ 373</td>
<td>Criminal Evidence</td>
<td>3</td>
</tr>
</tbody>
</table>

*Credit for PSCI 498 (Independent Study) and PSCI 499 (Internship): Approval is required from the participating faculty member and the program director.

**CRMJ 371 Criminal Evidence may not be taken for credit if student took CRJ 115 Criminal Law I at TTC (see Fifth Semester Spring)**

Departmental Elective: 3 hours
Any course with an ANTH, PSCI, SOCI prefix

Upper Level Elective Courses in Major: 15 hours
Must be courses at the 300-400 level.

**Total Program Credit Hours: 120**

Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of PSCI will count towards the major GPA.
Bachelor of Science in Business Administration

Tommy and Victoria Baker School of Business
843-953-5056 www.citadel.edu/finishmyba

Todd Drew, Ed.D.
Undergraduate Completion Program Director
tdrew1@citadel.edu

Brian Tucker, M.F.A.
Undergraduate Completion Advisor
843-953-5257, btucker2@citadel.edu

Mission Statement

The mission of the Tommy and Victoria Baker School of Business is to educate and develop leaders of principle to serve a global community.

Program Description

The Citadel's Bachelor of Science in Business Administration is a degree completion program offering upper level business and elective courses in the evening and online. During summer semester, additional general education and lower level business courses may be available.

Students may begin taking Citadel courses at any time as long as 30 college credit hours have been transferred to The Citadel and prerequisites have been met. Students planning to enroll at The Citadel with the minimum credit hours are encouraged to complete English Composition I and II, College Algebra, a second advanced math course, Probability and Statistics, Micro and Macroeconomics, and Financial and Managerial Accounting, as these courses are not regularly taught in the evening or online.

The Business Administration program consists of 60 hours of general education and lower division courses, 42 credit hours of upper division courses at The Citadel, and 18 credit hours of elective courses.

Transfer Articulation from South Carolina Technical Colleges

Please note that the following table is only an advising tool with a suggested sequence of courses for students who are beginning their college coursework within the South Carolina Technical College System with the intent to transfer to The Citadel. The Citadel's degree completion programs offer significant flexibility with course selection and transfer credits that provides additional choices as noted in the official degree completion program of study. Within the minimum 30 hours required transfer credits for admission into the program, all transfer students into this program are required to have transfer credit for the following:

- English Composition (six hours)
- Mathematics (six hours)
- Physical Science (eight hours)
- Probability and Statistics (three hours)
- Accounting 201/202 (six hours)
- Micro & Macro Economics (six hours)

<table>
<thead>
<tr>
<th>Program of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses Taken at a SC technical college (or equivalent): 71 credit hours</td>
</tr>
<tr>
<td>Writing/English Composition (6 hours)</td>
</tr>
<tr>
<td>ENG-101 English Composition I</td>
</tr>
<tr>
<td>Additional Composition or English Course</td>
</tr>
<tr>
<td>Humanities/Foreign Language (6 hours)</td>
</tr>
<tr>
<td>Any Two Humanities or Foreign Language Courses</td>
</tr>
<tr>
<td>Mathematics (6 hours)</td>
</tr>
<tr>
<td>MAT-109 College Algebra with Modeling</td>
</tr>
<tr>
<td>Or MAT-110 College Algebra</td>
</tr>
<tr>
<td>Any additional advanced Math Course (to include MAT 130)</td>
</tr>
<tr>
<td>History (6 hours)</td>
</tr>
<tr>
<td>Any Two History Courses</td>
</tr>
<tr>
<td>Physical Science (8 hours)</td>
</tr>
<tr>
<td>Courses must have lab and need not be sequential</td>
</tr>
<tr>
<td>Any Two Lab Science Courses</td>
</tr>
<tr>
<td>Social Science (6 hours)</td>
</tr>
<tr>
<td>ECO-210 Macroeconomics</td>
</tr>
<tr>
<td>ECO-211 Microeconomics</td>
</tr>
<tr>
<td>Business Major Courses (9 hours)</td>
</tr>
<tr>
<td>MAT-120 Probability &amp; Statistics</td>
</tr>
<tr>
<td>ACC-101 Accounting Principles I</td>
</tr>
<tr>
<td>ACC-102 Accounting Principles II</td>
</tr>
<tr>
<td>Electives taken at a SC technical college or another institution (18 hours)</td>
</tr>
</tbody>
</table>

Courses Taken at The Citadel: 49 credit hours

- EUGS 101-Introduction to The Citadel Experience (Must be taken in first semester at The Citadel) | 1 |

36 College Transfer Program Undergraduate Academic Catalog
### Business Major Requirements: (27 Credit Hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANA-101</td>
<td>Principles of Business Analytics</td>
<td>3</td>
</tr>
<tr>
<td>BLAW-305</td>
<td>Legal &amp; Ethical Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>COMM-216</td>
<td>Communications in Business</td>
<td>3</td>
</tr>
<tr>
<td>MKTG-301</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>SCMT-301</td>
<td>Principles of Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>FINC-321</td>
<td>Principles of Finance</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-303</td>
<td>Management &amp; Org. Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-305</td>
<td>Business Leadership</td>
<td>3</td>
</tr>
<tr>
<td>MGMT-449</td>
<td>Strategic Management</td>
<td>3</td>
</tr>
</tbody>
</table>

### Business Electives (12 Hours)

Upper Level Courses in:
- Accounting
- Business
- Construction Management
- Economics
- Entrepreneurship
- Finance
- Hospitality Management
- Human Resource Management
- Logistics
- Management
- Marketing
- Real Estate
- Supply Chain Management

### Upper Level General Electives (9 hours)

Any 300- or 400-level courses offered in the evening or online at The Citadel. Students must meet any prerequisites required to register for each respective course.

**Total Credit Hours: 120**

### Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of ACCT, BANA, BLAW, ECON, ENTR, FINC, MGMT, MKTG, and SCMT will count towards the major GPA.

### Minimum Grade Requirement

All Business Administration students must complete a set of core business courses in addition to the general education curriculum. In order to continue in their major, students must achieve a grade of “C” or higher in each of the following core business courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201</td>
<td>Principles of Financial Accounting</td>
</tr>
<tr>
<td>ACCT 202</td>
<td>Principles of Managerial Accounting</td>
</tr>
<tr>
<td>BANA 101</td>
<td>Principles of Business Analytics</td>
</tr>
<tr>
<td>BLAW 301</td>
<td>Legal &amp; Ethical Environment of Business</td>
</tr>
<tr>
<td>ECON 201</td>
<td>Principles of Microeconomics</td>
</tr>
<tr>
<td>ECON 202</td>
<td>Principles of Macroeconomics</td>
</tr>
<tr>
<td>FINC 301</td>
<td>Principles of Finance</td>
</tr>
</tbody>
</table>
Bachelor of Science in Nursing

Swain Department of Nursing
843-953-1630
www.citadel.edu/root/eveningundergraduatestudies-2-2-programs/nursing

Dr. Kimberly Subasic
Dept Head and Program Director
Ksubasic@citadel.edu

Mission

The mission of the Nursing Program is to educate and develop our students to become principled leaders in the health care environment and profession of nursing by incorporating the core values of The Citadel of honor, duty and respect into the learning experience.

Program Description

The 2 + 2 transfer program in nursing was created to provide students with an opportunity to receive a four-year degree from The Citadel. The program is a full-time, cohort-based program. Students are expected to complete the program in two years (Summer, Fall & Spring each academic year) with their cohort. The requirements for the major consist of a total of 60 upper division credit hours: 38 credit hours in the major and nine credit hours of inter-professional health related courses and 12 elective credit hours, 9 of which must be in an approved health-related course.

Expected Student Learning Outcomes

The purpose of The Citadel nursing program is to prepare nurses at the baccalaureate level to assume leadership roles within the healthcare team, providing for quality and safe practice in a complex health care environment. Specifically, students will:

- Understand and apply health promotion and disease prevention to individuals, families, communities and the global world throughout the health continuum.
- Understand the role of the professional nurse relative to health finance and regulatory policies.
- Demonstrate the professional values of human dignity, integrity, social justice, altruism and autonomy within legal and ethical boundaries in order to maximize patient safety and optimize quality care.

Admission Requirements

In addition to The Citadel's Admissions Requirements, the nursing program considers the following in the competitive admissions process:

1. A cumulative GPA of 3.0 or higher.
2. Completion of the required prerequisite courses from an accredited technical college or other accredited college or university. Particular weight is given to the grades earned in the required science, math, and social science courses on the applicant's transcripts.
3. Completion of the questionnaire and written essay.
4. All science courses must have been completed within 5 years of the date of the admissions application.

The Bachelor of Science in Nursing (BSN) program requires 60 credit hours of general education and nursing prerequisite courses. These courses will be taken at another institution for transfer. The student must complete the required courses with a minimum of a "B" grade in each course: two semesters of English; one semester of history; two semesters of general chemistry with a lab; two semesters of anatomy and physiology with a lab; one semester of general biology with a lab; one semester of microbiology with a lab. It is preferred that applicants also have the following social science courses: psychology, developmental psychology, and sociology. These courses may be taken concurrently with Citadel courses but must be completed before the start of the fourth semester.

Program Start Date

The 2 + 2 transfer program in nursing starts a cohort each Summer (May). Applicants may apply in the Fall for consideration of early admission; Deadline for early admission is October 1. The final admission date is March 1. All admission material must be received by these dates for an application to be considered for admission into the summer cohort. Those applicants chosen to be part of the cohort will be notified of their offer of admission by April 1.
Research Opportunities

Clinical practice partners are increasingly interested in scientific evidence to support the practice of nursing and students have an opportunity to support this need through evidence-based projects. Students are encouraged to participate with faculty in research and evidence based practice projects when possible. As a developing science, the opportunities for research in nursing are numerous.

Progression Policy

To successfully progress through the Nursing program, students must maintain a cumulative GPA of 3.000 and achieve a minimum “B” grade in all nursing and science courses. Students may repeat only one nursing course once over the course of their tenure in the program, valid reasons for course repetition include: Grade “C” or below, or a withdrawal. If the student fails to meet the minimum grade requirement on the second attempt, they may not take the course again and cannot continue to progress through the program.

Program of Study

Courses Transferred from a South Carolina Technical College or equivalent: 60 Credit Hours

| Writing/English Composition (6 hours) | 6 |
| History (3 hours) | 3 |
| Mathematics (6 hours) | |
| College Algebra | 3 |
| Statistics | 3 |
| Science (24 hours) | |
| Anatomy and Physiology I + Lab | 4 |
| Anatomy and Physiology II + Lab | 4 |
| College Chemistry I + Lab | 4 |
| College Chemistry II + Lab | 4 |
| General Biology + Lab | 4 |
| Microbiology + Lab | 4 |
| Social Science (9 hours) | |
| General Psychology | 3 |
| Human Growth and Development | 3 |
| Sociology | 3 |

*Preferred that applicants have these social science courses. May be taken concurrently with Citadel courses. Must be completed before start of fourth semester.

Electives (12 hours)

Courses Taken at The Citadel: 60 Credit Hours

| EUGS 101 Introduction to The Citadel Experience (Must be taken in first semester at The Citadel) | 1 |

Required Courses (49 credit hours)

| NURS 340 Pathophysiology | 3 |
| NURS 341 Pharmacology | 3 |
| HLED 401 Nutrition | 3 |
| NURS 200 Introduction to Nursing | 2 |
| NURS 201 Health Assessment | 3 |
| NURS 202 Fundamentals of Nursing | 3 |
| NURS 211 Health Assessment Lab | 1 |
| NURS 212 Fundamentals of Nursing Lab | 1 |
| NURS 301 Adult Health I | 3 |
| NURS 302 Adult Health II | 3 |
| NURS 311 Adult Health I Clinical | 2 |
| NURS 312 Adult Health II Clinical | 2 |
| NURS 401 Maternal and Child Health | 3 |
| NURS 402 Community and Mental Health Nursing | 3 |
| NURS 403 Evidence Based Practice | 3 |
| NURS 404 Leadership | 3 |
| NURS 405 Adult Health III | 3 |
| NURS 411 Maternal and Child Health Clinical | 2 |
| NURS 412 Community and Mental Health Clinical | 2 |
| NURS 415 Adult Health III Capstone | 2 |

Upper Level Elective Courses: (9 Credit Hours)

Must be at 300 level or higher with 9 hours taken in a health-related topic. Students are strongly encouraged to take Gerontology, Health Policy, and Comparative Health Care Systems.

Total Credit Hours: 120

Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of NURS will count towards the major GPA.
Bachelor of Science in Social Studies Education

Zucker Family School of Education
843-953-5097
www.citadel.edu/root/teacher-education

Program Coordinator and Education Advisor:
Dr. Christopher Dague, Ed.D.,
cdague@citadel.edu

Social Studies Advisor:
Dr. Katherine Grenier, grenierk@citadel.edu

The degree completion program in Social Studies Education was created to provide students with an opportunity to receive a four-year degree leading to initial Teacher Licensure from The Citadel in the evening. The requirements for the major consist of a total of 123-125 hours, 58 of which are completed at The Citadel. This includes 36 credit hours in the major, 21 credit hours of elective courses, and a one-hour orientation course.

Mission and Expected Student Learning Outcomes

The purpose of the Zucker Family School of Education's undergraduate programs is to serve the people of the Lowcountry, the state of South Carolina, the Southeast, and the nation by providing programs that prepare highly qualified individuals who are knowledgeable about the learning process; learners and who are effective, ethical, and reflective educators prepared to assume leadership roles in the profession and community. Further, with a focus toward learner-centered education, they are effective in educating a diverse learner population to high academic standards.

2+2 Transfer Articulation from South Carolina Technical Colleges

Please note that the table below is only an advising tool with a suggested sequence of courses for students who are beginning their college coursework within the South Carolina Technical College System with the intent to transfer to The Citadel. The Citadel's degree completion programs offer significant flexibility with course selection and transfer credits that provides additional choices as noted in the official degree completion program of study.

Within the minimum 30 hours required transfer credits for admission into the program, all transfer students into this program must have transfer credit for:

<table>
<thead>
<tr>
<th>Program of Study</th>
<th>Courses Taken at South Carolina Technical College (or equivalent): 65-67 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education: 38 Hours</td>
<td></td>
</tr>
<tr>
<td>Humanities/Foreign Lang. (6 hours)</td>
<td></td>
</tr>
<tr>
<td>History (12 hours)</td>
<td></td>
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<tr>
<td>Mathematics (6 hours)</td>
<td></td>
</tr>
<tr>
<td>Physical Science (8 hours) Courses must have lab, not necessarily sequential</td>
<td></td>
</tr>
<tr>
<td>Social Science: 12 hours</td>
<td></td>
</tr>
<tr>
<td>ECO 210 Macroeconomics 3</td>
<td></td>
</tr>
<tr>
<td>PSC 201 American Gov. 3</td>
<td></td>
</tr>
<tr>
<td>PSY 201 General Psychology 3</td>
<td></td>
</tr>
<tr>
<td>SOC 101 Intro to Sociology 3</td>
<td></td>
</tr>
<tr>
<td>Lower Division Electives: 15-17 hours</td>
<td></td>
</tr>
</tbody>
</table>

Recommended for technical college AA Students

<table>
<thead>
<tr>
<th>Courses Taken at The Citadel: 58 Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Communication 3</td>
</tr>
<tr>
<td>CPT 101 Introduction to Computers 3</td>
</tr>
</tbody>
</table>

Required Major Courses: 36 Hours

<table>
<thead>
<tr>
<th>Courses Taken at The Citadel Experience (Must be taken in first semester at The Citadel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 101 Education in Modern Society 3</td>
</tr>
<tr>
<td>EDUC 202 Educational Psychology 3</td>
</tr>
<tr>
<td>EDUC 206 Adolescent Development 3</td>
</tr>
<tr>
<td>EDUC 312 Learners with Exceptionalities 3</td>
</tr>
<tr>
<td>EDUC 301 Foundations in Reading 3</td>
</tr>
<tr>
<td>EDUC 401 Methods and Materials of Middle and High School Teaching 3</td>
</tr>
<tr>
<td>EDUC 306 Teaching Reading and Writing in the Middle and High School 3</td>
</tr>
<tr>
<td>EDUC 402 Special Methods in Teaching 3</td>
</tr>
<tr>
<td>EDUC 499 Teaching Internship 12</td>
</tr>
</tbody>
</table>

Required Social Studies Courses: 12 Hours

<table>
<thead>
<tr>
<th>Courses Taken at The Citadel Experience (Must be taken in first semester at The Citadel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 202 Cultural Anthropology 3</td>
</tr>
<tr>
<td>GEOG 209 World Geography 3</td>
</tr>
<tr>
<td>PSCI 302 Urban Politics 3</td>
</tr>
<tr>
<td>HIST 206 Social and Cultural History of the Non-Western World 3</td>
</tr>
</tbody>
</table>
Approved Electives: 9 Hours
One – 3 Hour History Elective (200 level and above)
Two – 3 hour Social Studies Electives (200 level or above)
(Economics, History, Political Science or Psychology)

Total Program Credit Hours: 123-125

Computation of Major GPA
All undergraduate courses taken at The Citadel with a subject prefix of ANTH, BADM, EDUC, FNAR, GEOG, HIST, PSYC, and SOCI will count towards the major GPA.

Admission to Upper Level Education Courses
To be admitted to upper level Education courses, the teacher candidate must have the support of his or her advisor relative to suitability and interest in teacher education and must also have:
1. Official passing scores on all three parts of PRAXIS Core exams on file at The Citadel.
2. A cumulative Grade Point Average of 2.750 or higher on coursework taken at The Citadel.

Admission to the Student Teaching Internship (EDUC 499)
Teacher candidates must make a formal application for admission to the student teaching internship to both The Citadel and the South Carolina State Department of Education. Application should be made two semesters prior to the teaching internship. The State of South Carolina will provide a status update as “cleared” or “not cleared” to the ZFSEO based on background checks and other information they receive to determine candidate suitability. If a concern arises in regards to suitability through the State, the teacher candidate must follow up directly with the South Carolina Department of Education. The Citadel application packet will be reviewed by the Director of Field Experiences and Internships as well as the Teacher Education faculty.

Once candidates are approved, they will receive notification of admission to internship through the School of Education.

To begin the internship, the student must have:
1. Acceptable disposition evaluations;
2. Completion of all professional education courses and content coursework with a cumulative GPA of at least 2.75
3. Successful completion of all previous field experiences
4. Have on file at The Citadel official records of all three appropriate PRAXIS Core test score, the appropriate PRAXIS II subject/specialty area test score(s) and the appropriate PRAXIS II - Principles of Learning and Teaching (PLT)* test score

5. Have on file at The Citadel South Carolina State Department of Education clearance through the FBI and SLED

*Note: It is strongly recommended that students take the PLT as soon as they have completed EDUC 101, EDUC 202 and EDUC 312.

GRADUATION REQUIREMENTS
To meet graduation requirements, the Teacher Candidate must complete all requirements for their teaching field with a GPA of at least 2.750. In addition, the candidate must have passing scores on the appropriate PRAXIS Core, PRAXIS II and Principles of Learning and Teaching (PLT) exams on file at The Citadel. A grade of “B” or better in EDUC 499 is necessary to qualify for recommendation for South Carolina teacher licensure (certification).
Bachelor of Science in Tactical Strength and Conditioning

Department of Health and Human Performance
http://www.citadel.edu/root/eveningundergraduate
studies-2-2-programs/tactical-strength-and-conditioning

Dr. Chris Bellon, Program Director
cbellon@citadel.edu, 843-953-1652

The degree completion program in tactical strength and conditioning was created to provide students with an opportunity to receive a four-year degree from The Citadel online. The requirements for the major consist of a total of 38 credit hours from core courses, 66 credit hours from the tactical strength and conditioning major, and 18 credit hours of lower-division and upper-division electives.

Mission Statement

The mission of the Tactical Strength and Conditioning program is to provide an avenue for individuals to earn their bachelor’s degree in a subject matter area they are passionate about in order to increase opportunities for promotion within the military or paramilitary setting in which they may already be employed, begin a new career as a full-time tactical strength and conditioning coach within or outside the military, and/or military experience with our robust system for online learning so that students graduate with a deep theoretical and practical understanding of coaching tactical athletes.

Application Requirements

In addition to the institutional documentation required as part of the application process, all applicants must submit a one-page letter describing why you are interested in the Tactical Strength and Conditioning Program as part of their application.

Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of EXSC, HLED, LDRS, PHED, and TSAC will count towards the major GPA.

Program Requirements

All undergraduates must pass a background check. Students are responsible for all fees associated with the background check and the check must include social security card copy and fingerprints prior to beginning courses requiring field experience (e.g. TSAC 395).

Program of Study

Students may begin taking Citadel courses at any time as long as 30 college credit hours have been transferred to The Citadel.

Core Requirements: 38 credit hours

Writing/English Composition (6 hours)

History (6 hours)

Humanities (6 hours)

Mathematics (6 hours)

Science (8 hours)
Courses must have lab, not necessarily sequential

Social Science (6 hours)
PSYC 201 General Psychology 3
Any Anthropology, Political Science, Psychology or Sociology course 3

Major Requirements: 66 credit hours

EUGS 101-Introduction to The Citadel Experience (Must be taken in first semester at The Citadel) 1

EXSC 200 – Motor Development 3
EXSC 305 – Measurement and Evaluation 3
EXSC 412 – Strength & Conditioning II 3
EXSC 314 – Biomechanical Kinesiology 3
EXSC 315 – Strength & Conditioning I 3
EXSC 319 – Physiology of Exercise I 3
EXSC 320 – Physiology of Exercise II 3
EXSC 329 – Physiology of Exercise I Lab 1
EXSC 403 – Exercise Testing & Prescription 3
LDRS 371 – Leadership in Organizations 3
HLED 302 – Drug and Substance Abuse 3
HLED 401 – Nutrition 3
HLED 402 – Sport Nutrition 3
PHED 303 – Accommodating Persons with Disabilities within Sport and Physical Activity 3
PSYC 319 – Psychological Resiliency 3
TSAC 200 – Instructional Aspects of Teaching and Coaching 3
TSAC 201 – Anatomy & Physiology for Health and Human Performance 3
TSAC 211 – Fundamentals of Applied Functional Anatomy and Physiology Lab 1
TSAC 301 – Tactical Strength and Conditioning 3
TSAC 302 – Care and Prevention of Injuries for Tactical Athletes 3
TSAC 395 – Directed Field Experience in TSAC 3
TSAC 495 – Internship in TSAC 6

Approved Electives: 18 hours
Two lower division courses (101:299)
Four upper division courses (300 level and above)

Total degree program: 122 credit hours
Mission Statement

The mission of the Department of Civil and Environmental Engineering (CEE) is to provide a nationally recognized student-centered learning environment for the development of principled leaders in the civil and environmental engineering community through a broad-based, rigorous curriculum, emphasizing theoretical and practical engineering concepts, strong professional values, and a disciplined work ethic.

The Department of Civil and Environmental Engineering recognizes the civil engineer as a people-serving professional who manages resources as well as technology. The civil engineer plans, designs, constructs, and maintains facilities essential to modern life in both the public and private sectors. Accordingly, the department strives to develop the skills of its engineering students in the management of resources—time, materials, money, and people. Consistent with the high aims of the civil engineering profession, the department seeks to ensure its academic program is underpinned by a broad base of ethical knowledge and behavior as well as modern leading-edge technology. The department accomplishes its mission by connecting students, faculty, and staff in a unique academic environment, achieving the intended development of the student through the enriched personal, professional, and educational growth of each individual.

Program Educational Objectives:

Civil Engineering program and Construction Engineering program educational objectives are for alumni, 3-5 years after graduation, to achieve success through:

1. **Design and Construction:** Service to society as practicing engineers, or like positions, by providing sustainable design and construction solutions, while holding paramount the health, safety, and welfare of the public.

2. **Principled Leadership:** Contributions to the engineering profession, or like fields, as principled leaders through selfless service, inclusive collaboration, and ethical decision-making.

3. **Sustainable Growth:** Employment of effective strategies for professional development, self-directed learning, and career advancement.

**Departmental Core Values**

The Department of Civil and Environmental Engineering has adopted the following core values:

**Students are our Focus:** We believe the education, development, empowerment, and welfare of our students are the primary focus of our efforts.

**Civil Engineers as Principled Leaders:** We believe the engineering profession requires the highest professional and ethical standards, which we seek to model, teach and prepare our students to embrace.

**Collaborative Teaching and Learning Environment:** We believe a collaborative collegial environment among our faculty, staff and students is critical in sustaining advancement in educational excellence.

**Growth through Assessment:** We believe data-driven inquiry and improvement will lead us to sustained advancement in educational excellence.

**Program Requirements**

**Two-Plus-Two Evening Studies**

The Citadel offers an undergraduate Bachelor of Science in Civil Engineering degree (BSCE). This program is offered in cooperation with South Carolina technical schools where the student completes the first two years of study. Students may also attend an accredited college or university. The junior and senior years of study are completed at The Citadel by attending evening classes.

**Student Outcomes**

At the time of graduation from the civil engineering program, a student should achieve an acceptable level of skills and knowledge in the following student outcomes:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

3. Communicate effectively with a range of audiences.

4. Recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.

Program of Study

The Civil and Environmental Engineering Department's four- year program begins with courses that provide a foundation of knowledge and skill in the basic arts and sciences. Limited specialization in engineering starts during the sophomore year. In the junior and senior years, the time is devoted essentially to basic professional subjects. Throughout the four years, the program emphasizes the development of habits of orderly study, investigation, sound reasoning, problem-solving, and design, rather than the mere acquisition of factual information. It is stressed that an engineer is a professional, thoroughly grounded in engineering science and technology, but also aware of the social, economic, ethical, and ecological implications of professional activities. The civil engineering curriculum is accredited by ABET (www.ABET.org). Each year the curriculum is augmented by off-campus educators and engineers who lecture and moderate seminars in engineering specialties. Students' sources of knowledge are broadened by participation in these seminars and the student chapters of the American Society of Civil Engineers (ASCE), Tau Beta Pi (TBP, honorary engineering society), the Society of American Military Engineers (SAME), the Society of Women Engineers (SWE), Institute of Transportation Engineers (ITE), and National Society of Black Engineers (NSBE).

Civil & Environmental Engineering Major

Courses Taken at a South Carolina Technical College (or equivalent): 76 credit hours

Civil Engineering (22 hours)
- EGR-202 Introduction to Engineering Programming 3
- EGR-260 Engineering Statics 3
- EGR-270 Introduction to Engineering 3
- EGR-275 Introduction to Engineering/Computer Graphics 3
- EGR-282 Introduction to Civil Engineering 2
- EGR-285 Engineering Surveying I 3
- EGR-286 Engineering Surveying II 3
- EGR-295 Engineering Surveying Lab I 1
- EGR-296 Engineering Surveying Lab II 1

General Education (including first two math courses and 2 science courses below) (34 hours)
- Writing/English Composition (6 hours)
- Humanities/Fine Arts (3 hours)
- Technical Writing (ENG 260) (3 hours)
- Social/Behavioral Sciences (3 hours)
- History (3 hours)

Math/Science (32 hours)
- BIO Biology Science I 4
- CHM College Chemistry I 4
- CHM College Chemistry II 4
- MAT Calculus I 4
- MAT Calculus II 4

MAT Calculus III 4
MAT Differential Equations 4
PHY University Physics I 4

Courses Taken at The Citadel: 61 credit hours

Third Year (32 hours)
- EUGS-101 Intro to The Citadel Experience 1
- CIVL-203 Dynamics* 3
- CIVL-302 Highway Engineering 3
- CIVL-304 Mechanics of Materials 3
- CIVL-305 Transportation Engineering 3
- CIVL-307 Materials Laboratory 1
- CIVL-309 Structural Analysis 4
- CIVL-314 Engineering Economy 2
- CIVL-320 Fluid Mechanics 3
- CIVL-322 Introduction to Environmental Engineering 3
- CIVL-327 Asphalt and Concrete Laboratory 1
- CIVL-411 Engineering Management 3
- CIVL-418 Fluid Mechanics Laboratory 1
- CIVL-419 Environmental Engineering Laboratory 1

Fourth Year (29 hours)
- CIVL-321 Hydrology and Hydraulics 3
- CIVL-331 Probability and Statistics for Civil and Construction Engineering 3
- CIVL-402 Geotechnical Engineering Laboratory 1
- CIVL-404 Reinforced Concrete Design 3
- CIVL-406 Steel Design 3
- CIVL-408 Water and Wastewater Systems 3
- CIVL-409 Introduction to Geotechnical Engineering 3
- CIVL-410 Geotechnical Engineering II 3
- CIVL-412 Engineering Practice & Professional Licensure 1
- CIVL-432 Civil Engineering Design Capstone I 3
- CIVL-433 Civil Engineering Design Capstone II 3

Total Credit Hours: 133

One of the following equivalent courses will satisfy the Humanities/Fine Arts course requirement:
- English classes beyond ENG 101 (but not public speaking), Foreign Language classes 200-level or higher, Fine Arts classes, History Classes. One of the following equivalent courses will satisfy Social/Behavioral Science course requirement: Psychology, Sociology, Political Science (American Government and similar classes), Economics (Macro/Micro), Anthropology.

Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of CIVL will count towards the major GPA.
LeTeller Hall was designed for the needs of civil and environmental engineering education and contains, in addition to laboratories, six multimedia classrooms and one multimedia assembly room that contains additional audio-visual aids. There are three computer facilities located in LeTeller Hall.

Main Computer Lab – LeTeller 203
LeTeller 203 is the primary teaching and student-use computer facility in the Civil and Environmental Engineering Department. The 24 student stations, one projection-capable instructor station, and laser printer located in this lab are connected to the campus wide network, and provide direct Internet access via Ethernet. The software in the labs is Windows based. All machines in the lab have graphics-capable www browsers. The department's standard general purpose software includes: Microsoft Office, Mathcad, AutoCAD, and ArcGIS. In addition, there are a number of course specific software packages. Faculty also post classroom presentations, handouts, programming examples, class notes, and solutions to tests, and homework on Canvas (learning management system). These postings are in a mixture of formats including PDF files, Mathcad documents, spreadsheet files, executable programs, and multimedia presentation files that students may review as needed before and after class. This laboratory is equipped with a network A/B size laser color printer.

Special Applications Lab – LeTeller 206
LeTeller 206 is the home of the Civil and Environmental Engineering Department Special Applications Lab. The seventeen student computers serve primarily as AutoCAD, GIS (ArcView) and structural design workstations. Other uses involve construction management, Global Positioning System (GPS) data analysis/adjustment, and traffic engineering studies. Occasionally, small sections of courses may be scheduled in the lab utilizing the instructors-only workstation and projection system. This laboratory is equipped with a network A/B size laser color printer and E-size color lotter.

Graphics Lab – LeTeller 308
LeTeller 308 is the home of the Civil and Environmental Engineering Department Graphics Instruction Lab. The instructor's station is equipped with a projection system for both the computer and document camera. The twenty student computers serve primarily as AutoCAD and ArcGIS workstations. This laboratory is equipped with a networked A/B size laser color printer.

Materials Testing Laboratory: Major items of equipment include a 300,000 pound concrete cylinder testing machine; two 60,000-pound hydraulic universal testing machine; and equipment for making tension, compression, shearing, and most other accepted and significant tests on metals, concrete, wood, and other structural materials.

Construction Materials Laboratory: Bituminous Materials Testing. This laboratory contains equipment for making the significant quality control and identification tests on asphalt cements. Equipment for the design, mixing, compaction by both hammer and gyratory means, and testing of asphalt concrete paving mixtures by the Marshall and superpave methods are included.

Concrete Materials Testing: A curing room, mixing equipment, air entraining measuring apparatus, scales, and other minor equipment are provided in this laboratory. Testing is accomplished using the Materials Laboratory testing equipment.

Geotechnical Laboratories: The soils laboratory is equipped with consolidometers, triaxial and direct shear machines, unconfined compression machines, permeameters, Atterberg limit equipment, Proctor and modified AASHTO compaction apparatus, standard sieves, soil hydrometers, C.B.R. apparatus, and other equipment needed for tests and experiments with soils.

Fluid Mechanics Laboratory: Equipment is provided for a wide variety of experiments and tests involving the flow of water over weirs or through pipes, meters, orifices, or a Parshall flume. Other major items of equipment include a head loss and flow measurement fluid circuit apparatus, a Reynolds number device, two (2) hydraulic demonstration units permitting experiments involving many phenomena of open channel flow, and a centrifugal pump equipped to measure input and output of energy. In addition, a parallel-series pumping unit is available for students to study parallel-series pumping under a variety of system conditions.

Environmental Engineering Laboratory: Equipment is provided for water analysis determination (primarily according to “Standard Methods”) pH, alkalinity, turbidity, conductivity, D.O., and color. Bacteriological examinations may also be made for wastewater analysis, biochemical oxygen demand, solids content, and coliform testing. The equipment includes incubators, a muffle furnace, pH meters, dissolved oxygen probes, electrophotometric devices, a constant temperature refrigerator, spectrophotometer, a drying oven, a type I water generator, a fume hood, a microscope, and essential minor tools.

Other engineering equipment: Adequate equipment is available for the courses in engineering graphics, surveying, geospatial representation, as well as for the junior and senior courses. This equipment includes levels, level rods, tapes, total stations, data collectors, and Geographic Positioning System (GPS) receivers.

Fundamentals in Engineering Examination: Each graduating student is required to sit the Fundamentals in Engineering (FE) Examination and provide documentation to the department head.

Degree: The degree of Bachelor of Science in Civil Engineering (BSCE) is awarded to those who successfully complete the program of studies outlined in the course offerings section of this catalog.
Bachelor of Science in Computer Engineering

Department of Electrical and Computer Engineering
www.citadel.edu/root/eveningundergraduatestudies-2-2-programs/electrical-engineering

Dr. Mark McKinney, mckinney@citadel.edu

General Information

In 1941 the Board of Visitors authorized the establishment of a Department of Electrical Engineering at The Citadel. The Bachelor of Science degree in computer engineering was established in 2019. The computer engineering program is offered in two modes—day mode and the two-plus-two evening mode. The day mode is open only to members of the South Carolina Corps of Cadets, veterans, and enlisted active duty students assigned to one of The Citadel’s ROTC Departments. The two-plus-two evening mode is open to transfer students and does not require ROTC, Leadership or Health and Physical Education. Otherwise, curricula, faculty, textbooks, laboratory equipment, course content, classrooms, and laboratories are the same for both modes.

The Electrical and Computer Engineering Department is located in Grimsley Hall, a first-tier engineering education facility that provides a great learning environment. Modern, fully equipped laboratories, classrooms, and faculty offices are logically arranged on the third floor. The related Departments of Cyber and Computer Sciences, Physics, Mechanical, and Civil and Environmental Engineering are housed adjacent to the department, creating a “micrcampus” of science and technology.

Mission

The mission of the Department of Electrical and Computer Engineering is: To prepare the individual for professional work or for graduate study in the fields of electrical and computer engineering and to provide as many of the elements of a broad education as can be included in a program of professional study leading to the degree of Bachelor of Science in Computer Engineering or Bachelor of Science in Electrical Engineering.

In addressing its mission, the department strives, through small classes, and hands-on experience in laboratories closely monitored by full-time faculty, to provide an environment highly conducive both to learning and to the development of close student-faculty relationships.

The computer engineering curriculum places emphasis on a broad liberal education base, a strong background in mathematics and basic sciences, and a logical sequence of electrical and computer engineering courses that provide the breadth and depth necessary for continuous professional growth in today’s technological society. Integral to the program is the design component that develops the student’s ability to address practical engineering problems. Engineering design problems and concepts are included throughout the curriculum and the experience is capped by a mandatory two-semester senior design course in which the students undertake significant design projects.

Convinced of the great value of practical experience, the department encourages its majors to obtain gainful employment in electrical engineering or a related field for at least one summer, preferably between the junior and senior years.

2 + 2 Program Requirements

The Citadel offers an undergraduate Bachelor of Science in Computer Engineering degree (BSCompE). This program is offered in cooperation with South Carolina technical colleges where the student completes the first two years of study. Students may also attend an accredited college or university. The junior and senior years of study are completed at The Citadel by attending evening classes. The program is designed and offered to enable the full-time student to complete the upper two years of the program and receive a BSCompE within two academic years and two summers. Students are required to be advised for each semester of enrollment at The Citadel.

Program Educational Objectives

The Citadel Department of Electrical and Computer Engineering program prepares graduates to:
1. Succeed in the practice of computer engineering, by ethically and judiciously applying engineering methods to solve problems facing a technologically complex society.
2. Develop and apply current hardware and software tools, equipment and development environments to conduct and/or lead engineering design and assessment.
3. Value and pursue lifelong learning through postgraduate education, professional registration, or employment, to keep current in engineering fields, and to sustain awareness of engineering related issues.
4. Be principled leaders with strong communications and team building skills.

Student Outcomes

The Citadel's Computer Engineering program includes assessment to demonstrate that students obtain:
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

3. An ability to communicate effectively with a range of audiences.

4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

**Computer Engineering Program**

The initial year of study includes engineering fundamental courses designed to develop the basic skills and good teaming habits through case studies requiring the communication of creative ideas. The second semester freshman curriculum includes three credit hours of computer programming. Electrical and computer engineering topics studied in the sophomore year include a second programming course, six credit hours of electrical circuit analysis, and 1 credit hour of electrical circuit laboratory. Theory is combined with application, demonstration, and experimental verification. In addition, the first two years include 19 credit hours of mathematics, eight credit hours of chemistry or biology, 8 credit hours of physics, 18 credit hours of English, history and social/behavioral science to provide the foundation necessary for an engineering education. Specific course requirements, using Trident Technical College course numbers, are outlined later under Required Program.

The junior year requires a total 25 credit hours of electrical and computer engineering course work. Breadth of coverage is provided by courses in signals and systems analysis, electronics, systems (automatic controls), digital systems, computer architecture, database design, data structures and algorithms. Many of these courses include engineering design problems drawn from the experience of the faculty. The junior year includes a single elective course that must be technical in nature but outside the mainstream of electrical engineering.

The senior year provides depth in electrical and computer engineering by requiring three out of a specified set of 400-level electrical and computer engineering elective courses. The elective courses are ELEC-401 (Electronics II), ELEC-405 (Electrical Measurements), ELEC-407 (Systems II), ELEC-413 (Advanced Topics in Electrical Engineering) ELEC-414 (System Simulation), ELEC-416 (Communications Engineering), ELEC-418 Advanced Digital Systems, ELEC-419 (Computer Network Architecture), ELEC-423 (Digital Signal Processing), ELEC-424 (Solid-State Devices), ELEC-427 (Energy Systems Engineering), ELEC-430 (Independent Research in Electrical Engineering), ELEC-450 (Electrical Engineering Internships), CSCI -327 (Computer Security), CSCI –370 (Developing Mobile Applications), CSCI -405 (Operating Systems), CSCI -455 (Artificial Intelligence). These electives provide the student the opportunity to pursue an area of interest.

**Computer Engineering Design Experiences**

Engineering design is distributed throughout the computer engineering curriculum. Introduction to the design process and the initial design experience occur in the freshman courses. The engineering profession and the ethical responsibilities of professional engineers are discussed. Design problems are posed that require little or no in-depth engineering knowledge. For example, a first design problem might ask the student to design a dormitory room workplace. Functionality, aesthetics, and cost of implementation are a few of the issues to be considered. Case studies are assigned that provide an opportunity for the students to work in teams. The emphasis is on the synthesis of a product that meets broad requirements. The students are introduced to the concept of design in which there is no single right answer and where there are relatively few limits placed on the creative process. Techniques of analysis, synthesis, iteration, and approximations are studied in the sophomore and junior electrical and computer engineering courses. Specialized design exercises are used to illustrate the use of these techniques in the areas of circuits, systems, electronics, computers, and digital systems. The senior year provides the opportunity for the student to begin to focus on design techniques in a particular area of interest through the choice of three senior elective courses. Examples range from the design of mobile application software (CSCI -370), to the design of a state estimator (ELEC-407), to the design and implementation of digital filters (ELEC-423).

The design experience culminates in the required senior design courses, ELEC-421 and ELEC-422. This two-semester design sequence provides students the opportunity to work on a project of interest and provides the faculty the opportunity to guide students in their first major design experiences and emphasize once more the various constraints that may come into play in a design. The students are taught several different structured design approaches. Project definition and documentation are stressed. Design teams of three to four students are formed at the beginning of the first semester. Students are instructed on various practical aspects of design, such as layout considerations, safety, functionality, and
The student design teams select and propose a major design project to be completed by the end of second semester. They must enlist a faculty project advisor to guide their project. At the end of the first semester the design teams present their design proposals (written and oral) that include their preliminary design (block diagram level), a schedule for the following semester, and a cost estimate. In the second semester, the teams do the detailed design, and build, test, refine, demonstrate, and document their design projects. In addition to the technical aspects, project management and presentation techniques are taught and applied. A detailed project specification is developed and placed under tight change control. Financial and scheduling aspects of the project are tracked. A final presentation in both written and oral form is required at the end of the semester, along with a working demonstration.

### Computer Engineering Major

Courses taken at a South Carolina Technical College (or equivalent): 74 credit hours

**Electrical Engineering Courses (22 credit hours)**
- ECE-205 Electrical and Computer Lab 3
- ECE-221 Introduction to Electrical Engineering I 3
- ECE-222 Introduction to Electrical Engineering II 3
- EGR 269 Engineering Discipline and Skills 2
- EGR-275 Introduction to Engineering/Computer Graphics 3
- EGR 281 Introduction to Algorithmic Design 4
- EGR 283 Introduction to Algorithmic Design II 4

**General Education (including first two math courses and 2 science courses below total 34 hours)**

- Writing/English Composition (6 hours)
- Humanities/Fine Arts (3 hours)
- Technical Writing (ENG 260) (3 hours)
- Social/Behavioral Sciences (3 hours)
- History (3 hours)
- General Elective (3 hours)

**Math/Science (31 credit hours)**
- BIO Biology I or CHM College Chemistry I 4
- BIO Biology II or CHM College Chemistry II 4
- MAT Calculus I 4
- MAT Calculus II 4
- MAT Discrete Mathematics 3
- MAT Differential Equations 4
- PHY Physics I 4
- PHY Physics II 4

Courses Taken at The Citadel: 52 credit hours

**Electrical Engineering Courses (29 credit hours)**
- EUGS-101 Introduction to The Citadel Experience 1
- ELEC-306 Electronics I 3
- ELEC-309 Signals and Systems I 3
- ELEC-311 Digital Logic and Circuits 3
- ELEC-312 Systems I 3
- ELEC-313 Electronics Laboratory 1
- ELEC-330 Digital Systems Engineering 3
- ELEC-412 Applied Probability and Statistics 3

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for Engineers 3
ELEC-421 Design I 3
ELEC-422 Design II 3
ELEC-428 Computer Architecture 3

**Computer Engineering Electives (9 credit hours)**

Choose three courses from the following list:
- ELEC-401 Electronics II 3
- ELEC-405 Electrical Measurements 3
- ELEC-407 Systems II 3
- ELEC-413 Advanced Topics in Electrical Engineering 3
- ELEC-414 System Simulation 3
- ELEC-416 Communications Engineering 3
- ELEC-418 Advanced Digital Systems 3
- ELEC-419 Computer Network Architecture 3
- ELEC-423 Digital Signal Processing 3
- ELEC-424 Solid-State Devices 3
- ELEC-427 Energy Systems Engineering 3
- ELEC-430 Ind. Research in Electrical Engineering 3
- ELEC-450 Electrical Engineering Internship 3

**ESCI-327 Computer Security 3**
**ESCI-370 Developing Mobile Applications 3**
**ESCI-405 Operating Systems 3**
**ESCI-455 Artificial Intelligence 3**

**Computer Science Courses (9 credit hours)**
- ESCI-223 Data Structures and Algorithms 3

**CSCI-320 Database Design 3**
**CSCI-420 Software Engineering 3**

**Senior Year Technical Elective (3 credit hours)**

Choose one course from the following list:
- PHYS-308 Optics 3
- PHYS-410 Thermodynamics 3
- CIVL-202 Statics 3
- CIVL-310 Statics and Mechanics of Materials for Non-Civil Engineers 3
- MATH-343 Applied Numerical Methods I 3
- MATH-344 Applied Numerical Methods II 3
- MATH-381 Deterministic Methods of Operational Research 3
- MATH-470 Mathematical Models and Applications 3
- MATH-490 Advanced Topics in Mathematics 3
- MECH-222 Computer Applications with Lab 3
- MECH-365 Computational Methods in Engineering 3

**Civil Engineering Courses (2 credit hours)**
- CIVL-314 Engineering Administration 2

**Credit hours required for graduation: 125**

Computation of Major GPA

All undergraduate courses taken at The Citadel with a subject prefix of CSCI and ELEC will count towards the major GPA.
One of the following equivalent courses will satisfy the Humanities/Fine Arts course: English classes beyond ENGL 101 (but not public speaking), Foreign Language Classes 200-level or higher, Fine Arts classes, History classes.

One of the following will satisfy Social/Behavioral Science course requirement: Psychology, Sociology, Political Science, (American Government and similar classes), Economics (Macro/Micro), Anthropology.

**Degree:** The degree of Bachelor of Science in Computer Engineering (BScmpE) is awarded to those who successfully complete the program of studies outlined in the course offerings section of this catalog.
Bachelor of Science in Construction Engineering

Department of Civil and Environmental Engineering www.citadel.edu/CEE

Construction Engineering Program
http://www.citadel.edu/root/construction-engineering

Dr. William J. Davis, P.E. (AL)
jeff.davis@citadel.edu

Mission Statement

The mission of the Department of Civil and Environmental Engineering (CEE) and Construction Engineering (CONE) is to provide a nationally recognized student-centered learning environment for the development of principled leaders in the civil engineering and construction engineering communities through a broad-based, rigorous curriculum, emphasizing theoretical and practical engineering concepts, strong professional values, and a disciplined work ethic.

The Department of Civil and Environmental Engineering and Construction Engineering recognizes that civil engineers and construction engineers are people-serving professionals who manage resources as well as technology. Civil engineers and construction engineers plan, design, construct, and maintain facilities essential to modern life in both the public and private sectors. Accordingly, the Department strives to develop the skills of its engineering students in the management of resources—time, materials, money, and people through effective combination of the academic with military discipline. Consistent with the high aims of the civil engineering and construction engineering professions, the department seeks to ensure its academic program is underpinned by a broad base of ethical knowledge and behavior as well as modern leading-edge technology. The department accomplishes its mission by connecting students, faculty, and staff in a unique academic environment, achieving the intended development of the student through the enriched personal, professional, and educational growth of each individual.

Program Educational Objectives

Civil Engineering program and Construction Engineering program educational objectives are for alumni, 3-5 years after graduation, to achieve success through:

1. **Design and Construction**: Service to society as practicing engineers, or like positions, by providing sustainable design and construction solutions, while holding paramount the health, safety, and welfare of the public.

2. **Principled Leadership**: Contributions to the engineering profession, or like fields, as principled leaders through selfless service, inclusive collaboration, and ethical decision making.

3. **Sustainable Growth**: Employment of effective strategies for professional development, self-directed learning, and career advancement.

Departmental Core Values

The Department of Civil and Environmental Engineering and Construction Engineering has adopted the following core values:

**Students are our Focus**: We believe the education, development, empowerment, and welfare of our students are the primary focus of our efforts.

**Construction Engineers as Principled Leaders**: We believe the engineering profession requires the highest professional and ethical standards, which we seek to model, teach and prepare our students to embrace.

**Collaborative Teaching and Learning Environment**: We believe a collaborative collegial environment among our faculty, staff and students is critical in sustaining advancement in educational excellence.

**Growth through Assessment**: We believe data-driven inquiry and improvement will lead us to sustained advancement in educational excellence.

Program Requirements

Two-Plus-Two Evening Studies

The Citadel, through The Graduate College, offers an undergraduate Bachelor of Science in Construction Engineering degree (BSCONE). This program is offered in cooperation with South Carolina technical schools where the student completes the first two years of study. Students may also attend an accredited college or university. The junior and senior years of study are completed at The Citadel by attending evening classes.

Construction Engineering Student Outcomes

At the time of graduation from the construction engineering program, a student should have achieved an acceptable level of skills and knowledge in the following student outcomes:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. Acquire and apply new knowledge as needed, using appropriate learning strategies.

### MAT Calculus II 4
### PHY University Physics I 4
### Math or Science elective: AST 101, PHY 222, 3
### MAT 240, MAT 242, or as approved by Dept. Head

**Economics/Business (3 hours)**

**ACC-101 Accounting Principles I** 3

### Courses Taken at The Citadel: 61 credit hours

**Third Year (32 hours)**

**EUGS-101 Intro to The Citadel Experience** 1
**CIVL-304 Mechanics of Materials** 3
**CIVL-314 Engineering Economy** 2
**CIVL-331 Probability and Statistics for Civil and Construction Engineering** 3
**CONE-302 Engineering/Commercial Law, Ethics, Safety and Contracts** 4
**CONE-311 Resource Estimating** 3
**CONE-320 Engineering Materials and Methods (with Laboratory)** 3
**CONE-340 Structural Analysis and Design** 4
**CONE-350 Commercial Construction and Engineering Equipment** 3
**CONE-360 Soils and Foundations (with Laboratory)** 3
**CONE-415 Project Management and Engineering Administration** 3

**Fourth Year (29 hours)**

**CIVL-412 Engineering Practice Prof Licensure** 1
**CONE-312 Advanced Estimating** 3
**CONE-330 Quality Mgmt and Labor Relations** 3
**CONE-410 Project Scheduling** 3
**CONE-412 Engineering Practice and Professional Licensure for Construction Engineers** 1
**CONE-440 Construction Methods and Temporary Structural Design** 3
**CONE-450 Facilities Operation and Maintenance (Building Information Management)** 3
**CONE-460 Mechanical/Electrical Systems** 3
**CONE 470 Production Processes and Rapid Development (with Laboratory)** 3
**CONE-481 Construction Engineering** 3

**Design Capstone I** 3
**CONE-482 Construction Engineering** 3
**Design Capstone II** 3

**Total Credit Hours: 128**

One of the following equivalent courses will satisfy the Humanities/Fine Arts course requirement:

- English classes beyond ENG 101 (but not public speaking), Foreign Language classes 200-level or higher, Fine Arts classes, History Classes.

One of the following equivalent courses will satisfy Social/Behavioral Science course requirement:

- Psychology, Sociology, Political Science (American Government and similar classes), Economics (Macro/Micro), Anthropology.

**Computation of Major GPA**

All undergraduate courses taken at The Citadel with a subject prefix of CONE and CIVL will count towards the major GPA.

**LeTellier Hall** was designed for the needs of civil and environmental engineering education and contains, in addition to laboratories, six multimedia classrooms and one multimedia assembly room that contains additional audiovisual aids. There are three computer facilities located in LeTellier Hall. To help ensure the best use of these facilities, priority access goes to students using software or capabilities specific to the LeTellier sites.

**Main Computer Lab – LeTellier 203**

LeTellier 203 is the primary teaching and student-use computer facility in the Civil and Environmental Engineering Department. The 24 student stations, one projection-capable instructor station, and laser printer located in this lab are connected to the campus wide network, and provide direct Internet access via Ethernet. The software in the labs is Windows based. All machines in the lab have graphics-capable www browsers. The department's standard general purpose software includes: Microsoft Office, Mathcad, AutoCAD, and ArcGIS. In addition, there are a number of course specific software packages. Faculty also post classroom presentations, handouts, programming examples, class notes, and solutions to tests, and homework on Canvas (learning management system). These postings are in a mixture of formats including PDF files, Mathcad documents, spreadsheet files, executable programs, and multimedia presentation files that students may review as needed before and after class. This laboratory is equipped with a network A/B size laser color printer.

**Special Applications Lab – LeTellier 206**

LeTellier 206 is the home of the Civil and Environmental Engineering Department Special Applications Lab. The seventeen student computers serve primarily as AutoCAD, GIS (ArcView) and structural design workstations. Other uses involve construction management, Global Positioning
System (GPS) data analysis/adjustment, and traffic engineering studies. Occasionally, small sections of courses may be scheduled in the lab utilizing the instructors-only workstation and projection system. This laboratory is equipped with a network A/B size laser color printer and E-size color lotter.

**Graphics Lab – LeTellier 308**

LeTellier 308 is the home of the Civil and Environmental Engineering Department Graphics Instruction Lab. The instructor's station is equipped with a projection system for both the computer and document camera. The twenty student computers serve primarily as AutoCAD and ArcGIS workstations. This laboratory is equipped with a networked A/B size laser color printer.

**Materials Testing Laboratory:** Major items of equipment include a 300,000 pound concrete cylinder testing machine; two 60,000-pound hydraulic universal testing machine; and equipment for making tension, compression, shearing, and most other accepted and significant tests on metals, concrete, wood, and other structural materials.

**Construction Materials Laboratory:** Bituminous Materials Testing. This laboratory contains equipment for making the significant quality control and identification tests on asphalt cements. Equipment for the design, mixing, compaction by both hammer and gyratory means, and testing of asphalt concrete paving mixtures by the Marshall and superpave methods are included.

**Concrete Materials Testing:** A curing room, mixing equipment, air entraining measuring apparatus, scales, and other minor equipment are provided in this laboratory. Testing is accomplished using the Materials Laboratory testing equipment.

**Geotechnical Laboratories:** The soils laboratory is equipped with consolidometers, triaxial and direct shear machines, unconfined compression machines, permeameters, Atterberg limit equipment, Proctor and modified AASHTO compaction apparatus, standard sieves, soil hydrometers, C.B.R. apparatus, and other equipment needed for tests and experiments with soils.

**Fluid Mechanics Laboratory:** Equipment is provided for a wide variety of experiments and tests involving the flow of water over weirs or through pipes, meters, orifices, or a Parshall flume. Other major items of equipment include a head loss and flow measurement fluid circuit apparatus, a Reynolds number device, two (2) hydraulic demonstration units permitting experiments involving many phenomena of open channel flow, and a centrifugal pump equipped to measure input and output of energy. In addition, a parallel-series pumping unit is available for students to study parallel-series pumping under a variety of system conditions.

**Environmental Engineering Laboratory:** Equipment is provided for water analysis determination (primarily according to “Standard Methods”) pH, alkalinity, turbidity, conductivity, D.O., and color. Bacteriological examinations may also be made for wastewater analysis, biochemical oxygen demand, solids content, and coliform testing. The equipment includes incubators, a muffle furnace, pH meters, dissolved oxygen probes, electrophotometric devices, a constant temperature refrigerator, spectrophotometer, a drying oven, a type I water generator, a fume hood, a microscope, and essential minor tools and equipment.

**Other engineering equipment:** Adequate equipment is available for the courses in engineering graphics, surveying, geospatial representation, as well as for the junior and senior courses. This equipment includes levels, level rods, tapes, total stations, data collectors, and Geographic Positioning System (GPS) receivers.

**Fundamentals in Engineering Examination:** Each graduating student is required to sit the Fundamentals in Engineering (FE) Examination and provide documentation to the department head.

**Degree:** The degree of Bachelor of Science in Construction Engineering (BSCONE) is awarded to those who successfully complete the program of studies outlined in the course offerings section of this catalog.
Bachelor of Science in Electrical Engineering

Department of Electrical and Computer Engineering

www.citadel.edu/root/eveningundergraduatesudies/2+2-programs/electrical-engineering

Dr. Mark McKinney, mckinneyd@citadel.edu

General Information

In 1941 the Board of Visitors authorized the establishment of a Department of Electrical Engineering at The Citadel. Because World War II intervened, the first electrical engineering degrees were awarded to the class of 1948. The electrical engineering program is offered in two modes—day mode and the two-plus- two evening mode. The day mode is open only to members of the South Carolina Corps of Cadets, veterans, and enlisted active duty students assigned to one of The Citadel's ROTC Departments. The two-plus-two evening mode is open to transfer students and does not require ROTC, Leadership or Health and Physical Education. Otherwise curricula, faculty, textbooks, laboratory equipment, course content, classrooms, and laboratories are the same for both modes.

The Electrical and Computer Engineering Department is located in Grimsley Hall, a first-tier engineering education facility that provides a great learning environment. Modern, fully equipped laboratories, classrooms, and faculty offices on the third floor. The related Departments of Cyber and Computer Sciences, Physics, and Civil and Environmental Engineering are housed adjacent to the department, creating a “micro-campus” of science and technology.

The electrical engineering program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET), http://www.abet.org.

Mission

The mission of the Department of Electrical and Computer Engineering is: To prepare the individual for professional work or for graduate study in the fields of electrical and computer engineering and to provide as many of the elements of a broad education as can be included in a program of professional study leading to the degree of Bachelor of Science in Electrical Engineering.

In addressing its mission, the department strives, through small classes, and hands-on experience in laboratories closely monitored by full-time faculty, to provide an environment highly conducive both to learning and to the development of close student-faculty relationships.

The electrical engineering curriculum places emphasis on a broad liberal education base, a strong background in mathematics and basic sciences, and a logical sequence of electrical and computer engineering courses that provide the breadth and depth necessary for continuous professional growth in today's technological society. By the end of the junior year, the electrical engineering student normally selects an area of professional emphasis such as computer engineering, control systems, communication systems, electronics, or power systems. Integral to the program is the design component that develops the student's ability to address practical engineering problems. Engineering design problems and concepts are included throughout the curriculum and the experience is capped by a mandatory two-semester senior design course in which the students undertake significant design projects.

Convinced of the great value of practical experience, the department encourages its majors to obtain gainful employment in electrical engineering or a related field for at least one summer, preferably between the junior and senior years.

2+2 Program Requirements

The Citadel through The Citadel Graduate College offers an undergraduate Bachelor of Science in Electrical Engineering degree (BSEE). This program is offered in cooperation with South Carolina technical colleges where the student completes the first two years of study. Students may also attend an accredited college or university. The junior and senior years of study are completed at The Citadel by attending evening classes. The program is designed and offered to enable the full-time student to complete the upper two years of the program and receive a BSEE within two academic years and two summers. Students are required to be advised for each semester of enrollment at The Citadel.

Program Educational Objectives

Within a few years (3-5 years), Citadel Electrical Engineering graduates are expected to:

1. Succeed in the practice of Electrical Engineering, by ethically and judiciously applying engineering methods to solve problems facing a technologically complex society.
2. Sustain awareness of engineering-related issues through employment, professional development, professional registration, or graduate education.
3. Be principled leaders with strong communications and team-building skills.
Student Outcomes
The Citadel’s Electrical Engineering program includes assessment to demonstrate that students obtain:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Electrical Engineering Program

The initial year of study includes engineering fundamental courses designed to develop the basic skills and good teaming habits through case studies requiring the communication of creative ideas. The second semester freshman curriculum includes three credit hours of computer applications for electrical engineers. Electrical engineering topics studied in the sophomore year include six credit hours of electrical circuit analysis, and 1 credit hour of electrical circuits laboratory. Theory is combined with application, demonstration, and experimental verification. In addition, the first two years include 19 credit hours of mathematics, eight credit hours of chemistry or biology, 18 credit hours of physics, 18 credit hours of English, history, and social/behavioral science to provide the foundation necessary for an engineering education. Specific course requirements, using Trident Technical College course numbers, are outlined later under Required Program for 2+2.

The junior year requires a total 17 credit hours of electrical engineering course work. Breadth of coverage is provided by courses in signals and systems analysis, electronics, systems (automatic controls), digital systems, electromagnetics, and electromechanical energy conversion. Many of these courses include engineering design problems drawn from the experience of the faculty.

First semester juniors complete their fifth mathematics course, MATH-335 (Applied Mathematics II), providing coverage of mathematical topics required in upper division electrical engineering courses. The junior year includes a single elective course that must be technical in nature but outside the mainstream of electrical engineering.

The senior year provides depth in electrical and computer engineering by requiring five out of a specified set of 400-level electrical engineering elective courses and at least one approved Computer Science elective. The elective courses are ELEC-401 (Electronics II), ELEC-403, (Electric Power Systems), ELEC- 405 (Electrical Measurements), ELEC-407 (Systems II), ELEC-413 (Advanced Topics in Electrical Engineering) ELEC-414 (System Simulation), ELEC-416 (Communications Engineering), ELEC-418 (Advanced Digital Systems), ELEC-419 (Computer Network Architecture), ELEC-423 (Digital Signal Processing), ELEC- 424 (Solid-State Devices), ELEC-425 (Interference Control in Electronics), ELEC-426 (Antennas and Propagation), ELEC-427 (Energy Systems Engineering), ELEC-428 (Computer Architecture), ELEC- 430 (Independent Research in Electrical Engineering), ELEC-450 (Electrical Engineering Internships), and CSCI-420 (Software Engineering). These electives provide the student the opportunity to pursue an area of interest.

While narrow specialization is neither possible nor desirable at the undergraduate level, these three-credit electives provide depth in both design and theory in their specialized areas. Below are several examples of possible areas of concentration available to the student.

<table>
<thead>
<tr>
<th>Computer Engineering</th>
<th>Power Engineering</th>
<th>Communications</th>
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</thead>
<tbody>
<tr>
<td>CSCI-223 Data Structures (prereqs: MAT-206, CSCI 201/201)</td>
<td>CIVL-310 Statics and Mechanics of Materials for Non-Civil Engineers</td>
<td>PHYS-308 Optics</td>
</tr>
<tr>
<td>CSCI-420 Software Engineering</td>
<td>ELEC-307 Nuclear Engineering</td>
<td>ELEC-401 Electronics II</td>
</tr>
<tr>
<td>ELEC-405 Electrical Measurements</td>
<td>ELEC-403 Electric Power Systems</td>
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<td>ELEC-405 Electrical Measurements</td>
<td>ELEC-423 Digital Signal Processing</td>
</tr>
<tr>
<td>ELEC-423 Digital Signal Processing</td>
<td>ELEC-426 Antennas and Propagation</td>
<td>ELEC-426 Antennas and Propagation</td>
</tr>
</tbody>
</table>
Electrical Engineering Design Experiences

Engineering design is distributed throughout the electrical engineering curriculum. Introduction to the design process and the initial design experience occur in the freshman courses. The engineering profession and the ethical responsibilities of professional engineers are discussed. Design problems are posed that require little or no in-depth engineering knowledge. For example, a first design problem might ask the student to design a dormitory room workplace. Functionality, aesthetics, and cost of implementation are a few of the issues to be considered. Case studies are assigned that provide an opportunity for the students to work in teams. The emphasis is on the synthesis of a product that meets broad requirements. The students are introduced to the concept of design in which there is no single right answer and where there are relatively few limits placed on the creative process. Techniques of analysis, synthesis, iteration, and approximations are studied in the sophomore and junior electrical engineering courses. Specialized design exercises are used to illustrate the use of these techniques in the areas of circuits, systems, electronics, electromagnetic, and digital systems. The senior year provides the opportunity for the student to begin to focus on design techniques in a particular area of interest through the choice of at least five senior electrical engineering elective courses. Examples range from the use of a load flow program to determine operational conditions of a small power system in a contingency situation (ELEC-403), to the design of a state estimator (ELEC-407), to the design and implementation of digital filters (ELEC-423).

The design experience culminates in the required senior design courses, ELEC-421 and ELEC-422. This two-semester design sequence provides students the opportunity to work on a project of interest and provides the faculty the opportunity to guide students in their first major design experiences and emphasize once more the various constraints that may come into play in a design. The students are taught several different structured design approaches. Project definition and documentation are stressed. Design teams of three to four students are formed at the beginning of the first semester. Students are instructed on various practical aspects of design, such as layout considerations, safety, functionality, and documentation of design.

The student design teams select and propose a major design project to be completed by the end of second semester. They must enlist a faculty project advisor to guide their project. At the end of the first semester the design teams present their design proposals (written and oral) that include their preliminary design (block diagram level), a schedule for the following semester, and a cost estimate. In the second semester, the teams do the detailed design, and build, test, refine, demonstrate, and document their design projects. In addition to the technical aspects, project management and presentation techniques are taught and applied. A detailed project specification is developed and placed under tight change control. Financial and scheduling aspects of the project are tracked. A final presentation in both written and oral form is required at the end of the semester, along with a working demonstration.

<table>
<thead>
<tr>
<th>Electrical Engineering Major</th>
<th>Courses taken at a South Carolina Technical College (or equivalent): 70 credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical Engineering Courses (20 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>ECE-205 Electrical and Computer Lab I</td>
<td>3</td>
</tr>
<tr>
<td>ECE-221 Introduction to Electrical Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>ECE-222 Introduction to Electrical Engineering II</td>
<td>3</td>
</tr>
<tr>
<td>EGR-202 Introduction to Engineering Programming</td>
<td>3</td>
</tr>
<tr>
<td>EGR-269 Engineering Disciplines and Skills</td>
<td>2</td>
</tr>
<tr>
<td>EGR-274 Engineering Applications of Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>EGR-275 Introduction to Engineering/Computer Graphics</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>General Education (including first two math courses and 2 science courses below) (34 hours)</strong></th>
<th>Writing/English Composition (6 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math/Science (32 credit hours)</strong></td>
<td>Humanities/Fine Arts (3 hours)</td>
</tr>
<tr>
<td>B10 Biology I or CHM College Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>B10 Biology II or CHM College Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>MAT Calculus I</td>
<td>4</td>
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<tr>
<td>MAT Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MAT Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MAT Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>PHY Physics I</td>
<td>4</td>
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<tr>
<td>PHY Physics II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Courses Taken at The Citadel: 56 credit hours**

<table>
<thead>
<tr>
<th><strong>Electrical Engineering Courses (33 credit hours)</strong></th>
<th>EUGS-101 Introduction to The Citadel Experience 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC-302 Electrical Machinery Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>ELEC-306 Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-309 Signals and Systems I</td>
<td>3</td>
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<tr>
<td>ELEC-311 Digital Logic and Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-312 Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-312 Electronics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-316 Electromechanical Energy Conversion</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-318 Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-330 Digital Systems Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ELEC-412 Applied Probability and Statistics for Engineers</td>
<td>3</td>
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<tr>
<td>Course</td>
<td>Credits</td>
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<tr>
<td>ELEC-421 Design I</td>
<td>3</td>
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<tr>
<td>ELEC-422 Design II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electrical Engineering Electives (15 credit hours)**
Choose five courses from the following list:
- ELEC-307 Nuclear Engineering: 3
- ELEC-401 Electronics II: 3
- ELEC-403 Electric Power Systems: 3
- ELEC-405 Electrical Measurements: 3
- ELEC-407 Systems II: 3

- ELEC-413 Advanced Topics in Electrical Engineering: 3
- ELEC-414 System Simulation: 3
- ELEC-416 Communications Engineering: 3
- ELEC-418 Advanced Digital Systems: 3
- ELEC-419 Computer Network Architecture: 3
- ELEC-423 Digital Signal Processing: 3
- ELEC-424 Solid-State Devices: 3
- ELEC-425 Interference Control in Electronics: 3
- ELEC-426 Antennas and Propagation: 3
- ELEC-427 Energy Systems Engineering: 3
- ELEC-428 Computer Architecture: 3
- ELEC-430 Ind. Research in Electrical Engineering: 3
- ELEC-450 Electrical Engineering Internship: 3
- CSCI-420 Software Engineering: 3

**Junior Year Technical Elective (3 credit hours)**
Choose one course from the following list:
- PHYS-308 Optics: 3
- PHYS-410 Thermodynamics: 3
- CIVL-202 Statics: 3
- CIVL-310 Statics and Mechanics of Materials for Non-Civil Engineers: 3
- CSCI-223 Data Structures: 3
- MATH-343 Applied Numerical Methods I: 3
- MATH-344 Applied Numerical Methods II: 3
- MATH-381 Deterministic Methods of Operational Research: 3
- MATH-470 Mathematical Models and Applications: 3
- MATH-490 Advanced Topics in Mathematics: 3
- MECH-225 Computer Applications with Lab: 3
- MECH-365 Computational Methods in Engineering: 3

**Math/Civil Engineering Courses (5 credit hours)**
- MATH-335 Applied Mathematics II: 3
- CIVL-314 Engineering Administration: 2

**Credit hours required for graduation:** 126

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**Computation of Major GPA**

All undergraduate courses taken at The Citadel with a subject prefix of ELEC will count towards the major GPA.

One of the following equivalent courses will satisfy the Humanities/Fine Arts course requirement:

- English classes beyond ENG 101 (but not public speaking), Foreign Language classes 200-level or higher, Fine Arts classes, History Classes.

One of the following equivalent courses will satisfy Social/Behavioral Science course requirement:

- Psychology, Sociology, Political Science (American Government and similar classes), Economics (Macro/Micro), Anthropology.

**Degree:** The degree of Bachelor of Science in Electrical Engineering (BSEE) is awarded to those who successfully complete the program of studies outlined in the course offerings section of this catalog.
Bachelor of Science in Mechanical Engineering

Department of Mechanical Engineering
www.citadel.edu/root/ eveningundergraduatestudies-2-2-programs/ mechanical-engineering

Dr. Robert Rabb, Department Head, 843-953-0520, rrabb@citadel.edu

Mission Statement
To broadly educate and prepare graduates to become principled mechanical engineering leaders in the global community by instilling the core values of The Citadel, the School of Engineering and the Mechanical Engineering program in a challenging intellectual environment that includes a broad-based, rigorous curriculum, emphasizing theoretical and practical engineering concepts, strong professional values, and a disciplined work ethic.

Program Educational Objectives
The Mechanical Engineering program educational objectives are for alumni, 3-5 years after graduation, to achieve success through:

1. Collaborative positions to provide leadership or engineering expertise to organizations and create innovative solutions in a complex world.
2. Local and national recognition in their career paths, solving technical, environmental, business and social challenges.
3. Professional registration and/or an advanced degree in ME or closely related field, oriented to serve local and national development.

Program Core Values
The Mechanical Engineering Program has adopted the following core values:

Students are our Focus: We believe the education, development, empowerment, and welfare of our students are the primary focus of our efforts.

Engineers as Principled Leaders: We believe the engineering profession requires the highest professional and ethical standards, which we seek to model, teach and prepare our students to embrace.

Collaborative Teaching and Learning Environment: We believe in a collaborative collegial environment among our faculty, staff and students is critical in sustaining advancement in educational excellence.

Growth through Assessment: We believe data-driven inquiry and improvement will lead us to sustained advancement in educational excellence.

Program Requirements
Two-Plus-Two Evening Studies
The Citadel through The Citadel Graduate College offers an undergraduate Bachelor of Science in Mechanical Engineering degree (BSME). This program is offered in cooperation with South Carolina technical colleges where the student completes the first two years of study. Students may also attend an accredited college or university. The junior and senior years of study are completed at The Citadel by attending evening classes.

Student Outcomes
The Citadel’s Mechanical Engineering program includes assessment to demonstrate that students obtain:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Program of Study
The Mechanical Engineering program is accredited by ABET (www.abet.org).

The Mechanical Engineering program will incorporate a number of courses within the existing ABET accredited civil and electrical engineering programs. As shown in the program of study, there will be five main focus areas to meet the needs of the local industry in South Carolina.

1. Manufacturing Engineering:
   Students acquire knowledge in different manufacturing practices to optimize the processes and systems in a production environment.
2. **Composites** - Students study composite materials, the principles behind their design, their physical properties, fabrication methods, and application to real-world engineering solutions.

3. **Power and Energy** - Students learn about energy resources, alternative energy, energy storage, conversion between forms of energy, and energy performance limitations as they apply to satisfying the needs of mankind.

4. **Aeronautical Systems** - Students study the science and design of fixed wing light systems, aircraft performance and structures.

5. **Mechtronics** - Students apply skills from mechanical engineering and electrical engineering to enable real-world control of robots, unmanned aerial vehicles, and other autonomous systems.

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**Mechanical Engineering Major**

Courses taken at a South Carolina Technical College (or equivalent): 73 credit hours

**Mechanical Engineering (23 hours)**
- ECE-205 Electrical and Computer Engineering Lab 3
- ECE-221 Intro. to Electrical Engineering I 3
- ECE-222 Intro. to Electrical Engineering II 3
- MECH-225 Computer Applications w/lab 3
- EGR-202 Intro. to Engineering Programming 3
- EGR-260 Engineering Statics 3
- EGR-269 Engineering Discipline and Skills 2
- EGR-274 Engineering Applications of Numerical Methods 3
- EGR-262 Engineering Dynamics 3

**General Education (including first two math courses and 2 science courses below) (34 hours)**

**Writing/English Composition (6 hours)**

**Humanities/Fine Arts (3 hours)**

**Social/Behavioral Sciences (3 hours)**

**Technical Writing (ENG 260) (3 hours)**

**History (3 hours)**

**Math/Science Requirements (32 hours)**
- BIO Biology 4
- CHM College Chemistry 4
- MAT Calculus I 4
- MAT Calculus II 4
- MAT Calculus III 4
- MAT Differential Equations 4
- PHY Physics I 4
- PHY Physics II 4

Courses Taken at The Citadel: 65 credit hours

**Third Year (41 hours)**
- EUGS-101 Introduction to The Citadel Experience 1

**Fourth Year (24 hours)**
- MECH-415 Heat Transfer 3
- MECH-450 Mechatronics w/lab 3
- MECH-481 Senior Design I 3
- MECH-482 Senior Design II 3
- MECH ME Option I ** 3
- MECH ME Option II ** 3
- MECH Mechanical Elective ** 3
- Technical Elective * 3

^ Students can elect to take this course at TTC or in the summer at The Citadel.

* To be selected from an approved list of courses in engineering or science.

**Total Credit Hours: 138**

**Computation of Major GPA**

All undergraduate courses taken at The Citadel with a subject prefix of MECH will count towards the major GPA.

All scheduled freshman and sophomore level engineering, science, and mathematics courses must be completed before a student will be permitted to enroll in senior level courses. Students are required to be advised for each semester of enrollment at The Citadel.

One of the following equivalent courses will satisfy the Humanities/Fine Arts course requirement:

English classes beyond ENG 101 (but not public speaking), Foreign Language classes 200-level or higher, Fine Arts classes, History Classes.

One of the following equivalent courses will satisfy Social/Behavioral Science course requirement:

Psychology, Sociology, Political Science (American Government and similar classes), Economics (Macro/Micro), Anthropology.
The Project Shop is a 750 square foot facility with workspace for student projects and design work. Adequate equipment is available for the courses in thermo-fluids, machine design, manufacturing, as well as for the other junior and senior courses.

Fundamentals of Engineering Examination: Each graduating student is required to take the Fundamentals of Engineering (FE) Examination and provide documentation to the program director.
UNDERGRADUATE COURSE DESCRIPTIONS
Course Descriptions

Descriptions of undergraduate courses are listed in this section. Consult the course schedules online to determine the course offerings in a particular term.

Business Administration (BADM/BANA)

BANA-101, Principles of Business Analytics
Three Credit Hours
Learn how to apply computer software to assist in analyzing common business decisions, with an emphasis on advanced techniques in spreadsheet and database development and design.

BANA-202, Applied Business Math and Statistics
Three Credit Hours
This course is designed to give you an overview of today's business world and a working knowledge of its mathematical applications and procedures. This course will provide you with solid preparation and foundation for going on to courses and careers in accounting, marketing, retailing, banking, finance, insurance, real estate, and business administration. The course begins with a business-oriented review of the basic computational math skills, including: whole numbers, fractions, and decimals. Once you have mastered these operations, you will learn the concept of basic equations, and how they are used to solve business problems. Then you will learn about percents, an all-important mathematical tool used in business to measure and compare numbers. Utilizing this knowledge of basic operations, equations, and percents, the course then moves into specific business math applications.

Prerequisite: Elementary Mathematical Modeling (MATH 104) or Business Statistics I (BADM 205)

BADM-216, Communications in Business
Three Credit Hours
Required of business administration sophomores. A study of written and oral communication in organizations. Emphasis is given to communication theory including communication flows and barriers, as well as the psychology of communicating good, neutral, negative, and persuasive messages. The course also covers career planning, delivering professional presentations, electronic communications and writing formal reports.

Prerequisites: English Composition & Lit I (ENGL-101) and English Composition & Lit II (ENGL 102)

BANA-301, Legal & Ethical Environment of Business
Three Credit Hours
Required of all business administration juniors. An introduction to the legal system, with special emphasis on its relation to business. Students will contend with federal and state regulations as well as the common law to arrive at an understanding of the legality, ethics, and social responsibility of business decisions. Topics include an introduction to the judicial system, torts and product liability, administrative law and consumer protection, agency and partnership, contracts, the Constitution, criminal law, ethics, and fiduciary trust.

Prerequisite: Junior or senior standing in business administration.

MKTG-301, Principles of Marketing
Three Credit Hours
Required of all business administration juniors. Introduction to basic concepts and terminology in marketing; the process of developing marketing strategy, the role of marketing activities within the firm, external influences that affect the development of marketing strategy, and basic analytical tools appropriate to marketing decision-making. International and ethical issues in marketing are examined.

Prerequisite: Principles of Microeconomics (BADM-202).

SCMT-301, Principles of Operations Management
Three Credit Hours
Required of all business administration seniors. Operations management focuses on the systematic direction of the processes involved in the sourcing, production, and delivery of products and services. This course addresses managerial issues such as facility location and layout, service design, demand forecasting, production scheduling, project management, quality management (for example, lean, JIT, Six Sigma, TQM, etc.), inventory management, supply chain management, maintenance and reliability, and capacity management. Included are applications of decision models, statistical methods, or optimization techniques such as linear programming, queuing theory, simulation, or others.

Prerequisites: Business Statistics (BADM-205) or Statistical Methods (STAT-160), Introduction to Managerial Accounting (BADM-212), and Microeconomics (BADM-202).

BADM-320, International Business
Three Credit Hours
This course focuses on decisions in international business operations for small and large firms. Of particular interest are international business climate/culture, foreign exchange rates, international trade, overseas direct investment, and operations management. Students will incorporate case studies dealing with aspects of international business.

Prerequisite: Sophomore standing in business administration.

FINC-301, Principles of Finance
Three Credit Hours
Required of all business administration juniors. An introductory course combining both a description of the structure of business financing and a study of financial principles and practices, with special emphasis on their relation to managerial planning and control.

Prerequisite: Introduction to Financial Accounting (BADM-211)

BADM-323, Quality Management
Three Credit Hours
Students will develop an overall framework within which they can understand quality as a system. Content includes a look at the impact of the quality movement on our world during recent decades for both manufacturing and service organizations. The course focuses on management, leadership, organization, and tools needed to build and continuously improve quality and customer value throughout the supply chain. Included is a review of the contributions of those who are considered prime movers in the quality revolution, including Deming, Crosby, Juran, and Taguchi; a survey of current developments in the field; and practice in use of typical Quality Management techniques, tools, and processes including Lean, Six-Sigma, SPC, ISO 9000, business process
improvement, QFD, and others.

Prerequisite: Business Statistics I (BADM-205) or Statistical Methods (STAT-160)

BADM-324—Purchasing and Materials Management
Three Credit Hours
The course introduces students to the critical role of purchasing in the supply chain. Topics may include the evolution of supply management and its strategic nature in world-class organizations; the supply manager's responsibilities; the “boundary-spanning” nature of supply management; the purchasing process, objectives and responsibilities; supplier evaluation and selection; supplier quality and risk management; negotiation framework and planning; cost concepts (e.g., direct and indirect costs, fixed, step, and variable costs, and target costs) and cost analyses; “Make or Buy” decisions; developing in-country sources of supply versus “offshoring” decisions; ethical and professional standards expected among supply management professionals; and environmental considerations in purchasing and materials management.

Prerequisite: Business Statistics I (BADM-205) or Statistical Methods (STAT-160)

BADM-326—Principles of Real Estate
Three Credit Hours
This course provides a personal and professional perspective of the legal, financial, and ethical rights and obligations of all parties in a real estate transaction. Topics include organizing, functioning, financing, marketing, brokering, appraising, and managing of real estate transactions.

Prerequisite: Sophomore standing in business administration.

BADM-327—Principled Entrepreneurship and the Free Enterprise System
Three Credit Hours
This course explores the role of entrepreneurship in the free enterprise system, how government policies affect entrepreneurial activity within the United States and globally, and the moral and ethical dimensions of principled entrepreneurship. This course focuses on using the tools of economics to understand the entrepreneurial process, including the role of profits and losses, discovery, and creative destruction. The course examines the legal forms of business organization and the challenges involved in opening a business and writing a business plan.

Prerequisite: Junior standing in business administration.

BADM-329—Project Management
Three Credit Hours
This course introduces students to the concepts and tools currently being used in the professional field of Project Management. Students will obtain a basic understanding of project management principles and practices, increase their ability to function effectively on a project team and as a project manager, and improve their ability to communicate effectively both orally and in writing. This course includes coverage of management in a wide range of project applications from concept through operations, planning, scheduling, controlling, economic analysis, quality, and customer satisfaction are stressed. The topics in this course cover essential concepts from the Project Management Institute’s A Guide to the Project Management Body of Knowledge (PMBOK).

Prerequisites: Although there are no formal prerequisites, this course is designed for students who have taken courses in management and organizational behavior, introductory finance, and statistics. Students without these courses are likely to have to devote more time to topics briefly reviewed and may have to supplement their learning on their own for some topics.

Prerequisite: Statistical Methods (STAT-160)

BADM-332 Financial Markets and Institutions
Three Credit Hours
This course provides an overview of the key financial institutions (banks, insurance companies, mutual funds, government entities, etc.), markets (stock, bond and foreign exchange among others) and the wide array of financial instruments that are available to businesses and individuals. Particular attention will be paid to risk management and how the various markets and institutions interact with each other. Activities that take place in financial markets and institutions have a direct effect on personal wealth, the behavior of consumers and businesses, and the well-being of the overall economy.

BADM-303—Management and Organizational Behavior
Three Credit Hours
Required of business administration juniors. A study of the fundamental concepts of management and organizational behavior. Emphasis is placed on the study of human behavior, attitudes, and performance in organizations, and on the development of positive interpersonal relations. A major focus is on the managerial role of leader and decision-maker necessary for effective planning, organizing, influencing, and control of the organization. The dynamics and links among individuals, groups, and the national and international environment are analyzed to highlight the determinants of organizational effectiveness.

Prerequisite: Junior standing in business administration.

MGMT-305—Business Leadership
Three Credit Hours
Using a case approach as well as a significant experiential component, this course involves the application of leadership theory and practice covered in this class and in other classes in the interdisciplinary minor in Leadership Studies. The course draws from cases in business and other organizations to focus the student's learning in both individual and team projects. Issues of motivation, persuasion, ethics, power, diversity, teams, etc. will all be explored. Guest speakers/leaders will also be an important component of the course.

Prerequisite: Junior standing in business administration.

BADM-404—Investments
Three Credit Hours
A survey course that introduces different types of securities, markets, transaction costs, security regulations, and taxes. The basic techniques for analyzing the potential returns and risks of individual securities and for combining them efficiently into portfolios are also studied.

Prerequisite: Business Finance (BADM-321).

BADM-405—Marketing Management
Three Credit Hours
A study of marketing planning and decision-making from the point of view of the marketing manager in a changing economic, social, and legal environment. Basic concepts and methods of analysis used in formulating product, distribution, promotion, and pricing
strategy are studied.  
Prerequisite: Marketing Management (BADM-309).

**BADM-406 Professional Selling**  
Three Credit Hours  
A study of the stages of the professional selling process, and the role of sales in today’s marketing environment. Emphasis on learning adaptive selling techniques and developing effective interpersonal communications skills. Sales careers are examined.  
Prerequisite: Marketing Management (BADM-309).

**BADM-407—Money and Banking**  
Three Credit Hours  
The nature and functions of money, the various monetary standards, the development of our monetary system, the factors affecting the value of money, methods and objectives of money and credit control, international exchange, and analysis of recent developments in money and credit.  
Prerequisite: Principles of Macroeconomics (BADM-201).

**BADM-409—Human Resource Management**  
Three Credit Hours  
A contemporary course in the management of personnel as a resource concentrating on the historical, legal, social, economic, and ethical framework of labor relations with a focus on forecasting, planning, staffing, compensating, developing a career, labor relations, performance management, and control and evaluation of human resources.  
Prerequisite: Sophomore standing in business administration.

**BADM-413—International Marketing**  
Three Credit Hours  
Introduction to global problems, cultural and ethical issues, and decision areas facing the marketing manager. Primary emphasis rests on the value of cross-cultural understanding and the need for careful adaptation of marketing efforts.  
Prerequisite: Marketing Principles (BADM-309).

**BADM-414—Consumer Behavior**  
Three Credit Hours  
The study of behavioral science theories and related marketing models useful to managers in understanding consumers in the domestic and global marketplace.  
Prerequisite: Marketing Principles (BADM-309).

**BADM-417—Management Information Systems**  
Three Credit Hours  
Information systems (IS) support the overall strategy of an organization in many ways. This course reviews the issues associated with managing and improving the IS function within an organization, including using IS to support decision making, manage the firm’s assets, and develop and support customers. Additional topics include the critical role of IS in an organization’s strategic plan, security issues, and the harnessing of technological advances for organizational growth.  
Prerequisite or Corequisite: Computer Applications in Business (BADM-110)

**BADM-420—Management of Change**  
Three Credit Hours  
This course uses knowledge and skills from the social sciences to develop strategies for achieving effective change within organizations. Implementation of these strategies to achieve more effective organizations is the core of this course. Topics include team building, process consultation, confrontation and the management of conflict, and technostructural change.  
Prerequisite: Management and Organizational Behavior (BADM-338)

**BADM-421—Logistics Management**  
Three Credit Hours  
Logistics is the part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and point of consumption in order to meet customers’ requirements (Council of Supply Chain Management Professionals, 2003). The course covers the role and importance of the key logistics intermediaries that facilitate global trade. It describes the functions comprising logistics, describes how these functions interact, and explains how logistics can be managed as a system to reduce total cost.  
Prerequisite: Supply Chain Management (BADM-429)

**MGMT-449—Strategic Management**  
Three Credit Hours  
Required of all business administration seniors. A capstone course designed to give the student practice in integrating the numerous theory courses in all phases of business management. The student develops problem-solving and decision-making skills by assuming the role of top management in a simulated company and through the study of actual business cases.  
Prerequisites: Principles of Macroeconomics (BADM-201), Introduction to Managerial Accounting (BADM-212), Principles of Marketing (MKTG-301), Principles of Finance (FINC-301), and Management and Organizational Behavior (MGMT-303).

**BADM-423—Personal Finance**  
Three Credit Hours  
Personal Finance focuses on the application of basic financial tools and principles to the student’s personal life. Concepts and tools covered include: the financial planning process, liquidity management, debt management, asset management, and risk management. The course will also include retirement, education, and estate planning. Upon completion of this course, the student will be prepared to create and manage their own personal financial plan.  
Prerequisite: Junior standing in business administration.

**BADM-425—Small Business Management/Entrepreneurship**  
Three Credit Hours  
This course covers the environment of small business, factors of success or failure, small business management tools, and sources of financing. Student teams prepare business plans for the start-up of a business. In some instances, the teams will work with local entrepreneurs in developing business plans. The course is supported by a multimedia business planning system.  
Prerequisite: Junior standing in business administration.

**BADM-428—Technology and Entrepreneurship**  
Three Credit Hours  
Technology ventures are significantly changing the global competitive landscape. This course explores the intersection of technology and entrepreneurship, including both the development
of new technology-based businesses and the use of technology in launching and marketing new businesses. Students will learn about models of technological change, models of new firm strategy development, and models of organizational strategy in high-tech start-ups. Topics include: matching new technologies and markets, making money from innovation, competition between technologies, strategies for competing against established incumbents, technology portfolio development, and theories of diffusion and adoption.

Prerequisite: Junior standing in business administration.

BADM 429—Supply Chain Management
Three Credit Hours
This course focuses on basic principles and essential concepts of supply chains and their effective operation and management. Topics may include methods of resource acquisition, contract management, procurement, production, packaging, shipping, warehousing, inventory placement, distribution, transportation, logistics planning, risk, quality, information technology, and product support.
Prerequisite: Business Statistics (BADM 205) or Statistical Methods (STAT 160)

BADM 430–435—Seminar in Business Administration
Three Credit Hours
Junior or senior standing in business administration. These courses are designed to provide students of exceptional ability and background with the opportunity to explore a variety of advanced, business-oriented, analytical techniques. Specified topics covered within these courses will be offered at the discretion of the instructor and under the supervision of the department head.
Prerequisite: approval of course instructor and department head.

BADM 450—Internship
Three Credit Hours
Senior or Junior Standing. This course gives senior students real-world work experience to complement the classroom education they have already received. Interns will learn about the variety of issues faced by today’s firms and their managers, the kinds of information firms collect and use, and the development of solutions for business problems. Interns will spend ten to twelve hours each week working alongside a senior-level manager in a Charleston-area business.
Prerequisite: Junior standing in business administration.

BADM 490—Independent Study
Three Credit Hours
Approvals for enrollment during pre-registration from sponsoring professor and department head are required. This course may be taken by seniors desiring to engage in a scholarly research project of mutual interest to the student and the faculty member who directs the study. The project should culminate in a formal student research paper.
Prerequisite: Junior or senior standing in business administration.

Civil and Environmental Engineering (CIVL)

CIVL 101—Engineering Drawing
Two Credit Hours
Required of all Civil and Environmental Engineering freshmen.

Use and care of drawing instruments; proper weights and types of lines for clear-cut and complete graphical representation; auxiliary and sectional views; pictorial representation with emphasis on isometric drawing, dimensioning, development of a reasonable skill in lettering. A substantial portion of the course is taught using CAD software.
Laboratory: Four hours

CIVL 103—Introduction to Civil Engineering
One Credit Hour
Required of all Civil and Environmental Engineering freshmen. The engineering design process is demonstrated through use of practical problems-solving methods for public infrastructure and built environment projects. Course subjects include civil engineering career paths, ethical canons of the engineering profession, and requirements for professional licensure. Course assignments, conducted within a collaborative learning environment, focus on creative engineering solutions through technical analysis, teamwork, communication skills and professionalism. As a foundation for sustained success in civil engineering, additional course topics include: lifelong learning, time management, community and professional service, and career development.
Laboratory: Two hours

CIVL 202—Statics
Three Credit Hours
Required of all Civil and Environmental Engineering sophomores. Scalar and vector solutions of problems in statics; resultants, reactions, and equilibrium of forces; analysis of simple trusses, friction, centroids and centers of gravity; and moments of inertia.
Lecture: Three hours.
Corequisites: Analytic Geometry and Calculus I (MATH 131) and Physics with Calculus I and Lab (PHYS 221/271)

CIVL 203—Dynamics
Three Credit Hours
Required of all Civil and Environmental Engineering juniors.
Kinematics and Kinetics of particles or rigid bodies in plane motion with emphasis on the special cases of translation and rotation. The techniques of vector mathematics are employed.
Lecture: Three hours
Prerequisites: Statics (CIVL 202) with a grade of “C” or better.

CIVL 205—Surveying
Three Credit Hours
Required of all Civil and Environmental Engineering sophomores.
Linear measurements, leveling, compass and transit/theodolite, total stations theory of errors, latitudes and departures, areas, stadia, coordinate geometry, construction field control, legal aspects of land surveying, and public land surveys.
Lecture: Three hours and Surveying Laboratory (CIVL 235).
Corequisites: Engineering Drawing (CIVL 101) or Introduction to Civil Engineering (CIVL 103).

CIVL 208—Geospatial Representation
Three Credit Hours
Required of all Civil and Environmental Engineering sophomores.
Study of geospatial representation applications, techniques, and methods that includes topographic mapping, map projections, reference datums, state plane coordinate systems, Global Positional Systems (GPS), Geographic Information Systems (GIS), and remote
CIVL-210—Computer Application for Civil and Environmental Engineering  
Three Credit Hours  
Required of all Civil and Environmental Engineering sophomores. Instruction in computer applications to problems chosen from civil engineering fields. Development of computer-based methods for analyzing civil engineering systems. The class will address a range of related topics including algorithm development and implementation, professional and ethical aspects of computer applications, development of self-directed learning skills appropriate for civil engineering.  
Lecture: Three hours  

CIVL-235—Surveying Laboratory  
One Credit Hour  
Required of all Civil and Environmental Engineering sophomores. Application of principles obtained in CIVL-205 through actual field work. Horizontal control activities include distance measurements by tape and EDM, angular measurements by theodolite and total station; traversing; traverse closure computations; balancing computations; and preparation of boundary plat. Students will be introduced to the use of data collectors as part of their field work. Computer-aided applications and computer drafting are available.  
Laboratory: Two hours  
Co-requisite: Surveying (CIVL-205).  

CIVL-239—Geomatics Laboratory  
One Credit Hour  
Required of all Civil and Environmental Engineering sophomores. Preparation of topographic map, Geographic Positioning Systems mapping controls, Geographic Information System applications, and understanding the geometry and nomenclature of horizontal and vertical curves.  
Laboratory: Two hours  
Co-requisite: Surveying (CIVL-205) and Surveying Laboratory (CIVL-235).  

CIVL-302—Highway Engineering  
Three Credit Hours  
Required of all Civil and Environmental Engineering juniors. Highway alignment, right-of-way and easements; earthwork and grading; road user benefits, traffic operations and capacity; design of intersections and interchanges; construction surveys; drainage design; highway materials, design of asphalt mixtures; pavement thickness design; and construction management, contracts, estimates and specifications. Preparation of plans and design documentation for a highway project including: horizontal alignment, vertical alignment, roadway cross-sections, storm water drainage, earthwork and mass diagram calculations, and construction materials.  
Lecture: Three hours  
Co-requisite: Transportation Engineering (CIVL-305).  

CIVL-304—Mechanics of Materials  
Three Credit Hours  
Required of all Civil and Environmental Engineering juniors. Elastic properties of structural materials; internal stresses and strains; principal stresses and strains including Mohr’s Circle; axial, torsion, flexure; shear; bolted joints; combined stresses; shear and moment diagrams; beam deflections. Supplemented by CIVL 307.  
Lecture: Three hours  
Pre-requisite: Statics (CIVL-202) with a grade of “C” or better.  

CIVL-305—Transportation Engineering  
Three Credit Hours  
Required of all Civil and Environmental Engineering juniors. A study of technical, multimodal, and organizational interrelationships of United States transportation mobility systems focusing on policy, planning, capacity, operation, and design of land transportation, airport and seaport facilities. Topics include highway design, roadway safety, traffic engineering, travel forecasting, railroad alignment, public mass transit, airport layout, and harbor/ports.  
Lecture: Three hours  
Co-requisite: Introduction to Civil Engineering (CIVL-103), Engineering Drawing (CIVL-101), Geospatial Representation (CIVL-208), Geomatics Laboratory (CIVL-239).  

CIVL-307—Materials Laboratory  
One Credit Hour  
Required of all Civil and Environmental Engineering juniors. Laboratory supplement to CIVL-304. Introduction to the use of testing machines and equipment; strength and deformation measurements of ferrous and nonferrous metals, concrete, and wood; properties of materials as determined by results of tests in compression, tension, bending, torsion; behavior of columns; use of electric resistance strain gages; use of ASTM specifications and test procedures. Taken concurrently with or subsequent to CIVL-304.  
Laboratory: Two hours  
Pre-requisite: English Composition (ENGL-102); prerequisites or Co-requisites: Computer Application for Civil and Environmental Engineering (CIVL-210), Mechanics of Material (CIVL-304).  

CIVL-309—Structural Analysis  
Four Credit Hours  
Required of all Civil and Environmental Engineering juniors. Structural analysis of determinate and indeterminate beams and frames using classical, approximate, and computer-based methods.  
Lecture: Four hours  
Pre-requisites: Mechanics of Materials (CIVL-304) with a grade of “C” or better and Analytic Geometry and Calculus II (MATH-132).  

CIVL-310—Statics and Mechanics of Materials for Non-Civil Engineers  
Three Credit Hours  
Vector solutions of problems in statics, resultants, reactions and equilibrium of forces. In addition, the brief study of mechanics of materials including stress and strain relationships and various types of loading on structural members.  
Lecture: Three hours  
Pre-requisites: Analytic Geometry and Calculus II (MATH-132) and Physics with Calculus Lab (PHYS-221/271).
CIVL-314—Engineering Economy
Two Credit Hours
Required of all Civil and Environmental Engineering juniors. Topics include the time value of money, equivalence, simple and compound interest, nominal and effective interest rates, present worth and capitalized cost evaluation, equivalent uniform annual worth evaluation, rate of return evaluation, benefit/cost ratio evaluation, depreciation, corporate and individual income tax, after-tax economic analysis, and engineering ethics as applied by practicing engineers.
Lecture: Two hours

CIVL-317—Professional Sustainability
One Credit Hour
Required of all Civil and Environmental Engineering juniors. The ethical canons of the engineering profession require civil engineering graduates be well-rounded effective leaders in planning, design, and construction of public infrastructure and the built-environment required to establish safe, healthy, equitable and vibrant communities. Course topics focus on preparing students to serve with distinction as technical leaders in addressing the needs of society and include: teamwork, public administration, communication, public policy, ethics, lifelong learning, attitudes, and leadership.
Lecture: One hour
Prerequisite: Junior standing in Civil and Environmental Engineering

CIVL-320—Fluid Mechanics
Three Credit Hours
Required of all Civil and Environmental Engineering juniors. An introduction to fluid characteristics, properties, and the fundamentals of fluid statics, fluid dynamics, fluid flow, and fluid measurements. Hydraulic principles including pressurized pipe flow, and open channels are also covered. Classroom assignments include design problems and problem solving.
Lecture: Three hours
Prerequisite: Statics (CIVL-202) with a grade of “C” or better; Prerequisites or Corequisites: Either Analytic Geometry & Calculus (MATH-231) or Applied Engineering Mathematics (MATH-234)

CIVL-321—Hydrology and Hydraulics
Three Credit Hours
Required of all Civil and Environmental Engineering juniors. This course focuses on presentation and application of fundamental hydraulic and hydrology principles including hydrologic cycle; hydrograph development; flood routing; design of storm water systems and water distribution systems, pipe networks, pumping systems, flow through orifices, flumes & weirs, and design of hydraulic structures.
Lecture: Three hours
Prerequisite: Fluid Mechanics (CIVL-320)

CIVL-322—Introduction to Environmental Engineering
Three Credit Hours
Introduction to water, air, solid and hazardous waste. Included are social and ethical considerations, legal and regulatory principles, risk analysis, the effect of pollutants in the environment, ground-water flow theory and application, and the engineering principles governing the generation and control of these pollutants.
Lecture: Three hours
Prerequisites: General Chemistry I (CHEM-151), General Chemistry I Laboratory (CHEM-161), Fluid Mechanics (CIVL-320), and either Analytic Geometry & Calculus (MATH-231) or Applied Engineering Mathematics (MATH-234).

CIVL-327—Asphalt and Concrete Laboratory
One Credit Hour
Required of all Civil and Environmental Engineering juniors. Laboratory applications involving design, preparation, curing and testing of asphalt and Portland cement concrete. Includes testing for component properties, component selection and grading, material handling, mix design, blending, applicable standards and specifications, construction practices, quality control, specimen testing and safety. Marshall and Superpave mix design procedures and testing methods are used to conduct laboratory data collection and analysis. Emphasis is placed on professional laboratory report preparation.
Lecture: Two hours
Prerequisite: Materials Laboratory (CIVL-307); Corequisite: Highway Engineering (CIVL-302).

CIVL-330—Measurements, Analysis and Modeling for CEE Systems
Three Credit Hours
In this course, students are introduced to several concepts and techniques essential to the modern civil engineer: Uncertainty and variability of physical systems; analysis of measurement systems; physical modeling and scaling techniques; mathematical and numerical modeling; and the impact of uncertainty on project economics. Both theory and application are presented with a very strong emphasis placed on hands-on explorations. The course requires students to employ their computer skills acquired in CIVL 210 for many assignments.
Lecture: Three hours
Prerequisite: Computer Application for Civil and Environmental Engineering (CIVL-210).

CIVL-331—Probability and Statistics for Civil and Construction Engineering
Three Credit Hours
This course introduces engineering students to concepts and techniques necessary to organize and analyze technical data. Descriptive statistical measures and probability theory are combined to provide the basis for statistical decision-making techniques applicable to the practice of civil and construction engineering. Topics include data collection and presentation, measures of central tendency; measures of variability; basic probability laws and distributions; sampling theory, confidence intervals, hypothesis testing, analysis of variance, regression analysis, and process control.
Prerequisite: (CIVL-210), minimum sophomore standing, or approval of Dept. Head.

CIVL-402—Geotechnical Engineering Laboratory
One Credit Hour
Required of all Civil and Environmental Engineering seniors. Field and laboratory applications of typical methods for determining engineering properties of cohesive and granular soils. Experimental topics include specific gravity, particle size distribution, clay soil consistency, engineering classification, permeability, compaction, consolidation, in situ soil properties, soil boring and sampling techniques, and shear strength parameter determination using unconfined direct, triaxial, vane shear, and penetration apparatus.
Laboratory: Two hours
Prerequisite: Introduction to Geotechnical Engineering I (CIVL-409); Co-requisite: Geotechnical Engineering I (CIVL-410).

CIVL-404—Reinforced Concrete Design
Three Credit Hours
Required of all Civil and Environmental Engineering seniors. Design of reinforced concrete structures using strength design theory. Design of beams, columns, combined stress members, footings, and retaining walls. Comprehensive analysis and design of a building frame and foundation system. Special attention is given to the use of current specifications for design and construction. The use of computer programs to facilitate analysis and design during the comprehensive problem is encouraged.
Lecture: Three hours
Prerequisites: Structural Analysis (CIVL-309)

CIVL-406—Steel Design
Three Credit Hours
Required of all Civil and Environmental Engineering seniors. Theory and design of steel structures using the load and resistance factor design method. Design of tension and compression members, beams, and columns. Computer solutions are utilized for design shears, moments, and axial loads.
Lecture: Three hours
Prerequisite: Structural Analysis (CIVL-309).

CIVL-408—Water and Wastewater Systems
Three Credit Hours
Required of all Civil and Environmental Engineering seniors. Introduction to engineering design principles and practices including water use, quality standards for drinking water, water treatment systems, determining the quality of wastewater, design of sanitary sewers, quality criteria for surface waters, and wastewater treatment systems.
Lecture: Three hours
Prerequisites: Introduction to Environmental Engineering (CIVL-322), General Chemistry II/General Chemistry Laboratory II (CHEM-152/162), Analytic Geometry & Calculus (MATH-231), and Applied Engineering Mathematics (MATH-234).

CIVL-409—Introduction to Geotechnical Engineering
Three Credit Hours
Required of all Civil and Environmental Engineering Seniors. Introduces the student to the rudiments of theoretical soil mechanics. Topics include engineering uses of soils, laboratory and field determination of soil properties, determination of phase relationships, engineering soil classification, soil-water interaction and seepage flow mechanics, stress effects of loading on soils at depth, and consolidation, compaction, shear strength, and bearing capacity theory.
Lecture: Three hours
Prerequisites: Mechanics of Materials (CIVL-304) with a grade of “C” or better, Introduction to Environmental Engineering (CIVL-322), Analytic Geometry & Calculus III (MATH-231), and Applied Engineering Mathematics I (MATH-234).

CIVL-410—Geotechnical Engineering II
Three Credit Hours
Required of all Civil and Environmental Engineering seniors. An introductory course in geotechnical analysis and design. Topics include shallow foundations, spread footings, deep foundations, piles and caissons, lateral earth pressure for cohesive and cohesionless soils, slope stability analyses, subsurface investigations, and special topics including such subjects as soil stabilization methods, geotextile applications, liquefaction, etc.
Lecture: Three hours
Prerequisite: Introduction to Geotechnical Engineering (CIVL-409); Co-requisite: Geotechnical Engineering Laboratory (CIVL-402)

CIVL-411 Engineering Management
Three Credit Hours
Application of management skills, methods, and techniques used to effectively perform engineering, design, and construction projects. Course topics include project scheduling, contract documents, multidisciplinary teams, public administration, communication, public policy, ethical responsibility, lifelong learning skills, and engineering leadership. Emphasis is placed on professional relationships between government agencies, owners, engineers, and contractors to achieve project requirements and produce engineering deliverables.
Lecture: Three hours
Prerequisite: Completion of all freshman and sophomore courses or approval of the department head.

CIVL-412—Engineering Practice & Professional Licensure
One Credit Hour
Required of all Civil and Environmental Engineering seniors and Construction Engineering seniors. This class provides a review for the NCEES Fundamentals of Engineering Computer Based Exam.
Prerequisite: Senior standing in civil and environmental engineering or construction engineering.

CIVL-416—Modeling Civil Engineering Systems
Three Credit Hours
Modeling the behavior of a wide range of civil engineering systems using various analytical, computer-based, numerical, and experimental techniques. Introducing the concepts of probabilistic modeling using the Monte Carlo Analysis.
Lecture: Three hours
Prerequisites: Completion of required CIVL courses through the junior year or permission of the department head.

CIVL-418—Fluid Mechanics Laboratory
One Credit Hour
Required of all Civil and Environmental Engineering seniors. Accomplishments of laboratory exercises and experiments to illustrate basic concepts of fluid mechanics and to validate empirical formulas used in hydraulic computations. Principal emphasis is on the phenomena associated with closed conduit and open channel flow of water, measurement of velocities, and flow rates and operational characteristics of pumps. A minimum of one experiment will involve the use of the computers to evaluate laboratory data.
Laboratory: Two hours
Prerequisite: Hydrology and Hydraulics (CIVL-321).

CIVL-419—Environmental Engineering Laboratory
One Credit Hour
Required of all Civil and Environmental Engineering seniors. Accomplishment of chemical, physical, and microbiological determinations used in the examination of water and wastewater. Laboratory analysis to evaluate water quality will be performed, such as biochemical oxygen demand, suspended solids, pH,
alkalinity, and others. A minimum of one laboratory experiment will involve the use of the computer to evaluate laboratory data. Laboratory: Two hours

Pervasive: Water and Wastewater Systems (CIVL 408).

CIVL 421—Subdivision Planning and Design
Three Credit Hours
The elements of planning a subdivision including an introduction to planning, zoning, subdivision requirements, and review procedures; site development including the integrated design of roadways, storm drainage collection/retention/detention systems, sanitary sewer collection and transportation systems (pumping stations and force mains), potable water systems, and construction cost estimates and specification; and economic analysis with individual student participation in preliminary development of single family, and multifamily projects on 20- to 25-acre tracts of land. Computer applications include use of spreadsheets and CAD.

Lecture: Two hours; Laboratory: Two hours

Pervasive: Hydrology and Hydraulics (CIVL 321), Highway Engineering (CIVL 302); co-requisite: Water and Wastewater (CIVL 408).

CIVL 432—Civil Engineering Design Capstone I
Three Credit Hours
Ethical canons of the engineering profession require civil engineering graduates to be well-rounded effective leaders in planning, design, and construction of public infrastructure and the built environment projects needed to establish safe, healthy, equitable, and vibrant communities. Students apply civil engineering principles to determine appropriate design solutions for a comprehensive engineering problem, using applicable analytical methods of professional practice, to address interdisciplinary projects in civil engineering incorporating structural, environmental, geotechnical, and/or transportation components.

Pervasive: Senior standing in civil and environmental engineering.

Co-requisite: CIVL 404, CIVL 408, CIVL 410, CIVL 411

CIVL 433—Civil Engineering Design Capstone II
Three Credit Hours
Ethical canons of the engineering profession require civil engineering graduates to be well-rounded effective leaders in planning, design, and construction of public infrastructure and the built environment projects needed to establish safe, healthy, equitable, and vibrant communities. Students apply civil engineering principles to determine appropriate design solutions for a comprehensive engineering problem, using applicable analytical methods of professional practice, to address interdisciplinary projects in civil engineering incorporating structural, environmental, geotechnical, and/or transportation components.

Pervasive: CIVL 432

CIVL 450—Civil and Environmental Engineering Internship
Three Credit Hours
This course gives Civil and Environmental Engineering students real-world experience to complement the classroom education that they have previously received. Interns will learn about the variety of issues facing today's practicing engineer. Interns will spend at least five hours each week working alongside senior-level managers in Charleston area engineering firms or engineering-related regulatory agencies coordinating these activities through the Department of Civil and Environmental Engineering.

Pervasive: Permission of Department Head.

CIVL 453—Special Topics in Civil Engineering
Variable (One to Three Credit Hours)
Selected topics in civil engineering. The offering of this course will depend upon the interest of the student, the availability of an instructor, and the approval of the department Head. Since the content of the course may change, a student may repeat the course for credit with consent of the department head.

Pervasive: Permission of the Department Head

Construction Engineering (CONE)

CONE 302—Engineering/Construction Law, Ethics Safety and Contracts
Four Credit Hours
Introduction to basic contract and tort issues and their application in the construction industry; delineation of the various types of contracts and remedies available to parties involved in a construction project; additional related topics including bidding, delays, mechanics liens, site conditions, warranties and the Uniform Commercial Code as it relates to the construction industry. Examine the application of OSHA 29CFR 1926 for the construction industry along with applicable state and federal construction safety laws pertaining to construction, alterations, or repair work at construction site.

CONE 311—Resource Estimating
Three Credit Hours
Systems approach to determining required quantities of construction materials; quantification of various types of foundation systems, structural systems and building envelope systems using excerpts of contract documents from a variety of different building projects.

CONE 312—Advanced Estimating
Three Credit Hours
Quantification and pricing of direct field costs and general condition costs from construction documents; the preparation of complete lump sum bid package ready for project execution; utilization of entire set of required contract documents.

CONE 320—Engineering Materials and Methods w/ Lab
Three Credit Hours
Quantification and pricing of direct field costs and general condition costs from construction documents; the preparation of complete lump sum bid package ready for project execution; utilization of entire set of required contract documents.

Pervasive: CHE 151 Corequisite: CIVL 304

CONE 330—Quality Management and Labor Relations
Three Credit Hours
Identify, explain and apply quality management techniques for construction engineering services, construction projects, and related deliverables through use of continuous improvement procedures, analytical tools and techniques focusing on resource allocation, workforce requirements, performance schedule, quality control, and total quality systems. Best practice principles in labor relations and management will be reviewed and evaluated including labor relations law, construction contracts, incentives and penalties, construction agreements and partnerships, collective bargaining, and unionized/nonunionized construction workforce
CONE-340—Structural Analysis and Design
Four Credit Hours
Application of statics and strength of materials for construction of steel buildings, reinforced concrete structures, reinforced masonry structures, and timber structures with computer analysis and design of specific topics.
Prerequisite: CIVL-304, MATH 132

CONE-350—Commercial Construction and Engineering Equipment
Three Credit Hours
Prepare students to enter the commercial construction sector through consideration of design, bidding/estimating, value engineering, contracts/negotiation, subcontractor relations, cost controls, management during construction, close out, post-construction requirements and the engineering equipment used during horizontal and vertical construction.

CONE-360—Soils and Foundations w/Lab
Three Credit Hours
Introduction to soil types found on construction projects; testing, properties and classification of soil; embankment control, dewatering, excavation, foundations, piers, and pilings.
Co-requisite: CIVL-304

CONE-410—Project Scheduling
Three Credit Hours
An introduction to construction project scheduling covering concepts of project selection and scheduling, utilizing the estimate to predict the schedule, scheduling subcontracting, cost controls, project documentation, construction bonds, insurance, payments and the elements of close out.
Prerequisite: CIVL-311

CONE-412—Engineering Practice and Professional Licensure for Construction Engineers
One Credit Hour
Required of all Construction Engineering seniors. This class provides a review for the NCEES Fundamentals of Engineering Computer Based Exam.
Prerequisite: Senior standing in Construction Engineering.

CONE-415—Project Management and Engineering Administration
Three Credit Hours
Project planning, cost controls, and construction related financial documents including: schedule of values, labor and operations cost reports, income statements, balance sheets and construction budgets; emphasis on the development of techniques required to ethically and effectively monitor the financial aspects of a construction project and manage engineering projects.

CONE-440—Construction Methods and Temporary Structural Design
Three Credit Hours
Common construction methods are introduced and building details are explored considering material applications and detailing in structural and non-structural building components and physical processes lying behind the design of a building’s envelope and interior. A set of prints and specifications will structure our discussion of the building process. Study of the materials, methods and techniques associated with temporary structures utilized in various construction operations, such as concrete formwork, scaffolding, falsework/shoring, cofferdams, underpinning, diaphragm/slurry walls, earth-retaining structures and construction dewatering systems.
Prerequisite: CONE-340

CONE-450—Facilities Operations and Maintenance (BIM)
Three Credit Hours
Each facility has distinct operations, maintenance and capital project delivery needs. Leaders must leverage facility data created throughout the design and construction process and lifecycle to provide safe, healthy, effective and efficient work environments for their clients. The maintenance of this data will create greater efficiencies such as: having accurate as-built information to reduce the cost & time required for renovations; increasing customer satisfaction; and optimizing the operation and maintenance of our building systems to reduce energy usage. Building Information Modelling (BIM) is about ensuring teams have the relevant knowledge and capabilities to achieve best practice and effectively manage information across all stages of your construction projects.

CONE-460—Mechanical and Electrical Systems
Three Credit Hours
Mechanical and electrical systems with a major emphasis on the estimate and installation, design and control of the electrical, heating, ventilation and cooling system, site planning and acoustical treatments.
Prerequisites: PHYS-211/PHYS-277

CONE-470—Production Processes and Rapid Product Development w/Lab
Three Credit Hours
This course is an introduction to manufacturing processes and manufacturing systems including assembly, machining, injection molding, casting, thermoforming, and more. Emphasis on the physics and randomness and how they influence quality, rate, cost, and flexibility. Attention to the relationship between the process and the system, and the process and part design. Project (in small groups) requires fabrication (and some design) of a product using several different processes.
Prerequisite: CONE-311

CONE-481—Construction Engineering Design Capstone I
Three Credit Hours
This course is the first in the Construction Engineering Design Capstone series and provides project definition, project planning, scheduling, and results in development of a feasible plan and presentation for a 35% complete major construction project, for selected or assigned project.
Prerequisite: Senior standing in construction engineering
Corequisites: CONE-410, CONE-440

CONE-482—Construction Engineering Design Capstone II
Three Credit Hours
This course is the second in the Construction Engineering Design Capstone series that requires 3D modeling, quantity estimating,
scheduling, risk analysis, preparation of project construction deliverables, and presentation of results for a major infrastructure or private development construction project as assigned, or approved, addressing design-build requirements. Use information from all previous courses to prepare construction engineering documents for a given project. Respond to project solicitations, Request for Proposal (RFP) announcements, or bid, and project addendums.

Prerequisite: CONE-481

Cooperative Experience (COOP)

COOP-400—Cooperative Experience I
Zero - Twelve Credit Hours
The student, on an individual basis, pursues advanced understanding by working for a company. The scope of the activities is tailored to the educational focus of the student in consultation with his faculty advisor and the supervisor at the company. The student is required to provide weekly journaling, monthly supervisor evaluations, a final presentation, and a final report on the experience. LESSONS and LABS: No formal class, 0-12 credit hours. Department Head approval. Consultation with Department Faculty Advisor at least bi-weekly on individual work accomplished.

Prerequisite: Junior or senior status with greater than 2.5 GPR.

COOP-401—Cooperative Experience II
Zero - Twelve Credit Hours
The student, on an individual basis, pursues advanced understanding by working for a company. The scope of the activities is tailored to the educational focus of the student in consultation with his faculty advisor and the supervisor at the company. The student is required to provide weekly journaling, monthly supervisor evaluations, a final presentation, and a final report on the experience. LESSONS and LABS: No formal class, 0-12 credit hours. Department Head approval. Consultation with Department Faculty Advisor at least bi-weekly on individual work accomplished.

Prerequisite: Junior or senior status with greater than 2.5 GPR.

Criminal Justice (CRMJ)

CRMJ-201—Introduction to Criminal Justice
Three Credit Hours
Prerequisite for all criminal justice courses (CRMJ-370-499) except CRMJ-202 for non-departmental majors. An introduction to the American criminal justice system, including the history and philosophy of law enforcement, the nature of crime in the United States, an introduction to the substantive criminal law, the nature and theory of the criminal justice process from arrest to corrections, and the roles of the major actors in that process (police, prosecutors, defense lawyers, judges, and corrections personnel).

CRMJ-202—Criminology
Three Credit Hours
A study of the theories that seek to explain criminal behavior.

CRMJ-330—Emergency Management
Three Credit Hours
This course examines the history and perspectives of the field, hazards concepts and taxonomies, all-hazards approach, phases of emergency management, risk assessment, risk communication, emergency management functions, sustainable development, best practices, the model EOC, the written and implemented disaster plan, attaining the CEM, IAEM, and forging intra- and inter-government relationships.

CRMJ-331—Cyber Investigations
Three Credit Hours
This course will introduce the student to the best practices for seizing and securing digital evidence and the complicated legal issues surrounding digital evidence within the area of Cyber-Crime Investigation to include Cyber-Terrorism. The course will cover evidence and issues relative to file Meta-data for various types of electronic devices such as computer networks, cell phones, and electronics storage. Searches justified by exigent circumstances, search incident to arrest, and search warrant issues will also be covered. This course provides students interested in improving their investigative knowledge with an understanding of identifying, quantifying/qualifying, seizing, and protecting electronic information.

The investigative process is studied from basic theoretical concepts to the application of the basic elements for prosecution of criminal cases. Included are several studies of electronic crime scene investigation, white collar crime, organized crime, and cyber-terrorism. While this class focuses on cyber investigation practices and procedures in the United States, it offers a global perspective and will incorporate examples from different parts of the world.

CRMJ-332—Comparative Homeland Security
Three Credit Hours
The term “homeland security” is a relatively recent addition to the policy and scholarly landscape. Having gained prominence after the terrorist attacks of 11 September 2001, the term is often assumed to be synonymous with the work of the US Department of Homeland Security (DHS) - itself a post-911 amalgamation of several federal agencies. The course critically reviews the rise of homeland security as a policy and scholarly concern after 911 and describes and explains homeland security policies, in the US and abroad, by considering their international attributes and by undertaking cross-national and cross-temporal analyses. The course is inter-disciplinary and draws on a range of fields within the social sciences. Students will be encouraged to integrate theory and evidence towards stronger analyses.

CRMJ-333—Immigration and Security
Three Credit Hours
Immigration is defined as crossing the border of one of the world’s 220 nation states with the intent to stay. Technological improvements in the last 50 years have given rise to massive outflows of people from sending countries and have tested the capacity of receiving countries to absorb immigrants. This course examines security issues such as terrorism that might stem from countries’ inability to control borders and the separate issue of societal security. Special emphasis is given to Mexican immigration to the US.

CRMJ-370—Police Systems & Practices
Three Credit Hours
An introduction to law enforcement in the United States, including a brief history of policing, contemporary trends in
criminology, and current issues facing police administrators. Attention will also be given to the Fourth, Fifth, and Sixth Amendments to the U.S. Constitution and their implications for law enforcement.

**Prerequisite:** CRMJ201

**CRMJ-371—Criminal Law**
Three Credit Hours
This course examines the origin and general principles of criminal law, principles of criminal liability, and elements of offenses.

**Prerequisite:** CRMJ-201

**CRMJ-372—Critical Issues in Law Enforcement**
Three Credit Hours
A critical analysis of contemporary issues in the law enforcement community, including the following: police stress, use of deadly force, police brutality, corruption, unionization, substance abuse by police officers, and other issues currently confronting law enforcement administrators and policymakers.

**Prerequisite:** CRMJ-201

**CRMJ-373—Criminal Evidence**
Three Credit Hours
An introduction to the types of evidence, collection of evidence, the chain of custody, and procedures relating to its introduction into judicial proceedings. Special attention is given to Fourth Amendment constitutional issues.

**Prerequisite:** CRMJ-201

**CRMJ-375—Criminal Justice Agency Administration**
Three Credit Hours
An introduction to criminal justice agency administration, including the following: the nature of criminal justice organizations, criminal justice personnel, group behavior in criminal justice organizations, and processes in criminal justice organizations.

**Prerequisite:** CRMJ-201

**CRMJ-380—Corrections**
Three Credit Hours
An introduction to corrections, correctional theory, and correction policy through the in-depth study of key areas in corrections, including correctional history, systems, policy, treatment programs, prison life, community-based corrections.

**Prerequisite:** CRMJ-201

**CRMJ-381—Organized Crime**
Three Credit Hours
An examination and analysis of organized crime, of controversies surrounding the phenomenon, and of efforts aimed at its control. Attention will be given to defining organized crime, to its development, and to various theories that seek to explain its existence. Other topics include the activities that constitute the business of organized crime, the relationship between organized crime and corruption of governmental officials, and the techniques used to control it.

**Prerequisite:** CRMJ-201

**CRMJ-382—Drugs and Crime**
Three Credit Hours
An examination of drug use as it relates to addiction, social problems, crime, enforcement, and treatment. Issues involving domestic and international drug supply, demand, trafficking, and interdiction are studied.

**Prerequisite:** CRMJ-201

**CRMJ-383—Comparative Criminal Justice Systems**
Three Credit Hours
An examination of the ideology, structure, and justice process of various criminal justice systems in the United States, Europe, Asia, Africa, the Middle East, and Latin America. The comparative study involves analysis of diverse social control, legal, police, court, correction, and juvenile systems from representative justice approaches around the world.

**Prerequisite:** CRMJ-201

**CRMJ-384—International Crime**
Three Credit Hours
A study of transnational crime, criminals, and criminal organizations in a global context including an examination of international and national organizations, laws, and justice practices responsible for controlling multi-national criminal activity.

**Prerequisite:** CRMJ-201

**CRMJ-385—Juvenile Delinquency**
Three Credit Hours
An introduction to delinquency, to the juvenile justice process from intake to disposition, to trends in the treatment of juvenile offenders, and to juvenile justice reform (decriminalization, diversion, deinstitutionalization, and due process).

**Prerequisite:** CRMJ-201

**CRMJ-386—Research Methods in Criminal Justice**
Three Credit Hours
An introduction to research and to statistical methods, databases, and computer applications in relation to the various fields of criminal justice. Special attention will be given to the problems associated with collection and analysis of criminal justice data.

**Prerequisite:** CRMJ-201

**CRMJ-387—Criminal Investigation**
Three Credit Hours
An examination of the criminal investigation process that combines forensic applications with investigative procedures. Crime scene preservation, management, evidence collection, and process are included in the examination of the investigative process. Interrogation and interviewing techniques, as well as physical evidence used to investigate specific types of offenses, are studied.

**Prerequisite:** CRMJ-201

**CRMJ-388—White Collar Crime**
Three Credit Hours
A study of “white collar” crime as a specific type of deviance. The course explores aspects of organizational, corporate, occupational, and governmental criminality and its detection, investigation, prosecution, and punishment.

**Prerequisite:** CRMJ-201

**CRMJ-389—Justice in Latin America**
Three Credit Hours
Latin American countries have criminal justice institutions based on fundamental principles similar to those of US criminal justice institutions: due process, substantive criminal and criminal procedural law, basic organization into police, courts and corrections sectors, written constitutions, etc. Yet Latin American
criminal justice institutions often in practice function very differently from those in the US. This course presents case studies on Latin American criminal justice institutions with topics including police reform in Bolivia; use of the National Guard in counter-narcotics in Puerto Rico; judicial police reform in Mexico; prosecutorial reform in Guatemala; and others.

CRMJ-390—Victimology
Three Credit Hours
The scientific study of the extent, nature, and causes of criminal victimization, its consequences for the persons involved and the reactions to such victimization by society, in particular the police and the criminal justice system. Additional areas of examination include history of victimology, legal recourse for crime, victims, and informal methods of addressing the needs of victims.
Prequisite: CRMJ-201

CRMJ-391—Criminalistics
Three Credit Hours
The application of science to the investigation of crime. Designed to acquaint non-science majors with the philosophy and methodology of dealing with physical evidence in criminal investigation.
Prequisite: CRMJ-201

CRMJ-392—Computer Crime
Three Credit Hours
An exploration of the current state of computer crime in the United States. The course traces the history of technological crime and identifies areas ripe for exploitation from technology savvy deviants. It also evaluates forensic practices and software in light of government legislation together with an analysis of emerging case law. The course also addresses guidelines for the development of computer forensic laboratories, the creation of computer crime task forces, and the search and seizure of electronic equipment.
Prequisite: CRMJ-201

CRMJ-393—Homicide
Three Credit Hours
This course is designed to teach students about the law enforcement, statistical, legal and psychological elements of homicide in the United States. Throughout the course we will explore theories and explanation for homicide, traditional murder, children/women who kill, and multiple victim killers. At the end of the semester, students will be responsible for teaching the class about an infamous serial killer.

CRMJ-465—Special Topics in Criminal Justice
Three Credit Hours
An advanced seminar designed to examine in-depth selected topics in criminal justice.
Prequisite: CRMJ-201

CRMJ-470—Ethics
Three Credit Hours
This course seeks to examine the criminal justice system through an ethical lens, to identify ethical issues in practice and in theory, to explore ethical dilemmas, and to suggest how ethical issues and dilemmas faced by criminal justice professionals might be resolved.

CRMJ-471—Psychology of Crime
Three Credit Hours
This course examines the role of psychology in contributing to our understanding of criminal behavior and criminal justice system processes. The course will review our current understanding of the criminal mind and the psychological explanations associated with the commission of violent crime, homicide, sexual assault, multiple murder, terrorism, property crime, and substance abuse. The course takes a close look at developmental risk factors and the biological origins of criminal behavior. Toward the end of the semester, the course discusses the use of psychological principles in police interrogations, the court process, and correctional psychology.

CRMJ-472—Crime Prevention
Three Credit Hours
This course will examine how to prevent crime from humanistic, structural, situational and environmental perspectives. A basic introduction to each of these schools of thought will be given. The main focus of this course will be examining the empirical research surrounding each method.

CRMJ-498—Independent Study
Three Credit Hours
An independent research project resulting in a formal paper, this study must be approved by the department head in consultation with an appropriate member of the faculty who will supervise the project. Virtually any aspect of criminal justice may be investigated. Especially recommended for those considering graduate or professional study.
Prequisite: As determined by instructor, CRMJ-201

CRMJ-499—Internship
Three Credit Hours
Internships with government and other agencies are offered to combine academic training with professional experience.
Prequisite: Permission of director of internships, CRMJ-201

Economics (ECON)

ECON-205 - Survey of Economics
Three Credit Hours
This course introduces students to both microeconomics (the study of individual economic units, including product markets, individual consumers, and firms) and macroeconomics (the study of broad economic aggregates such as gross domestic product). **For non-business majors**

Education (EDUC)

EDUC-101—Education in Modern Society
Three Credit Hours
Open to any interested student. An orientation to teaching as a profession and to the teacher-training program. Study and discussion on school organization and teachers’ roles and responsibilities; personal and professional guidance. Introduction to the learner-centered conceptual base of the department. A field experience component of ten hours is required.
EDUC-202—Educational Psychology
Three Credit Hours
This course focuses on the dynamics of human learning and the psychological principles that serve as the foundation for educational practice. The general goal is to introduce students to the field of educational psychology and to teach them how to apply the concepts, theoretical principles, and research findings from the discipline of psychology to the planning and implementation of effective instructional strategies in the classroom. Major emphasis is placed on assisting the student in gaining a functional knowledge of the ideas explored. Moreover, through this course the college student who is preparing for employment in the field of education is acquainted with many facets of the teacher’s role as a decision maker in the teaching/learning process. Class discussions, activities, and a ten-hour field experience component focus on the connections between theory and practice and provide students with opportunities to apply psychological principles and solve practical problems.

EDUC-206—Adolescent Development
Three Credit Hours
A survey of the basic principles and theories of human development with a focus on adolescents and their educational processes. The ten-hour field experience component is designed to interrelate college classroom learning with public school observations and activities.

EDUC-301—Foundations in Reading
Three Credit Hours
A foundational course designed to develop competencies in teaching literacy skills. The content of this course examines the theoretical research and historical perspectives as related to reading education. Five components of a balanced literacy program will be examined and these components are based on research of the National Reading Panel. Approaches to reading will be examined as phonics; sight; linguistic; language experience approach; and the VAKT. Literacy educators and pioneers in reading education as Chall, Flesch, Fries, Allen, and Fernald will be discussed to provide background information from a historical prospective to assure that students will have a knowledge of foundations. A field experience component of ten hours is required.

EDUC-306—Teaching Reading and Writing in the Middle and High School
Three Credit Hours
Three Credit Hours
Designed to acquaint prospective middle school and high school teachers with reading practices geared to their students. The course will include a broad survey of the field of reading with attention given to some diagnostic procedures and the development of Reading Across the Curriculum programs for the middle school and high school levels. Different subject areas will be considered. Ten hours of field experiences in a public school are required.
Prerequisites: Admission to Upper Level Study

EDUC-312—Learners with Exceptionalities
Three Credit Hours
Learners with exceptionalities is designed to prepare prospective teachers to define and identify characteristics of students with exceptionalities and students at risk for school failure. Students will learn how to modify teaching methods and classroom management strategies to address the academic, social and emotional, and cognitive differences of students with special needs. Learners with exceptionalities is based on the premise that it is the teacher's responsibility to meet the needs of every learner, typical or atypical. A field experience component of ten hours in the school is required.

EDUC-401—Methods and Materials of Middle and High School Teaching
Three Credit Hours
Study of the aims, methods, and materials employed in middle and high school teaching; organization of subject matter; motivation and direction of learning; development of attitudes, appreciations, and ideals; classroom presentation of formal materials. The utilization of technology and the development and use of evaluative instruments in the total teaching-learning process will be emphasized. A field experience component of 20 hours is required.

EDUC-402—Special Methods in Teaching
Three Credit Hours
Special techniques, theories, and materials in teaching in the content area of specialization in middle school (grades 5-8) and high school (grades 9-12). A field experience component of 20 hours is required.
Prerequisites: Admission to Upper Level Study

EDUC-499—Internship in Teaching
Twelve Credit Hours
A requirement for certification, observation and teaching in approved schools under approved supervising teachers, supervision by college instructor. Assignment only in major teaching field. This internship is a minimum of twelve weeks and contains a weekly seminar. All students provide their own transportation. Formal application for admission to the internship is required.
Prerequisites: Refer to requirements for admission to internship.

Electrical Engineering (ELEC)

ELEC-106—Fundamentals of Electrical Engineering
Three Credit Hours
Required of electrical engineering freshmen.
An introduction to the engineering profession, branches and functions of engineering, professional ethics, and the role of engineers in society. Fundamentals of engineering problem solving and the use of calculators and computers as tools to aid in problem solving. Includes subject areas common to most engineering disciplines such as the introduction to the engineering design process and teamwork through a design project, engineering laboratory skills, report writing, and engineering economics, but through the use of electrical engineering exemplars.
Lecture: Three hours

ELEC-201—Electric Circuit Analysis I
Three Credit Hours
Required of electrical engineering sophomores. Circuit elements; Kirchhoff’s and Ohm’s Law and their application through a variety of circuit analysis techniques; operational amplifiers; and the transient response of simple circuits. The circuit analysis program SPICE is introduced.
ELEC-202—Electric Circuit Analysis II
Three Credit Hours
Required of electrical engineering sophomores. Sinusoidal analysis and phasors; AC power; three-phase circuits; frequency response of simple circuits; the use of SPICE for ac circuit analysis.
Lecture: Three hours
Prerequisites: ELEC-201 with a grade of C or better or the successful completion of both ELEC-208 and ELEC-204 with grades of C or better. Co-requisites: MATH-132, PHYS-222/272

ELEC-204—Electrical Laboratory I
One Credit Hour
Required of electrical engineering sophomores. An introduction to the experimental method in electrical engineering. Laboratory exercises are designed to supplement the material presented in ELEC-201 and ELEC-202.
Laboratory: Two hours
Prerequisites or co-requisite: Electric Circuit Analysis II (ELEC-202) or Principles of Electrical Engineering (ELEC-208)

ELEC-206—Computer Applications for Electrical Engineers
Three Credit Hours
Required of electrical engineering sophomores. The computer is presented as a tool for the solution of engineering problems. High level programming of computers; data manipulation, data plotting, and equation solving using application programs such as MATLAB.
Lecture: Three hours

ELEC 208 Principles of Electrical Engineering
Three Credit Hours
This course in electrical engineering for non-electrical engineering majors provides a foundation in basic circuit theory and analysis, power in circuits, and analog electronics. Theories and concepts presented in the course are illustrated through lectures, practical applications, and laboratory work.
Prerequisite or co-requisite: MATH 131; consent of department head is required for electrical engineering majors.
Lecture: Two hours; Laboratory: Two hours

ELEC-302—Electrical Laboratory II
One Credit Hour
Required of electrical engineering juniors. A laboratory course to accompany ELEC-316.
Laboratory: Two hours
Prerequisite or co-requisite: Electromechanical Energy Conversion (ELEC-316)

ELEC-306—Electronics I
Three Credit Hours
Required of all electrical engineering juniors. Characteristics of solid-state devices, theory and design of low-frequency amplifiers, transistor biasing and stabilization, design of multistage and feedback amplifiers utilizing bipolar and MOS devices.
Lecture: Three hours
Prerequisites: Electric Circuit Analysis II (ELEC-202), Electrical Laboratory (ELEC-204); Co-requisite: Electronics Laboratory (ELEC-313).

ELEC 307—Nuclear Engineering

Three Credit Hours
An introduction to the theory and application of nuclear energy. Topics include fission and the chain reaction; nuclear fuels; nuclear reactor principles, concepts, examples, construction, operation, and ecological impact; radiation hazards and shielding; and nuclear propulsion.
Lecture: Three hours
Prerequisite: Physics with Calculus II/Laboratory for Physics with Calculus II (PHYS-222/272).

ELEC-308—Elements of Electrical Engineering
Three Credit Hours
Fundamental electrical concepts and units; basic laws of electrical circuits; equivalent circuits; DC and steady-state AC circuit analysis; and effective current, average power, and three-phase power.
Lecture: Three hours
Prerequisite: Analytic Geometry and Calculus I (MATH-131).

ELEC-309—Signals and Systems
Three Credit Hours
Required of electrical engineering juniors. The study of continuous and discrete systems utilizing Laplace, Fourier, and z-transform theory.
Lecture: Three hours
Prerequisites: Electric Circuit Analysis (ELEC-202), Electrical Laboratory (ELEC-204), Computer Applications for Electrical Engineers (ELEC-206).

ELEC-311—Digital Logic and Circuits
Three Credit Hours
Required of electrical engineering juniors. Introduction to Boolean algebra; topics such as digital data coding and digital arithmetic. Design of combinational and sequential circuits; design implementing and testing of digital circuits using Field Programmable Gate Arrays. Employs VHDL and other industry standard design tools.
Lecture: Three hours

ELEC-312—Systems I
Three Credit Hours
Lecture: Three hours
Prerequisites: Signals and Systems (ELEC-309)

ELEC-313—Electrical Laboratory III
One Credit Hour
Required of electrical engineering juniors. Experimental studies coordinated with the subjects introduced in ELEC-306.
Laboratory: Two hours
Prerequisite: Electrical Laboratory (ELEC 204).
Co-requisite: Electronics I (ELEC-306).

ELEC-316—Electromechanical Energy Conversion
Three Credit Hours
Required of electrical engineering juniors. Analysis of transformers; fundamentals of electromechanical energy conversion; and study of DC, induction, and synchronous machines.
Lecture: Three hours  
Prerequisite: Signals and Systems (ELEC-309), or consent of the department head; Prerequisite or Co-requisite: Electrical Machinery Laboratory (ELEC-302).

**ELEC-318—Electromagnetic Fields**  
Three Credit Hours  
Required of electrical engineering juniors. Static electric and magnetic fields; Maxwell's equations and their applications; Laplace's equations; boundary value problems; time varying fields, and plane waves.  
Lecture: Three hours.  
Prerequisites: Electric Circuit Analysis (ELEC-202), Physics with Calculus II/Laboratory for Physics with Calculus II (PHYS-222/272).  
Prerequisite or corequisite: Applied Engineering Mathematics II (MATH-335).

**ELEC-330—Digital Systems Engineering**  
Three Credit Hours  
Required of electrical engineering sophomores. Microcontroller fundamentals including architecture, assembly language programming, and interfacing. Applications of industry-standard microcontrollers in embedded systems. Employs software design tools, simulators, and hardware trainers.  
Lecture: Three hours  
Prerequisite: Digital Logic and Circuits (ELEC-311).

**ELEC-401—Electronics II**  
Three Credit Hours  
Characteristics and applications of analog and digital circuits. Topics may include differential amplifiers, multistage amplifiers, power amplifiers, oscillators, filter circuits, and CMOS digital logic.  
Prerequisite: Electronics I (ELEC-306), and Electronics Laboratory (ELEC-313).

**ELEC-403—Electric Power Systems**  
Three Credit Hours  
A study of electrical power generation, transmission, and distribution; symmetrical components, per-unit analysis, calculation of transmission-line parameters, and load flow.  
Lecture: Three hours.  
Prerequisites: Electromechanical Energy Conversion (ELEC-316), Electromechanical Energy Conversion (ELEC-316), or Co-requisite: Electromagnetic Fields (ELEC-318).

**ELEC-405—Electrical Measurements**  
Three Credit Hours  
An introduction to modern electrical instrumentation and measurements. Topics include: measurement theory, analog and digital signal conditioning, noise, transducers, instrumentation system design, digital interfaces, and computer based instrumentation and measurements.  
Lecture: Three hours  
Prerequisite: Electronics Laboratory (ELEC-313).

**ELEC-407—Systems II**  
Three Credit Hours  
A continuation of Systems I with primary emphasis on digital control systems. Topics include: state-variable analysis, simulation techniques, controllability, state-variable feedback, observability, and state estimator design.

Lecture: Three hours  
Prerequisite: Systems I (ELEC-312).

**ELEC-412—Applied Probability and Statistics for Engineers**  
Three Credit Hours  
Required for electrical engineering majors. Application of the theory of probability and statistics in modeling random phenomena and signals; in the calculation of system responses; and in making estimates, inferences and decisions in the presence of chance and uncertainty. Applications will be studied in areas such as communications, power systems, device modeling, measurements, reliability, and quality control.  
Lecture: Three hours  
Prerequisites: Analytic Geometry and Calculus III (MATH-231), Computer Applications for Electrical Engineers (ELEC-206).

**ELEC 413—Advanced Topics in Electrical Engineering**  
Three Credit Hours  
Advanced topics in electrical engineering. Offered occasionally when the special interests of students and faculty coincide. The syllabus must be approved by the Electrical Engineering Faculty. Since the content of the course may change, a student may repeat this course for credit with the permission of the department head.  
Lecture: Three hours

**ELEC-414—System Simulation**  
Three Credit Hours  
An introduction to system concepts, mathematical models of systems, and simulation methods applied to a broad range of systems. Design project required.  
Lecture: Three hours  
Prerequisite: Systems (ELEC-312).

**ELEC-416—Communications Engineering**  
Three Credit Hours  
Principles of amplitude, frequency, and pulse modulation; signal flow and processing in communications systems; and analog and digital communication systems.  
Lecture: Three hours  
Prerequisites: Signals and Systems (ELEC-309) and Digital Logic and Circuits (ELEC-311), Co-requisite: Electronics I (ELEC-306)

**ELEC-418—Advanced Digital Systems**  
Three Credit Hours  
Experience in advanced digital design techniques and exposure to the development tools used in the design of advanced digital systems. Topics include the design of digital systems using VHDL, industry standard FPGA devices and software, and microprocessor hardware components.  
Lecture: Three hours  
Prerequisite or corequisite: Digital Systems Engineering (ELEC-330) or Computer Organization and Programming (CSCI-305).

**ELEC-419—Computer Network Architecture**  
Three Credit Hours  
This course will cover network architecture and protocols. Included are transmission technologies, encoding/decoding schemes, packet switching, frame relay, ISDN, ATM and performance modeling techniques.  
Lecture: Three hours
ELEC-421—Design I  
Three Credit Hours  
Required of electrical engineering seniors. Initiation, design, scheduling, documentation and reporting on a major design project. Normally accomplished by students working in small groups. All students will make written and oral presentations on their contribution to the project. Financial, legal, ethical, societal, regulatory, environmental, manufacturability, and quality issues will be discussed and will constrain the designs as appropriate.  
Lecture: One hour; Laboratory: Four hours.  
Prerequisites: Electrical Machinery Laboratory (ELEC-302), Electronics I (ELEC-306), Systems I (ELEC-312), Electronics Lab (ELEC 313), Electromechanical Energy Conversion (ELEC-316), Digital Systems Engineering (ELEC-330) and Electromagnetic Fields (ELEC-318) or consent of the department head.

ELEC-422—Design II  
Three Credit Hours  
Required of all electrical engineering seniors. Continuation of the major design project begun in ELEC-421. Project implementation, documentation, and reporting. Normally to be accomplished by students working in the small groups formed in ELEC-421. The impact of the practical, societal, and governmental issues raised in ELEC-421 will be assessed. Each student will make written and oral presentations on their contributions to the project. A prototype demonstration and presentation of final results in a symposium format is required.  
Lecture: One hour; Laboratory: Four hours  
Prerequisite: Design I (ELEC-421) taken the preceding semester.

ELEC-423—Digital Signal Processing  
Three Credit Hours  
Introduction to the characteristics, design, and applications of discrete time systems using digital signal processors. Discrete time Fourier Transforms, FIR and IIR systems, and the design of FIR and IIR filters.  
Lecture: Three hours  
Prerequisite: Signals and Systems (ELEC-309), and Digital Systems Engineering (ELEC-330).

ELEC-424—Solid-State Devices  
Three Credit Hours  
Basic principles governing the operation of solid-state devices are developed from fundamental concepts. P.N junction theory is developed and applied to the analysis of devices such as bipolar transistors, solar cells, detectors, and photo devices. The theory of field-effect devices is developed.  
Lecture: Three hours  
Prerequisites: Physics with Calculus II/Laboratory for Physics with Calculus II (PHYS-222/272), Applied Engineering Mathematics 1 (MATH-234), and Electronics I (ELEC-306).

ELEC-425—Interference Control in Electronics  
Three Credit Hours  
An introduction to the control and measurement of interference between electronic devices. Analysis methods and practical design techniques to minimize both radiated and conducted emissions and susceptibility. Enhancing signal integrity in high-speed circuits and reducing crosstalk. Laboratory exercises and demonstrations will be used to reinforce the material.  
Lecture: Three hours  
Prerequisites: Signals and Systems (ELEC-309) and Electromagnetic Fields (ELEC-318).

ELEC-426—Antennas and Propagation  
Three Credit Hours  
Transmission, radiation, and propagation of electromagnetic waves by means of transmission lines, waveguides, optical fibers, and antennas. Design project required.  
Lecture: Three hours  
Prerequisites: Electromagnetic Fields (ELEC-318).

ELEC-427—Energy Systems Engineering  
Three Credit Hours  
An overview of current and emerging methods of energy conversion used to generate electricity and to support all methods of transportation. This basic look includes study of the thermodynamics, chemistry, flow and transport processes that apply to energy conversion with emphasis on sustainability, efficiency, environmental impact and performance. Systems utilizing fossil fuels, nuclear and renewable resources are studied. Study of energy storage and transmission is included as required to assess both stationary power generation and transportation energy needs.  
Lecture: Three hours  
Prerequisites: MATH 131 and PHYS 221/271.

ELEC-428—Computer Architecture  
Three Credit Hours  
Organization and design of computer system hardware. Provides the basic knowledge required for understanding and designing standard and advanced computer architectures. Topics include: instruction set architectures, ALU design and computer arithmetic, memory organization, cache and virtual memories, controller design, pipelining, and parallelism.  
Lecture: Three hours  
Prerequisite: Digital Systems Engineering (ELEC 330).

ELEC-430—Independent Research in Electrical Engineering  
Three Credit Hours  
This course may be taken by a student wishing to engage in research of mutual interest to the student and to the faculty advisor who directs the study. The student is required to: define a problem, conduct a review of relevant literature, develop an original solution to the problem, perform analysis and design as necessary, and perform experiments or simulations to evaluate the solution. The student is required to consult the faculty advisor in-person at least once per week. The study will culminate in a formal written report, formatted in the style of a published conference-proceedings paper.  
Prerequisites: Junior or senior standing, and department head approval.

ELEC-450—Electrical Engineering Internship  
Three Credit Hours  
The student on an individual basis, pursues advanced understanding by working for an electrical engineering company. The scope of the activities is tailored to the educational focus of the student in consultation with his faculty advisor and the supervisor of the company. The student is required to provide weekly journaling, monthly supervisor evaluations, a final presentation, and a final report on individual work accomplished.

Evening Undergraduate Studies (EUGS)
EUGS-101—Introduction to The Citadel Experience
One Credit Hour
This online course is required of all Evening Undergraduate Studies (EUGS) students and must be taken in their first semester enrolled at The Citadel. The course covers a wide range of activities and services on campus, and offers insight into academic proficiency through the use of self-administered assessment tools. The course also provides an overview of The Citadel’s three core values of honor, duty, and respect.
Prerequisites: none

Exercise Science (Exercise Science)

EXSC-200—Motor Development and Motor Learning
Three Credit Hours
Instruction will focus on the study of sequential changes and characteristics of physical growth and development related to physical activity across the lifespan. Consideration of factors associated with individual differences in attaining motor proficiency during childhood, adolescence, and adulthood will be examined. A field experience component of a minimum of 5 hours is required.

EXSC-305—Measurement and Evaluation
Three Credit Hours
A course including test selection and administration, analysis and interpretation of data for various cognitive, affective and psychomotor tests commonly associated with health, exercise, sport, and physical education.

EXSC-314—Biomechanical Kinesiology
Three Credit Hours
The anatomical and mechanical analysis of functional posture and motor performance for the purpose of improving teaching and coaching effectiveness.
Prerequisites: (BIOL 217 with C or higher and BIOL 227 with C or higher) OR (TSAC 201 with C or higher or taken concurrently)

EXSC-315—Strength and Conditioning I
Three Credit Hours
This course introduces students to the fundamental training principles used to enhance human performance. Acute and chronic responses to exercise training as well as proper execution of training techniques will be studied in detail.

EXSC-319—Physiology of Exercise I
Three Credit Hours
An in-depth study of effects of exercise upon components of physical fitness, including strength, muscular endurance, flexibility and cardiovascular-respiratory endurance.
Prerequisites: (BIOL 217 with C or higher and BIOL 227 with C or higher) OR (TSAC 201 with C or higher or taken concurrently)

EXSC-320—Physiology of Exercise II
Three Credit Hours
This course will build upon the fundamentals of Physiology of Exercise I, developed during previous Health and Human Performance coursework. The purpose of this course is to provide a more in-depth examination of the major content areas of the exercise physiology discipline including, but not limited to, the following topics: cardiovascular adaptations to exercise training, skeletal muscle adaptations to training, exercise endocrinology, and environmental exercise physiology.

EXSC-329—Physiology of Exercise I Lab
One Credit Hour
This course will provide the laboratory component associated with EXSC 319, Physiology of Exercise.
Prerequisites: (BIOL 217 with C or higher and BIOL 227 with C or higher) OR (TSAC 201 with C or higher or taken concurrently)

EXSC-403—Exercise Testing and Prescription
Three Credit Hours
Instruction will focus on the principles of exercise testing and assessment of fitness. Focus will also be placed on the development of an exercise prescription to enhance fitness, improve health, and reduce risk factors in healthy and diseased populations, across the lifespan.

EXSC-412—Strength and Conditioning II
Three Credit Hours
This course focuses on the application of training principles to develop a comprehensive exercise training program. Training programs will address a variety of performance qualities including, but not limited to, strength, power, speed, endurance, and flexibility.

Health Education (HLED)

HLED-302—Drug and Substance Abuse
Three Credit Hours
A study of characteristics of commonly abused drugs and substances and reasons for use and abuse.

HLED-401—Nutrition
Three Credit Hours
A detailed study of primary nutrients essential to health with attention given to specific needs from infancy through adulthood. Current theories and practices related to physical and intellectual performances are also investigated. Contemporary topics are presented, including degenerative diseases, food-borne diseases, fad dieting, food additives, and health foods.

HLED-402—Sport Nutrition
Three Credit Hours
The course examines the interaction of sport and exercise and nutrition. The purpose of this course is to provide an in-depth examination of specific areas of nutrition as they relate to exercise and sport and include such topics as: bioenergetics, macro and micronutrients, water and temperature regulation, body weight regulation and body composition, and food drugs and supplements.
Prerequisite: HLED 401

Intelligence (INTL)

INTL-201—Introduction to Intelligence
Three Credit Hours
This course is a broad overview of the intelligence gathering and analysis as practiced by agencies of the United States government, to include its purpose, history, and potential benefits. The organizational makeup of the U.S. Intelligence Community (IC); the laws guidelines and ethics pertaining to intelligence collection; and employment/internship possibilities in the IC will also be presented. Finally, students will be given an introduction to analytical procedures and writing/briefing for policymakers.

INTL-210—Homeland Security
Three Credit Hours
An introduction to various aspects of terrorism and homeland security as both affect the United States today. Much of the focus will be the problems and challenges stemming from 9/11 that create today’s world situation. To understand what is going on currently, the course will examine the historical context of both terrorism and national security as it relates to terrorism.

INTL-301—Advanced Analytics I
Three Credit Hours
Students learn about the challenges inherent in analytics and methodologies used to overcome biases and present findings in a meaningful way. The course is designed to acquaint students with methods to maximize analytical rigor and provide policymakers with the intelligence necessary for them to make decisions under conditions of uncertainty and ambiguity. Emphasis is placed on working through case studies and developing writing and briefing skills.
Prerequisite: INTL 201 or permission of Instructor

INTL-302 Advanced Analytics II
Three Credit Hours
Students continue to learn about the challenges inherent in analytics and methodologies used to overcome biases and present findings in a meaningful way. The course is designed to acquaint students with methods to maximize analytical rigor and provide policymakers with the intelligence necessary for them to make decisions under conditions of uncertainty and ambiguity. Emphasis is placed on working through case studies and developing writing and briefing skills.
Prerequisite: INTL 301 or permission of Instructor

INTL-310—Intelligence Collection Systems and Programs
Three Credit Hours
This is a seminar course addressing intelligence collection systems and programs. Particular emphasis will be placed on intelligence collection platforms, their limitations and capabilities, and how they are used in support of national intelligence requirements. The course will also focus on how these systems and programs are planned and executed. The seminar format will emphasize student participation in the form of presentations, papers, and related discussion.

INTL-311—U.S. Intelligence Successes and Failures
Three Credit Hours
This course will examine a number of cases that aptly demonstrate the underlying operation, analytic and managerial "hows and whys" of U.S. intelligence success and failure. Reading material will include formal Congressional inquiries, declassified official "lessons learned", unclassified articles by former practitioners, select media commentaries, and a few academic papers. The course will conclude with an examination of the various efforts at reform, some of which have fundamentally transformed the American Intelligence Community and others that have fallen short of affecting real change.

Case studies will highlight and explore the various "Ingredients for Intelligence Success" including: effective management structures and organization, well-honed collection programs and skills, well-honed analytic skills and analytic rigor, professional attentiveness and persistence, ingrained organizational cooperation, effective interagency communication and information sharing, sufficiently dedicated resources, and well-developed target understanding (via in-depth study.)

INTL-401—Intelligence Support to Military Operations
Three Credit Hours
Since the days of Sun Tzu, intelligence collection and analysis has provided “decision advantage” to military commanders at both the tactical and strategic levels. In today’s complex battle space, good intelligence often spells the difference between victory and defeat. In this course, students will learn the importance of intelligence for the warfighter, the myriad collection techniques available today, and evolving doctrine as it relates to the collection and analysis of intelligence (e.g., the use of drones).

INTL-402—The Military Instrument of Power
Three Credit Hours
A nation employs four instruments of power in order to achieve its strategic ends—Diplomacy (Political), Information, Military, and Economic. Often referred to as the DIME, these instruments provide a nation’s national leadership with a variety of unique capabilities that, when properly synchronized with one another, can support a national strategy. The purpose of this course is to improve the student’s fluency of the military instrument of power. We will investigate the range of considerations for the employment of military power once the decision has been made to do so. Thus, the goal of this class is to appreciate the theory, capabilities, and limitations for the employment of the military instrument of power and the role played by strategic and operational intelligence in the planning for and employment of military force.

INTL-464—Intelligence Internship
Three Credit Hours
This course gives Intelligence and Security Studies students’ real-world work experience to complement the classroom education that they have previously received. Interns will learn about the variety of issues facing today’s intelligence community. Interns will receive three credits for every 120 hours they have successfully completed. This course may be repeated once for a total of six credits.
Prerequisite: Permission of Instructor

INTL-465—Special Topics in Intelligence
Three Credit Hours
An advanced seminar designed to examine in-depth topics in intelligence and security studies.

Leadership (LDRS)
LDRS-371—Leadership in Organizations
This course considers various theories of leadership and their role in critical organizational issues, including leader effectiveness, ethics, power, influence, politics, teamwork, motivation, creativity, innovation, communication, conflict, strategy, diversity, and leadership development. The course uses case studies and experiential components to provide hands-on learning and practice opportunities in business, political, and social justice contexts.

Mechanical Engineering (MECH)

MECH-101—Introduction to Mechanical Engineering
One Credit Hour
Required of all Mechanical Engineering freshmen.
The engineering design process is demonstrated through use of practical problem-solving methods for mechanical projects. Course subjects include mechanical engineering career paths, ethical canons of the engineering profession, and requirements for professional licensure. Course assignments, conducted within a collaborative learning environment, focus on creative engineering solutions through technical analysis, teamwork, communication skills, and professionalism. As a foundation for sustained success in mechanical engineering, additional course topics include: lifelong learning, time management, community and professional service, and career development.
Laboratory: Two hours

MECH-102—Engineering Computer Applications
Two Credit Hours
Required of all Mechanical Engineering freshmen. Foundations of computing to include software tools and engineering processes for mechanical engineers. Topics may include: structured programming (MATLAB), graphical drawings and 2D and 3D modeling of parts and assemblies. Introduction to teaming and creativity.
Laboratory: Four hours

MECH-225—Computer Applications
Three Credit Hours
This course uses applied problems in engineering and mathematics to introduce Computer-Aided Drafting (CAD) techniques. Covered topics include creation and editing of 3D parts and assemblies with appropriate design intent, part and assembly troubleshooting, configurations, engineering drawings, equation-based modeling, and finite element analysis.
Lecture: Two hours; Laboratory: Two hours
Prerequisites: MECH-102

MECH-304—Engineering Materials w/Lab
Three Credit Hours
Course explores the relationships between microscopic structure and macroscopic properties of materials used in engineering applications. The origin of mechanical, electrical, thermal and optical properties is studied. Important material failure modes that occur under fatigue, elevated temperature, rapid loading and corrosive environments are explored. Emphasized is an understanding of the fundamental aspects of atomic and microstructural concepts for proper material selection, effects of processing on material properties, and enhancement of engineering properties. Materials under study include important metals and alloys as well as key nonmetallic materials such as polymers, ceramics, and composites. Laboratory exercises are integrated throughout the course to provide practical experience in making decisions concerning material composition and processing in order to optimize engineering properties. Experiences from the field are detailed to demonstrate applicability of concepts.
Prerequisites: CIVL 304/307 and CHEM 151 or CHEM 140

MECH-310—Thermal—Fluid Systems I w/Lab
Three Credit Hours
Thermal-Fluid System I is an integrated study of fundamental topics in thermodynamics and fluid mechanics. The course introduces conservation principles for mass, energy, and linear momentum as well as the 2nd Law of Thermodynamics. Principles are applied to incompressible flows in pipes and turbomachinery, external flows and power generation systems. A control volume approach to analyze these systems is also introduced. Laboratory exercises are integrated into classroom work. Lecture: 2 hours. Laboratory: 2 hours.
Prerequisites: MATH-132, PHYS-221, PHYS-271;
Prerequisites or Corequisites: MATH-231, CIVL-203

MECH-331—Thermal—Fluid Systems II w/Lab
Three Credit Hours
Thermal-Fluid Systems II continues the integrated study of fundamental topics in thermodynamics and fluid mechanics. The course applies conservation principles for mass, energy, and linear momentum as well as the 2nd Law of Thermodynamics. Principles are applied to power generation systems (Rankine, Otto, Diesel, and Brayton cycles), refrigeration cycles, air conditioning processes, internal pipe flows, and aerodynamics. Laboratory exercises are integrated into classroom work. This course includes completion of a comprehensive, out-of-class design problem. This design problem provides the opportunity for students to apply engineering science to the design of a comprehensive thermal-fluid system.
Lecture: Two hours; Laboratory: Two hours.
Prerequisite: MECH-310 with a grade of “C” or higher

MECH-330—Measurements and Instrumentation w/Lab
Three Credit Hours
Fundamentals of measurement systems in mechanical engineering including transducer operation, signal conditioning, data reduction, and presentation of results. Transducer and measurement system characteristics including resolution, sensitivity, loading, time response, and frequency response. Operating principles of basic instrumentation for measurement of mechanical quantities such as force, torque, pressure, velocities, accelerations, temperature, and flow. Topics include uncertainty analysis, data analysis, probability and statistics, calibration, data acquisition, presentation of results, and an introduction to experiment design.
Lecture: Two hours; Laboratory: Two hours
Prerequisites: ELEC-201 or ELEC-208

MECH-340—Manufacturing Processes
Three Credit Hours
This is an introductory course that examines the interactions between design and manufacturing from the designer's point of view. The first portion of the class is devoted to safe, hands-on
experience with manufacturing machines and equipment. Students will have an opportunity to work on civil and mechanical manufacturing machines that are common in machine, woodworking, and sheet metal shops such as a mill, lathe, grinder, belt sander, drill press, and band saw. Common manufacturing processes will be introduced and design guidelines will be developed for each process. The successful student will leave this class with an appreciation that a designer must consider the method of manufacture during the design process to ensure that a product is functional, economically viable, and safe. Basic principles of metal processing; applied mechanics of metal cutting and forming; cost analysis of manufacturing operations.

Lecture: Two hours; Laboratory: Two hours
Prerequisites: CIVL-304/307

MECH-345—Machine Design
Three Credit Hours
This course introduces mechanical engineering design as an iterative decision making process and fundamental engineering science applied to machine components. Analysis for the design and manufacture of basic mechanical elements and their role in the design of machines; introduction to failure theory, fatigue analysis, and energy methods for deflection analysis and their application of them to the design and analysis of machine elements; design of multi-component systems. Useful design techniques (such as modeling, CPM, optimization, probabilistic approaches, etc.) and factors influencing design (such as human factors, products liability, ethics, societal, economics, safety, etc.) are presented, discussed, and incorporated. Design against static failure and fatigue failure of structural members and machine parts: design and selection of components including fasteners, welds (and welding techniques), shafts, springs, gears, bearings, and chain drives. The course culminates in a team-oriented process, design, and manufacture of a mechanical engineering product using the techniques, tools, machines, and equipment that were developed and taught throughout the course.
Lecture: Three hours
Prerequisites: CIVL-304

MECH-350—Modeling and Analysis of Dynamic Systems I
Three Credit Hours
This course covers dynamic modeling and control of linear systems through an overview of classical control theory as the foundation for control applications in electrical and mechanical systems. Topics include system modeling using Laplace transform, Root Locus, frequency domain, and state variable methods. Mathematical models are developed for electrical, mechanical, and other physical control systems. Control systems analysis and design techniques are studied within the context of how each system is physically controlled in practice.
Lecture: Three hours
Prerequisites: CIVL-203, Corequisite: MECH-330, MATH-234

MECH-351—Modeling and Analysis of Dynamic Systems II w/ Lab
Three Credit Hours
This course continues the integrated study of controls engineering. Topics include stability, steady state error, transient response, vibrations, sinusoidal frequency analysis, system modeling and design via frequency response methods, state space methods, and introduction to digital control. Laboratory exercises are integrated into classroom work.
Lecture: Two hours; Laboratory: Two hours
Prerequisite: MECH-350

MECH-360—Mechanical Engineering System Design
Three Credit Hours
This course provides experience in the integration of math, science, and engineering principles leading to a comprehensive engineering design project. Open-ended, client-based design problems emphasize a multidisciplinary approach to total system design providing multiple paths to a number of feasible and acceptable solutions which meet the stated performance requirements. Design teams are required to develop product specifications, generate alternatives through modeling, make practical engineering approximations to include probabilistic approaches, perform appropriate analysis to support the technical feasibility of the design, and make decisions leading to an optimal system design. System integration, reverse engineering/redesign projects, human factors engineering, products liability, ethics, safety, computer-aided design, maintainability, and fabrication techniques are addressed. This course provides an integrative experience in support of the overarching academic program goal.
Lecture: Three hours
Corequisite: MECH-345

MECH-365—Computational Methods in Engineering
Three Credit Hours
An introduction to numerical methods for engineers. Applications include: fluid mechanics, gas dynamics, heat and mass transfer, thermodynamics, vibrations, automatic control systems, and kinematics. Topics include: sources for errors in computing, mathematical bases of numerical methods, and implementation of numerical techniques using MATLAB.
Lecture: Three hours.
Prerequisite: MECH 102. Prerequisites or corequisite: MATH 234.

MECH-404—Advanced Materials
Three Credit Hours
Fundamentals of deformation and fracture in metals, polymers, ceramics and composites with application to design. Emphasis on time-temperature dependence of polymers, brittle behavior of advanced ceramics, the fracture mechanics approach to high strength and critical application of design and composite behavior.
Lecture: Three hours
Prerequisite: MECH-304 with a grade of “C” or higher

MECH-408—Composite Design
Three Credit Hours
Introduces materials and mechanics of composites with emphasis on high performance polymer matrix composites. Topics include material selection, laminate analysis/design, design implications from manufacturing and joining methodology, and interpreting test results. A team design-built test project is required.
Lecture: Three hours
Prerequisite: MECH-304 with a grade of “C” or higher

MECH-409—Composite Manufacturing w/Lab
Three Credit Hours
This course covers manufacturing fundamentals, manufacturing processes, composite fabrication and assembly, quality and inspection methods, repair, and required equipment. Topics include material selection, laminate analysis, manufacturing, joining, and testing.
Lecture: Two hours; Laboratory: Two hours
Prerequisite: MECH-304 with a grade of “C” or higher

MECH-415—Heat Transfer
Three Credit Hours
The three modes of heat transfer (conduction, convection, and radiation) are studied in detail, and applications are made to various engineering components including plane walls, finned surfaces, and tube arrays. The principles of conduction and convection are used to study the design and operation of heat exchangers. Numerical methods are employed to study 2D conduction.
Lecture: Three hours
Prerequisite: MATH 234, MECH 311.

MECH-416—Mass and Energy Balances
Three Credit Hours
Introduction to mass and energy balances in single phase and multiphase, nonreactive and reactive systems. Course topics include an introduction to engineering calculations and process variables, use of computers in solving chemical engineering problems, fundamentals of material balances in single-phase and multi-phase systems, energy balances on nonreactive and reactive processes, applications of combined material and energy balances, balances on transient processes, introduction to chemical engineering unit operations, and a general introduction to the field of chemical engineering.
Lecture: Three hours
Prerequisite: CHEM-140 or 151

MECH-417—Renewable Energy
Three Credit Hours
Covers renewable energy sources such as solar heating and cooling, wind energy, biomass, and photovoltaic energy. Surveys the energy availability of these sources and life cycle cost and present value used to evaluate the system. Students will design a system which utilizes a renewable energy source and economically evaluate the system.
Lecture: Three hours
Prerequisites: MECH-310

MECH-418—Energy Conversion Systems w/Lab
Three Credit Hours
An overview and historical evolution of both classical and state-of-the-art energy conversion technology. Advanced analysis of energy conversion hardware, air conditioning and refrigeration as well as fossil fuel combustion processes using concepts of energy. Major methods of direct energy conversion are covered, including thermoelectricity, photovoltaics, thermonics, magnetohydrodynamics, and fuel cells. Applications of the thermodynamic, heat transfer, and fluid flow principles to the modeling and design of thermal systems. These systems include pumps, fans, and heat and mass exchangers. The current state of national and world energy is presented and alternatives including renewable energy and a hydrogen economy are explored with reference to economic, political, environmental and technological factors.
Lecture: Two hours; Laboratory: Two hours
Prerequisite: MECH-415 with a grade of “C” or higher

MECH-419—Mechanical Power Plants
Three Credit Hours
Students engage in the analysis, testing and evaluation of internal combustion engines and their subsystems with a view toward understanding the underlying principles which affect their design. Spark ignition and compression ignition engine systems are studied in detail. Steam, cogeneration and combined cycles are studied. Introduces the theory and issues related to the design of axial and radial flow turbines, compressors and pumps.
Lecture: Three hours
Prerequisite: MECH-311

MECH-420—Nuclear Reactor Analysis
Three Credit Hours
This course focuses on nuclear reactor systems, the release of nuclear energy in the reactor core, and its removal as heat for producing electric power. Specific topics emphasize reactor kinetics, heterogeneous reactors, control rods and shim, reactor poisons, heat transfer, and alternative energy systems. The fundamentals of transport theory and the solution to the transport equation using Monte Carlo N-Particle (MCNPX) transport code are introduced.
Lecture: Three hours
Prerequisites: MECH-415

MECH-425—Advanced Heat Transfer
Three Credit Hours
This course covers additional topics in conduction, convection and radiation heat transfer as well as mass transfer, phase change and numerical methods.
Lecture: Three hours
Prerequisite: MECH-415 with a grade of “C” or higher

MECH-426—Air Conditioning
Three Credit Hours
Human comfort and the properties of air. Air conditioning in residences, public and industrial buildings using vapor compression and absorption units. Cooling loads, psychrometry, fans, duct sizing and layout, automatic control, and acoustic design considerations.
Lecture: Three hours
Prerequisite: MECH 311

MECH-430—Robotics Engineering w/Lab
Three Credit Hours
Interdisciplinary course in engineering systems applied to computer controlled devices. Topics include kinematics, control, operation, sensing, and design as applied to various types of industrial and other robots and programmable manipulators. A related project is required.
Lecture: Two hours, Laboratory: Two hours
Prerequisite: MECH-350

MECH-435—Finite Elements for Engineering Applications
Three Credit Hours
Emphasizes solving various one-dimensional, transient, non-linear problem statements including heat conduction, beam deflection, convection/diffusion (transport), gas dynamic shocks, and open channel flows. Assesses higher order bases, time stepping procedures, iterative solvers, and finite difference methodologies. Utilizes MATLAB for computational experiments
Lecture: Three hours
Prerequisites: CIVL-203, 304, MECH-310
MECH-440—Advanced Manufacturing Processes & Their Application
Three Credit Hours
This course examines major manufacturing processes, their capabilities, analysis, economics and manufacturing process selection. Computer programming is used for iterative methods in both analysis and design. Students will perform analysis in the fields of kinematics, mechanics, fluid mechanics, and heat transfer. The economics of process selection, batch size, and process flow are discussed. Process control methods are introduced.
Lecture: Three hours
Prerequisites: CIVL-203 & MECH-340 with a grade of “C” or higher

MECH-445—Manufacturing Design w/Lab
Three Credit Hours
Applications of fundamentals of engineering mechanics in analysis and synthesis of machine components and systems to the manufacture of products from metals, polymers, ceramics, and composites. Use and management of computers in engineering for drafting, design management, documentation, and manufacturing. Covers drafting methods and standards, design data management, CNC operations, implementation, kinematics, control, operation, sensing, and design as applied to various types of industrial models. A related project is required.
Lecture: Three hours; Laboratory: Two hours
Prerequisite: MECH-345 and MECH-440

MECH-450—Mechatronics w/Lab
Three Credit Hours
Applications of microprocessors and microcontrollers and digital electronics to the design and utilization of embedded control systems in smart systems and products. Topics include Boolean logic and algebra, system hardware and software development, and interfacing for mechanical applications.
Lecture: Two hours; Laboratory: Two hours
Prerequisite: MECH-350

MECH-452—Digital Logic and Circuits w/Lab
Three Credit Hours
This course covers the analysis, design, simulation, and construction of digital logic circuits and systems. The material in this course provides the necessary tools to design digital hardware circuits such as digital clocks and clocks, as well as computer hardware. The course begins with the study of binary and hexadecimal number systems, Boolean algebra, and their application to the design of combinational logic circuits. The first half of the course focuses on designs using small-scale integration (SSI) logic circuits, medium-scale integration (MSI) circuits, and programmable logic devices (PLDs) to implement combinational logic functions. The second half of the course emphasizes sequential logic circuits like counters and sequence recognizers, and also covers memory systems. Laboratory work in this half of the course focuses on using very high speed integrated circuit hardware description language (VHDL) to simulate digital systems and to program those systems into PLDs. As a final project, student teams design, build, and test a digital logic system such as a programmable alarm clock, digital lock, or burglar alarm.
Lecture: Two hours; Laboratory: Two hours

Prerequisite: ELEC-201 or ELEC-208

MECH-455—Advanced Mechatronics w/Lab
Three Credit Hours
A comprehensive course in the field of mechatronics. Mechatronics is the crossroads in engineering where mechanical engineering, electrical engineering, computer science, and controls engineering meet to create new and exciting real-world systems. Knowledge of mechanical and electrical components, controls theory, and design are integrated to solve actual physical design applications.
Lecture: Two hours; Laboratory: Two hours
Prerequisite: MECH-450 with a grade of “C” or higher

MECH-470—Introduction to Applied Aerodynamics
Three Credit Hours
The fundamental laws of fluid mechanics are used to develop the characteristic forces and moments generated by the flow about aerodynamic bodies. Physical properties of the standard atmosphere as well as lift, drag, and aerodynamic moments are studied for airfoils (2-D) and finite wings (3-D) in the subsonic and supersonic flow regimes. Students conduct computer simulations throughout the course to observe physics of actual flows.
Lecture: Three hours
Prerequisite: MECH 311 with a grade of “C” or higher

MECH-475—Aircraft Performance and Static Stability
Three Credit Hours
The course applies the principles developed in applied aerodynamics to develop the equations of motion for a rigid aircraft in steady state level flight, maneuvering flight, and during takeoff and landing. These equations are analyzed to determine such performance characteristics as maximum range, endurance, turning rate, climb rate, etc. Piston-prop, turbo-prop, and jet aircraft are considered. The equations of motion are then analyzed to develop static stability criteria and investigate steady state control characteristics. Design constraints based on customer requirements, mission profiles, aircraft sizing, optimization, and presentation of performance capabilities are considered.
Lecture: Three hours
Prerequisite: MECH 470

MECH-476—Propulsion Systems
Three Credit Hours
Application of basic principles in the study of the performance characteristics of air and space vehicles to include the aerodynamics of steady one dimensional isentropic compressible flow. Shock waves, gas turbines, turbojet, turbofan, turboprop, turboshift, ram jet, rocket, nuclear propulsion and space propulsion systems are discussed and compared.
Lecture: Three hours
Prerequisite: MECH 311

MECH-477—Vibration Engineering
Three Credit Hours
In this course students develop a foundation in the analysis and design of free and forced single and multi-degree of freedom systems. Applications include modeling, damping, resonance, force transmissibility, vibration absorbers, matrix formulation and modal analysis. Emphasis is placed on vibration examples from several engineering fields. Out-of-class design problems provide students with the opportunity to apply principles taught in the classroom to
realistic problems encountered by practicing engineers. In-class demonstrations supplement the theory development.

Lecture: Three hours

**Prerequisite:** CIVL 203

**MECH-478—Lightweight Structures**

Three Credit Hours

Applies the principles of mechanics to the structural analysis of mechanical and aerospace components. Covers stress tensors, shear flow in open and closed sections, beam columns, unsymmetrical bending, thin walled pressure vessels, introduction to elasticity.

Lecture: Three hours

**Prerequisite:** CIVL-304/307

**MECH-481—Senior Design I**

Three Credit Hours

Design projects with industry. Students work in teams with three or four members on design projects furnished from external clients. The emphasis is on creating design solutions, with appropriate analyses, to meet stakeholders' needs. In addition to regular meetings with their faculty advisors, the teams are expected to maintain close and continuous communications with their clients during the semester. The projects culminate in oral presentations and Interim Written Reports which are submitted to the clients.

Lecture: Three hours; **Prerequisite:** MECH-345, MECH-360

**MECH-482—Senior Design II**

Three Credit Hours

The student teams continue their design solutions to a general problem furnished by an external client. Continuous and regular communication with the outside clients is expected, as well as with the faculty advisors. During this semester the teams continue refining their solutions, complete the detail design, make oral presentations of the final design, and complete and submit the Final Written Report.

Lecture: One hour, Laboratory: Four hours

**Prerequisite:** MECH-481 (This course is a continuation of MECH-481)

**MECH-497—Special Topics in Mechanical Engineering**

Three Credit Hours

This course provides in-depth study of a special topic in engineering mechanics or mechanical engineering not offered elsewhere in the curriculum. Course content will be based on the special expertise of the Visiting Professor or a senior mechanical engineering faculty member.

Lecture: Three hours

**Prerequisite:** Department Head approval.

**MECH-498—Mechanical Engineering Internship**

Three Credit Hours

The student, on an individual basis, pursues advanced understanding by working for a mechanical engineering company. The scope of the activities is tailored to the educational focus of the student in consultation with the faculty advisor and the supervisor at the company. The student is required to provide weekly journaling, monthly supervisor evaluations, a final presentation, and a final report on the experience. LESSONS and LABS: No formal class. Consultation with Department Faculty Advisor at least once a week on individual work accomplished.

**Prerequisite:** Department Head approval.

**MECH-499—Advanced Independent Study in Mechanical**

Three Credit Hours

The student, on an individual or small group basis, pursues advanced study of a research topic in mechanical engineering. The scope of the course is tailored to the desires of the student in consultation with the faculty advisor. The student is required to define and analyze the problem, study the fundamentals involved, organize the approach, determine the procedure, achieve a solution, and submit a written report. LESSONS and LABS: No formal class. Consultation with Department Faculty Advisor at least once a week on individual work required.

**Prerequisite:** Department Head approval. Other requirements as determined by Faculty Advisor.

**Nursing (NURS)**

**NURS-200—Introduction to Nursing**

Two Credit Hours

Introduces the student to the nursing profession. This course provides an overview of nursing science to the student. The history of nursing is explored as well as theoretical frameworks that establish nursing as an independent discipline. Students are exposed to trends in healthcare that transform the role and responsibilities of the nurse in population health. The students will explore nursing education, evidence-based practice and its use in the healthcare arena as well as critical thinking and the nursing process.

Lecture: Two hours

**NURS-201—Health Assessment**

Four Credit Hours

Introduces students to the methods of the assessment of the healthy adult, which includes obtaining the health history, physical examination skills, health promotion strategies, and clinical assessment tools while incorporating communication skills. Professional behaviors are learned and practiced.

Lecture: Three hours, Laboratory: Two hours

**Prerequisite:** NURS-200

**NURS-202—Fundamentals of Nursing**

Four Credit Hours

This course introduces the student to the nursing process, concept of critical thinking, evidence-based practice, and fundamental skills necessary for the provision of safe and effective nursing care. Professional behaviors are learned and practiced.

Lecture: Three hours, Laboratory: Two hours

**Prerequisite:** NURS-200

**NURS-211—Health Assessment Laboratory**

One Credit Hour

This is the laboratory experience with NURS-201, Health Assessment. It provides students with the opportunity to apply concepts learned in the classroom setting. Each week, students use knowledge gained during class to assess different body systems. Student use inspection, auscultation, percussion, and palpation techniques as well as the nursing process. At the conclusion of the course, students must complete a head-to-toe nursing assessment.

**NURS-212—Fundamentals of Nursing Laboratory**
Three Credit Hours
Basic nursing skills are introduced in the didactic setting and reinforced in nursing simulation lab. Emphasis is placed on safe nursing practice, evidence based practice, and patient centered care.

NURS 301 – Adult Health I
Three Credit Hours
This course will focus on critical thinking and the nursing process that addresses the specific needs of the hospitalized adult with medical and/or surgical disorder. The roles and responsibilities of the professional nurse will be explored. The student will apply knowledge gained through the Fundamentals, Pathophysiology, and Pharmacology course to the care of patients in the health care setting that promotes maintenance, promotion, and restoration of physiological/psychosocial function. The student will use an interprofessional approach to care incorporating principles of caring. This course uses knowledge gained in pathophysiology and pharmacology to address the nursing care of patients.
Lecture: Three hours
Prerequisites: NURS 200/201; NURS 202/212; BIOL 340; BIOL 341

NURS 302 – Adult Health II
Three Credit Hours
This course is designed to expand the knowledge of the student in the care of the hospitalized patient. Students apply critical thinking skills to the care of complex patients including patient and family teaching and planning across the continuum of care. The student uses knowledge gained in previous and concurrent courses and continues to build a professional knowledge base using evidence and analytical decision-making.
Lecture: Three hours
Prerequisites: NURS 301/311

NURS 303 – Health Policy
Three Credit Hours
This course introduces the student to issues in health policy and management within the United States. Four specific areas are covered: economics and financing, need and demand, politics/ethics/law, and quality and safety.
Lecture: Three hours

NURS 306 – Healthcare Analytics
Two Credit Hours
This course is designed to give the student the basic knowledge needed to identify a problem related to the delivery of healthcare, craft metrics for the objective assessment of the problem, collect and analyze the data and present information in a format that is usable for decision and policy makers. The student explores existing measures of quality and safety and has an opportunity to apply basic data analytic strategies to these measures. The student also has an opportunity to identify a problem that is important to the practice setting and design and implement a measurement plan to address the problem.

NURS 307 – Comparative Health Systems
Three Credit Hours
Students will learn to recognize differences in health systems of the Americas Region, European Region, Middle East and Africa Region, and the Asian and Pacific Regions of the world. The strengths and weaknesses of these various national health systems will be identified, evaluated, and discussed. Students will be able to better assess the U.S. health system by putting it into a broader perspective and completing this class.

NURS 311 – Adult Health I Clinical
Two Credit Hours
This clinical course is designed to explore the role of the professional nurse in the care of the hospitalized adults with specific medical/surgical conditions. The students will apply critical thinking skills and utilize the nursing process to provide care that addresses the needs of care of individuals to promote and restore physiological and psychosocial function. This encompasses individual and family teaching and planning across the continuum of care. The student will use knowledge gained in previous and concurrent courses and continues to build a professional knowledge base using evidence and analytical decision-making.
Laboratory/Clinical: Six hours
Prerequisites: NURS 201/211; NURS 202/212; BIOL 340; BIOL 341
Corequisite: NURS 301

NURS 312 – Adult Health II Clinical
Two Credit Hours
This clinical course is designed to expand the role of the professional nurse in the care of the complex hospitalized adults with specific medical/surgical conditions. The students will utilize critical thinking skills and the nursing process to provide care that addresses the needs of care of individuals to promote and restore physiological and psychosocial function. This encompasses individual and family teaching and planning across the continuum of care. The student will use knowledge gained in previous and concurrent courses and continues to build a professional knowledge base using evidence and analytical decision-making.
Laboratory/Clinical: Six hours
Prerequisites: NURS 301/311
Corequisite: NURS 302

NURS 340 – Pathophysiology
Three Credit Hours
This course will provide students with a broad overview of human diseases and disorders. Common disease and disorder mechanisms will be discussed first. These general concepts will be further investigated later in the course through the study of common pathologies of various organ systems. Case studies will be employed throughout the course to provide students with real-world application of concepts learned.
Prerequisites: BIOL 130/131 or BIOL 101/111 and BIOL 218/228

NURS 341 – Pharmacology
Three Credit Hours
The purpose of this course is to introduce students to the applications of pharmacology and the concept of pharmacotherapeutics. At the completion of the course, students will have an understanding of the major pharmacotherapeutic agents as they relate to the nursing process and diseases/disorders.
Prerequisites: BIOL 130/131 or BIOL 101/111 and BIOL 218/228, CHEM 103/113 and CHEM 104/114 or CHEM 151/161 and CHEM 152/162
NURS 401 – Maternal Child Health
Three Credit Hours
This course is designed to assist the student in caring for women and families. This course covers the application of the nursing process with this population where there will be a focus on the childbearing phase of development. This includes the assessment of health needs related to normal and abnormal prenatal, intrapartum, and postpartum physiological changes and psychosocial needs. There will be a focus on pediatric health and illness from infancy to adolescence. An emphasis is placed on growth and development, health promotion, evidence-based practice, cultural variation and communication with children and families in the hospital and community settings.
Lecture: Three hours: Laboratory/Clinical: Six hours
Prerequisites: NURS-301/311

NURS 402 – Community and Mental Health Nursing
Three Credit Hours
This is an integrated course that allows the student to understand population health as well as focus on behavioral issues. Students will focus on the dynamics of the client with behavioral issues within the larger population and the special needs associated with these clients. The student will employ a biopsychosocial approach to care. The student will also work with interprofessional groups on general population health and healthy communities and focus on assessing needs and promoting health of vulnerable individuals, groups, and communities. Family and community assessments will be performed utilizing public health concepts and principles.
Lecture: Three hours: Laboratory/Clinical: Six hours
Prerequisites: NURS-301/311

NURS 403 – Evidence-Based Practice
Three Credit Hours
Students are exposed to the use of evidence in daily nursing practice. Research and performance improvement activities are learned. Students identify a problem statement and search the literature for supporting evidence. Basic data analysis skills are developed with the emphasis on the review and critique of published research with consideration of the application of research finding in the healthcare.
Lecture: Three hours

NURS 404 – Nursing Leadership
Three Credit Hours
Students are exposed to effective leadership and management skills both within the health care profession as well as the community at large. Although bioethics is emphasized in each individual course, organizational ethics are presented to the student where the impact of legal, social, political and economic forces impact the profession of nursing, the healthcare systems and society as a whole.
Lecture: Three hours

NURS 405 – Adult Health III
Three Credit Hours
This is the capstone course for nursing which integrates concepts and skills learned throughout the curriculum. Students focus on the care of complex individuals and populations. While the focus is on the care of the individual in the hospital setting, highly coordinated care in the community will also be studied. Ethical and moral aspects of care will be learned as well as palliative and end of life care principles and psychosocial aspects of individuals and families in crisis.

NURS 406 – Special Topics
Three Credit Hours
This course is designed for a detailed study of special topics in nursing and health. Examples might include but not be limited to: internships, undergraduate research, or special field experience.

NURS 411 – Maternal Child Health Clinical
Two Credit Hours
This course will address nursing care issues from a physiological, pathophysiologial, and psychosocial context. It will present content of two disciplines comprehensively, promoting a sensitive, holistic outlook on nursing practice. Nurses will be presented up-to-date information that will allow them to think critically, creatively, and compassionately for these populations.
Prerequisites: NURS-301/311

NURS 412 – Community & Mental Health Clinical
Two Credit Hours
This is the clinical component for the integrated course of mental health/behavioral issues and community, population health and community health. Students will have experiences in a variety of different clinical settings designed to support the learning outcomes of the course. In some instances, students will be involved in direct care of individual patients, others will be observational experiences and others will be the management of populations or communities.
Prerequisites: NURS-301/311

NURS 415 – Adult Health III Capstone
Two Credit Hours
This course serves as the clinical component to the capstone course for the nursing program. Students take information learned throughout their curriculum and apply concepts and skills to the care of complex patients and populations. While the focus is on the care of the individual in the hospital setting, highly coordinated care in the community will also be studied. Students will also learn about the care of complex population of patients. Ethical and moral aspects of care will be learned as well palliative and end of life care principles and psychosocial aspects of individuals and families in crisis.
Prerequisites: NURS-302/311

Physical Education (PHED)

PHED 303 – Accommodating Persons with Disabilities within Sport and Physical Activity
Three Credit Hours
A course to prepare students for accommodating persons with disabilities in situations involving access to facilities and equipment, physical fitness assessment and programming, sports participation and competition, and as a team member within various professional settings.
Political Science (PSCI)

PSCI-302—Urban Politics
Three Credit Hours
A study of mass participation in urban political affairs, political parties on local level, the municipal reform movement, and the alternative approaches to the study of local political systems. Emphasis placed on the problems of local government in metropolitan areas.

PSCI-310—Domestic Terrorism
Three Credit Hours
A survey of the domestic terrorism landscape in the United States by examining groups involving local nationals that use or attempt to use extreme violence against purely domestic targets. The course explores how nationalistic, religion-political, ideological, and single-issue terrorist groups attempt to influence or coerce others into action they would not otherwise take. The course also explores law-enforcement measures aimed at countering the threat of domestic terrorism.

PSCI-311—The Civil Rights Movement and American Politics
Three Credit Hours
Examination of the Civil Rights Movement from World War II to the present with special attention to the period from 1954 through 1965. The course will consider the impact of this critical period on American politics and political behavior during the decades since, down to the present. Key events, organizations, and personalities will be examined, and continuing issues such as affirmative action and racial typing will be discussed.

PSCI-342—International Terrorism
Three Credit Hours
A study of international and transnational political violence, with some attention to the phenomenon of “state terrorism” (international repression) and its potential impact on the conduct of American foreign policy. Issues addressed include conceptualizing and defining terrorism, the structure of violent politics, the lessons and patterns from the history of contemporary political violence, state support for terrorism, and counterterrorism as a public policy problem.

PSCI-361—Law and Legal Process
Three Credit Hours
This course serves as a general introduction to law, lawyers, judges, and the civil legal process. Through lectures, assigned reading, and class seminars, the course will broadly survey the American legal process, including the nature of law, judicial organization and the instruments of judicial power, civil proceedings and civil law, the work and training of lawyers, the recruitment of judges, and the nature of judicial decision-making. (Note: The criminal justice system is surveyed in CRM) 201, Introduction to Criminal Justice.

PSCI-392—Political Theory
Three Credit Hours
Major theoretical writing from the ancient Greeks to the present day; emphasis on a comparison of ideas and on the relationships between theories and contemporary problems.

PSCI-401—Political Issues and Public Policy
Three Credit Hours
An introduction to political analysis through consideration of important contemporary American political issues as they relate to public policy; attention given to specific issues as well as the policy process (formulation, implementation, and evaluation of policy).

PSCI-461—Issues in Contemporary Constitutional Law
Three Credit Hours
A study of selected cases and issues in U.S. constitutional law relating to contemporary controversies in American law and politics. The specific issues and cases studied may vary from semester to semester.

PSCI-462—Constitutional Law: Civil Right and Liberties
Three Credit Hours
Required of political science seniors. A study of the underlying and basic principles of the Constitution as reflected in the leading decisions of the United States Supreme Court with special attention directed to the Bill of Rights and the Thirteenth, Fourteenth, and Fifteenth Amendments.

PSCI-492—Special Topics in Political Science: Modern Ideologies
Three Credit Hours
The course’s primary objective is to gain familiarity with and understanding of the nature and role of political ideologies and to understand the potential of these political ideas for 21st century politics. In addition to the major political ideologies of the 19th and 20th centuries – liberalism, conservatism, fascism, socialism, and communism – the course will examine the contemporary appeal of environmentalism and feminism to ascertain whether they are, in fact, operating as ideologies in today’s politics. The course will also look at Political Islam as a powerful political force today.

Psychology (PSYC)

PSYC-319—Psychological Resiliency
Three Credit Hours
This course will provide students with foundational knowledge of psychology in the military and theoretical information on the interaction between physical and mental health as they relate to readiness and resiliency of military service members, veterans, law enforcement officers, firefighters, and other tactical personnel.

This course will explore the meaning of readiness and resiliency, including the interconnectedness of mind, body, interpersonal, and spiritual fitness.

Sociology (SOCI)

SOCI-201—Introduction to Sociology
Three Credit Hours
The scientific study of principles and comparisons in society and cults, and a historical analysis of the phenomenon will be undertaken. A sociological examination of their impact on social norms and ideologies will be discussed; government reactions to cults and cult activities will also be addressed.
SOCI-202—Social Problems  
Three Credit Hours  
The study of the social construction of social problems as well as their impact on society. Also included the analysis of deviant behavior and those factors affecting the disorganization of small groups, complex organizations, and societies.

SOCI-301—Cults  
Three Credit Hours  
An examination and analysis of alternative religious ideologies and groups. Attention will be given to defining and explaining cults, and a historical analysis of the phenomenon will be undertaken. A sociological examination of their impact on social norms and ideologies will be discussed; government reactions to cults and cult activities will also be addressed.

SOCI-304—Minority Group Relations  
Three Credit Hours  
An examination of the substantive issues in the study of majority-minority group relations and social processes, and the cultural orientations which are associated with these issues.

SOCI-433—Special Topics in Sociology  
Three Credit Hours  
Selected special topics or problems in the general area of sociology and social problems; offered periodically as the special interests of faculty and students permit.

SOCI-498—Independent Study  
Three Credit Hours  
An independent study project resulting in a formal paper; this study must be approved by the department head in consultation with an appropriate member of the Sociology faculty who will supervise the project. Especially recommended for those considering graduate or professional study.

TSAC—Tactical Strength and Conditioning (TSAC)

TSAC-200—Instructional Aspects of Teaching & Coaching  
Three Credit Hours  
This course is designed to discuss theories of coaching philosophy and instruction in athletic performance settings. Content related to coaching philosophy includes coaching style, character development, and communication strategies. Additionally, instructional aspects of coaching include environmental arrangements, task presentation, content development, and feedback. Practical applications of these principles to athletic populations using open and closed motor skills will be included.

TSAC-201—Anatomy and Physiology for Health and Human Performance  
Three Credit Hours  
This course provides foundational understanding of concepts in human anatomy and physiology as they relate the human body’s adaptations to exercise. Specific content areas covered in this class include introductions to muscular and skeletal anatomy and physiology, functional anatomy, biomechanics, bioenergetics, and medical terminology.

TSAC-211—Fundamentals of Applied Functional Anatomy and Physiology Lab  
One Credit Hour  
This rigorous systems-based laboratory course in human musculoskeletal anatomy provides an overview of the structure and functional significance of the human musculoskeletal system. This mandatory concurrent laboratory section places emphasis on nomenclature and recognition of anatomical and histological features of human movement specific to the fields of kinesiology, physical education, biomechanics, athletic training, and strength and conditioning. Knowledge and skills of orthopedic anatomy relative to bony landmarks, joints, ligaments, origins and insertion of tendons and muscles will be of primary focus.

TSAC-301—Tactical Strength and Conditioning  
Three Credit Hours  
A study of fundamental concepts in bioenergetics, biomechanics, and cardiopulmonary and skeletal muscle function and adaptation, as it relates to the physical conditioning, training, and physical fitness of tactical personnel. Current research, and laboratory techniques for assessing human physiological responses to exercise and training, will be studied and applied to tactical athletes. Topics to be covered include but are not limited to: testing and evaluating tactical populations, nutrition for tactical populations, and physiological issues related to fire and rescue, law enforcement, and military personnel.

TSAC-302—Care and Prevention of Injuries for Tactical Athletes  
Three Credit Hours  
This class will provide discussion, demonstration, and application of skills and procedures used in athletic training for preventing training-related injuries commonly associated with tactical athletes. Specifically, focus will be placed on caring for and preventing training-related injuries seen in basic combat training.

TSAC-395—Directed Field Experience in Tactical Strength and Conditioning  
Three Credit Hours  
A 100 hour controlled exposure to professional experiences in the field of tactical strength and conditioning. The primary purpose of this course is to provide a field-based learning experience where the student shadows and assists a professional working with tactical athletes in either a military installation, or private or public civilian environment.

TSAC-495—Internship in Tactical Strength and Conditioning  
Three Credit Hours  
A requirement for graduation is observation of and involvement in the physical conditioning of tactical athletes under an approved supervisor and supervision by the college instructor. This supervised internship experience must be at least 300 hours and must take place in a private or public sector host organization focused on strength and conditioning of tactical athletes. Students will actively participate in designing and delivering strength and conditioning programs aimed at improving physical readiness of a single tactical athlete and/or groups of tactical athletes. This internship will provide the student with hands-on skills and knowledge for handling the nuances of training tactical
athletes. Upon completion of the internship, students will present a comprehensive summary of their internship experience, and will be formally evaluated by the internship supervisor and the college instructor.