Civil Engineering Student Handbook
CLASS OF 2018

Last updated: 20 October 2015

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Introduction

The purpose of this document is to provide a concise guide for both students and faculty. It is anticipated that the document will be updated yearly. In addition, this document will empower students to find and provide the information needed to achieve their goals. If a student believes that something should be included in this document that is not, the student should notify their advisor.

Curriculum

Philosophy

The plan of study was developed by the faculty to provide both breadth and depth in Civil Engineering. The technical goals of each of the four years of the curriculum can be summarized as follows. It is important to note that you will take theology, humanities, and social science courses all four years.

- Freshman year: Students obtain a solid foundation of math and science courses while being introduced to engineering concepts.
- Sophomore year: Students apply their math and science knowledge in introductory engineering courses (engineering science).
- Junior year: Students learn the fundamentals of design in the five major sub-disciplines of civil engineering, although Transportation Engineering is taken in the sophomore year.
- Senior year: Students obtain specialized knowledge in three out of the five major sub-disciplines. There are two major projects in the senior year: one each semester. In the first semester, students develop a feasibility study on a local, civil engineering project that has significant components of all five major sub-disciplines of civil engineering. In the second semester, the students apply their knowledge in a capstone design project.

The curriculum was designed to exceed the requirements of our accreditation board (ABET) for both the general engineering and program-specific criteria developed by the American Society of Civil Engineers (ASCE) and was informed by the Body of Knowledge II[1]. The faculty seek to provide students with the knowledge, skills, and attitudes needed to succeed.

[1] ASCE (2008) *Civil Engineering Body of Knowledge for the 21st Century, 2nd Ed*, ASCE, Reston, VA. Available online at http://www.asce.org/uploadedFiles/Education_and_Careers/Body_of_Knowledge/Content_Pieces/body-of-knowledge.pdf

BSCE Curriculum

Updated 10/20/15

VILLANOVA UNIVERSITY - COLLEGE OF ENGINEERING
BACHELOR OF SCIENCE IN CIVIL ENGINEERING

CLASS OF 2018
TOTAL = 131 credits

	EGR	1200	Egr Interdisciplinary Project I	3		EGR	1205	Egr Interdisciplinary Project II	3
	MAT	1500	Calculus I	4		MAT	1505	Calculus II	4
	CHM	1151	General Chemistry I	4		CHM	1156	General Chemistry II for Egr	4
	CHM	1103	General Chemistry Lab I	1		PHY	2400	Physics I Mechanics	3
	ACS	1000	Ancients	3		ACS	1001	Moderns	3
	THL	1000	Faith, Reason, and Culture	3					
				18					**17**
	CEE	2105	Mechanics I: Fund. Behavior *	4		CEE	2106	Mech II: Material Behavior *	4
	CEE	2604	Civil Engineering Fundamentals	4		CEE	2211	Transportation Engineering	3
	GLY	2805	Geology for Engineers	3		CEE	2311	Environmental Engr Science	3
	MAT	2500	Calculus III	4		MAT	2705	Diff Equation with Linear Alg	4
			Humanities Elective	3				Math/Science Elective	3
				18					**17**
	CEE	3107	Mechanics III: Fluid Behavior *	4		CEE	3801	Soil Mechanics	3
	CEE	3401	Structural Analysis	3		CEE	3901	Soil Mechanics Lab	1
	CEE	3321	Water & Wastewater Treatment	3		CEE	3511	Hydraulic Egr & Hydrology	3
	CEE	3921	Environmental Egr Lab	1		CEE	3913	Hydraulic Egr & Hydrology Lab	1
	CEE	3705	Engineering Economics	3		CEE	3950	Graphical Communications	1
			Ethics Elective	3		CEE	3402	Structural Steel Design (or CEE 4404 **)	3
								Theology/Philosophy Elective	3
				17					**15**
	CEE	4xxx	*CEE Senior Electives (3 of 5)* :	3		CEE	4606	CEE Capstone Design Project	3
	CEE	4xxx	CEE 4224 or 4226 ***, CEE 4331,	3				Upper THL Elective	3
	CEE	4xxx	CEE 4404 **, CEE 4521, CEE 4801	3				Social Science Elective	3
	CEE	4602	Professional Practices in CEE	2				Free Elective	3
			Free Elective	3				Technical Elective	3
				14					**15**

* Mechanics courses (CEE 2105, CEE 2106, and CEE 3107) may be satisfied by alternative paths. See separate sheet for specific details.

** CEE 4404 may be used in place of CEE 3402 requirement listed in Junior Spring, if CEE 4404 is not used as a CEE Senior Elective.

*** Either CEE 4424 or CEE 4226 (but not both) may be used as a CEE Senior Elective. If both are taken, one may be used as a Technical Elective.

Electives

A total of nine elective courses (27 credits) must be taken as part of the BSCE degree requirement. These electives may be taken in any order. You may also decide to use your electives to pursue a minor. Minors are described later in this document. The electives requirement is summarized below, with the most restrictive requirements at the top of the list and the least restrictive requirements at the bottom. The official list of elective requirements, which is updated as required due to the addition or removal of courses from the official university catalog, may be found here: http://www1.villanova.edu/villanova/engineering/undergrad/majors/civil/electives.html.

ELECTIVES (27 credits, all courses must be at least 3 credits, each course may satisfy only one elective requirement)		
	Math/ Science	Approved classed include PHY 2402, 2412, 2414, 2416; BIO 2105, 2106; CHM 2211, 2212; MAT 3400, 4270, 4310. Some classes may be 4 credits. AP credit may not be used.
	Technical	Any course (3 or more credits) from the following list: * All Astronomy and Astrophysics (AST), Biology (BIO), and Chemistry (CHM) courses at the 2000 level or above * All Mathematical Sciences (MAT) courses at the 2000 level or above except MAT 3930 * All Physics (PHY) courses at the 2400 level or above, except PHY 2410 * All non-required Civil & Environmental Engineering (CEE) courses except CEE 2100, CEE 2103, CEE 3500, CEE 7001, CEE 7002, and CEE 7111 . For CEE 4607, only section numbers below 10 count as technical electives. * All Chemical Engineering (CHE), Electrical and Computer Engineering (ECE), and Mechanical Engineering (ME) courses except ME 2100, ME 3600, ME 4050, and ME 4600 * Other courses including: CSC 1051, GEV 3550, GEV 3570, GEV 3580, GEV 3750, GEV 3775, GEV 4700, MET 1221, MET 1222, and NS 3100.
	Upper THL	Any Theology (THL) course at the 2000 level or above.
	Ethics	Approved classes include EGR 2001, ETH 2050, NS 4200, PHI 2115, PHI 2116, PHI 2121, PHI 2130, PHI 2160, PHI 2170, PHI 2180, PHI 2550, THL 4100, THL 4200, THL 4330, THL 4340, and THL 5840.
	Theology/ Philosophy	Any Theology (THL) (2000 level or above), Philosophy (PHI), or Peace & Justice (PJ) course, or ETH 2050, or CHE 2930.
	Humanitites	Any course from: Arab & Islamic Studies (AIS), Art History (AAH) except skills courses, Classical Studies (CLA), Communication (COM) except skills courses, English (Literature) (ENG), History (HIS), Honors (HON), Modern Languages (SPA, FRE, etc) except speaking courses in native language, Philosophy (PHI), Theatre (THE) except skills courses, Theology (THL) (2000 level or above). Courses primarily emphasizing skills (such as acting, painting, sculpting, public speaking, etc.) are not acceptable.
	Social Science	Any course from: Economics (ECO), Geography (GEO) (selected courses only), Peace and Justice (PJ), Political Science (PSC), Psychology (PSY), Sociology (SOC), Gender & Women's Studies (WS) (selected courses only).
	Free	Any course
	Free	Any course

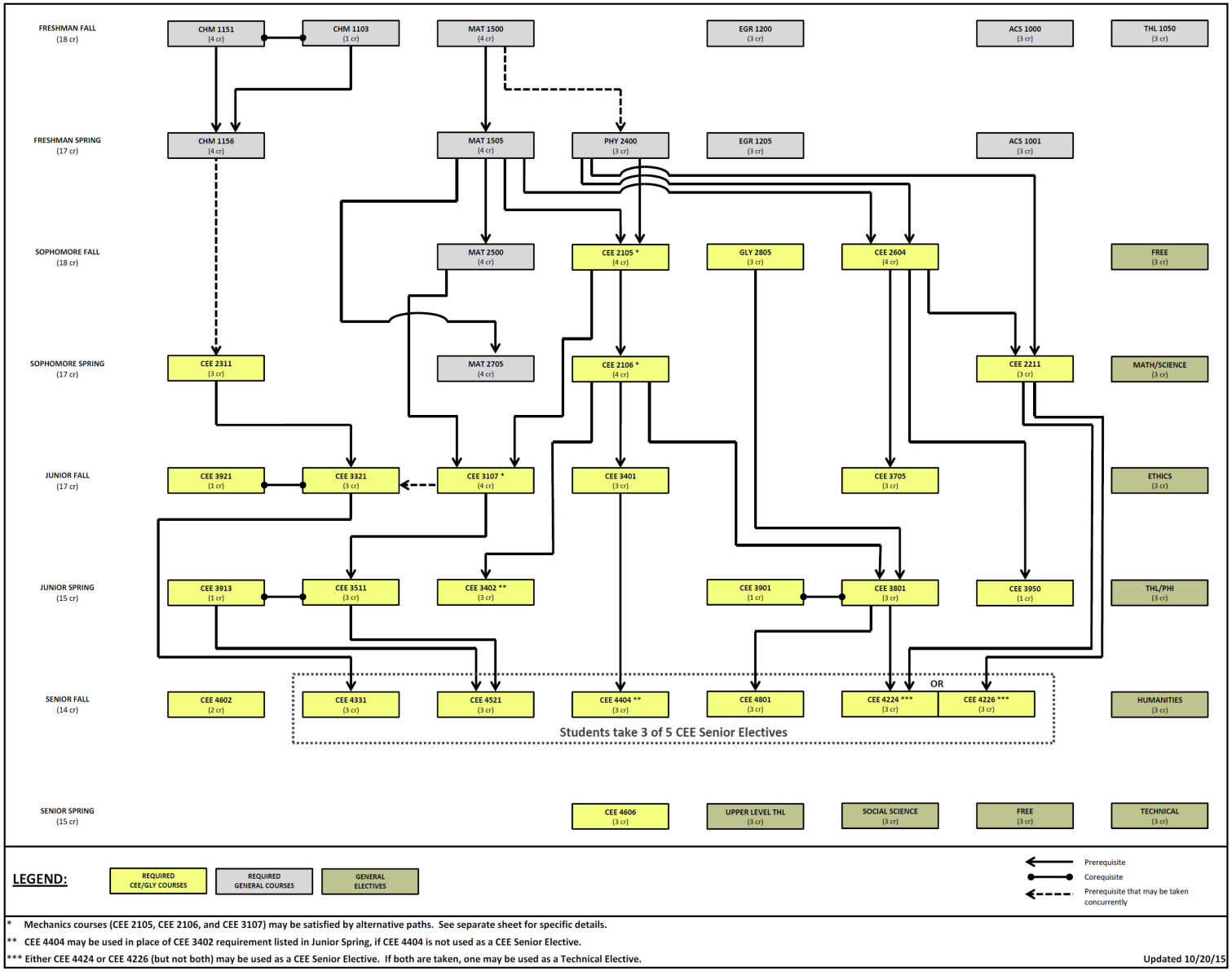
Note: For all "official" elective requirement descriptions, consult: http://www1.villanova.edu/villanova/engineering/undergrad/majors/civil/electives.html

Prerequisite Flow Charts

Many required courses must be taken in a prescribed sequence and most courses have one or more prerequisites. The flowcharts on the following pages illustrate the numerous prerequisites within the overall curriculum as well as within the sub-discipline areas of environmental, water resources, structural, geotechnical, and transportation engineering.

VILLANOVA UNIVERSITY BACHELOR OF SCIENCE IN CIVIL ENGINEERING (BSCE) CURRICULUM

CLASS OF 2018



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Updated 10/20/15

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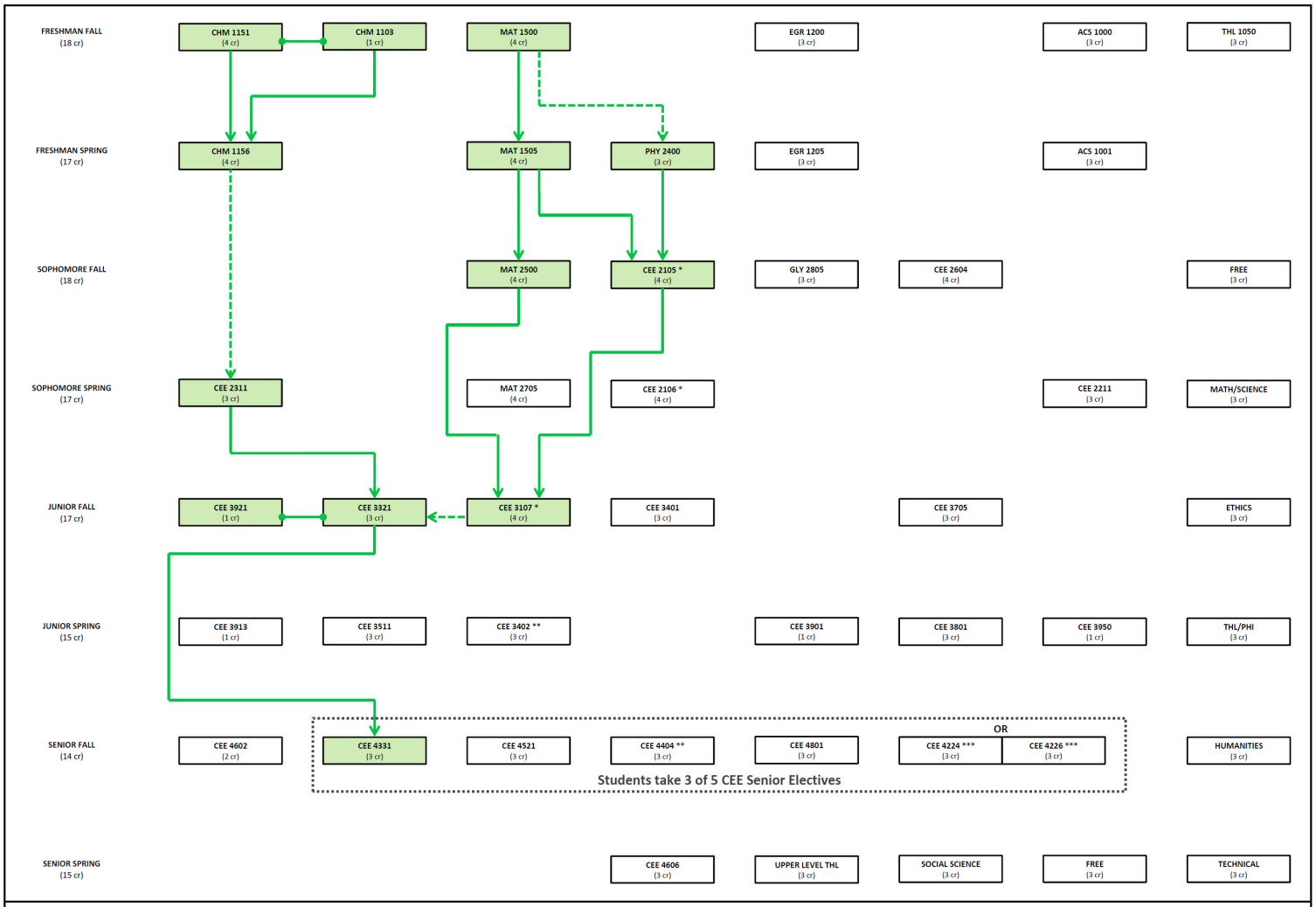

ENVIRONMENTAL

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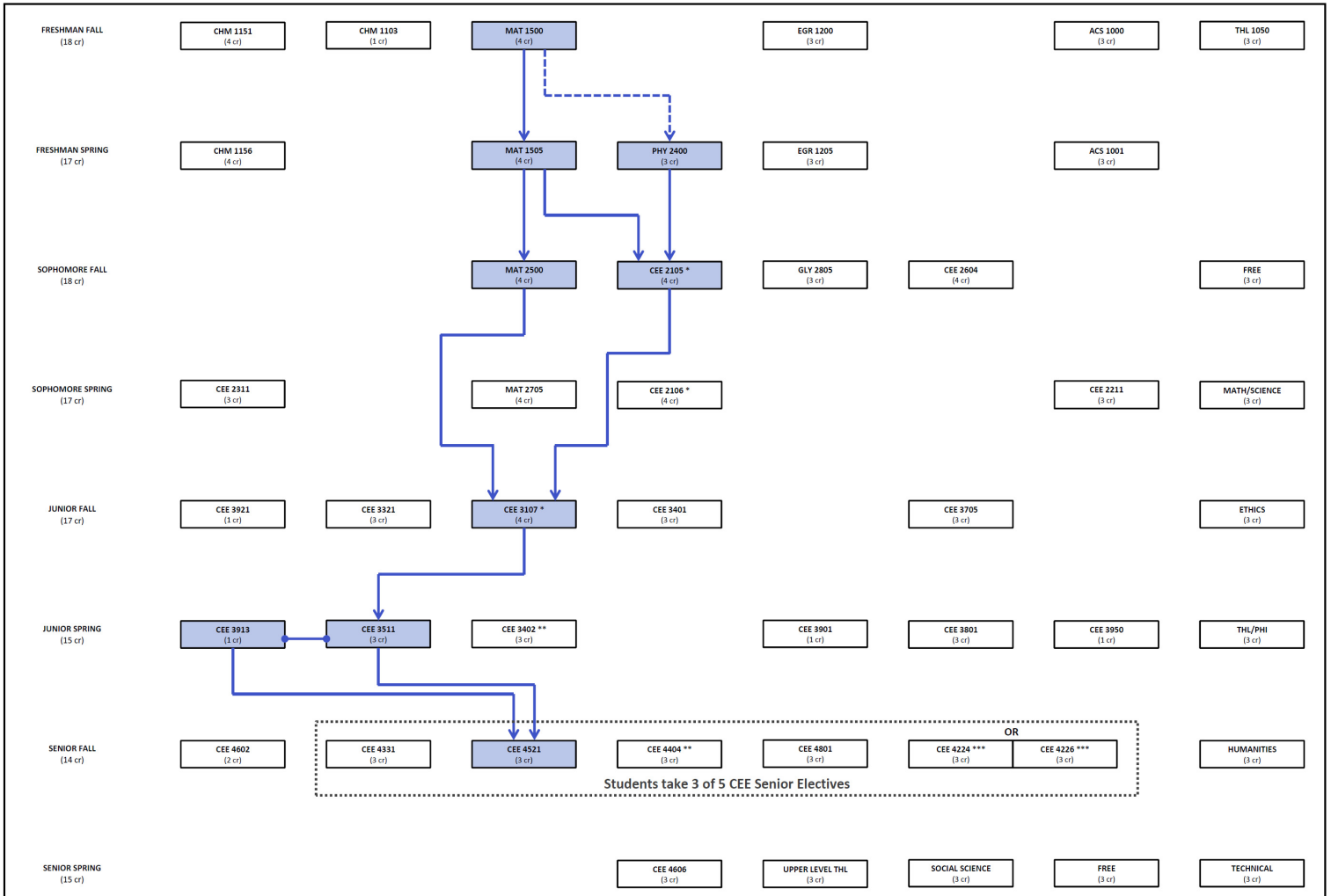

WATER RESOURCES

Prerequisite
Corequisite
Prerequisite that may be taken concurrently

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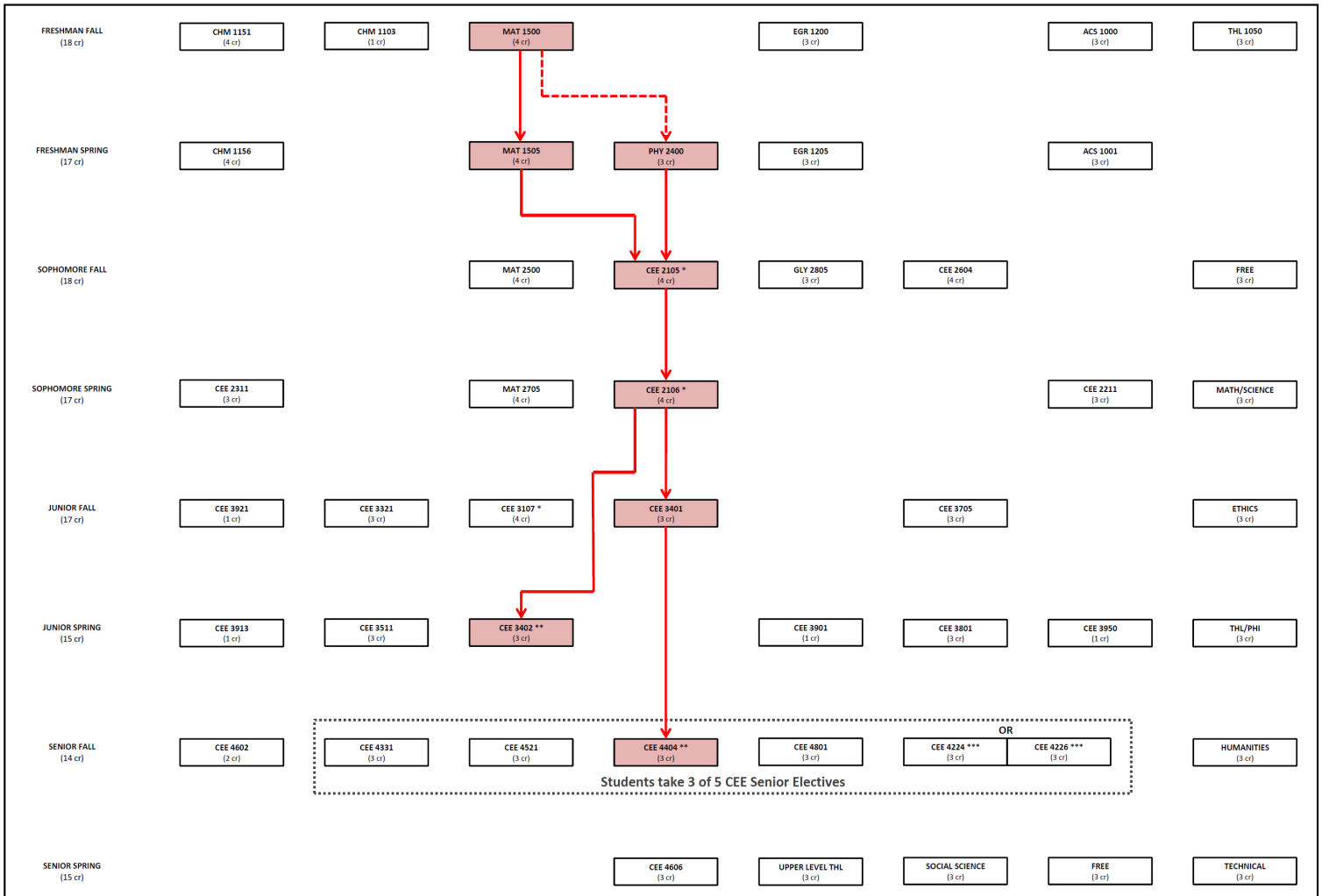

STRUCTURAL

Prerequisite
Corequisite
Prerequisite that may be taken concurrently

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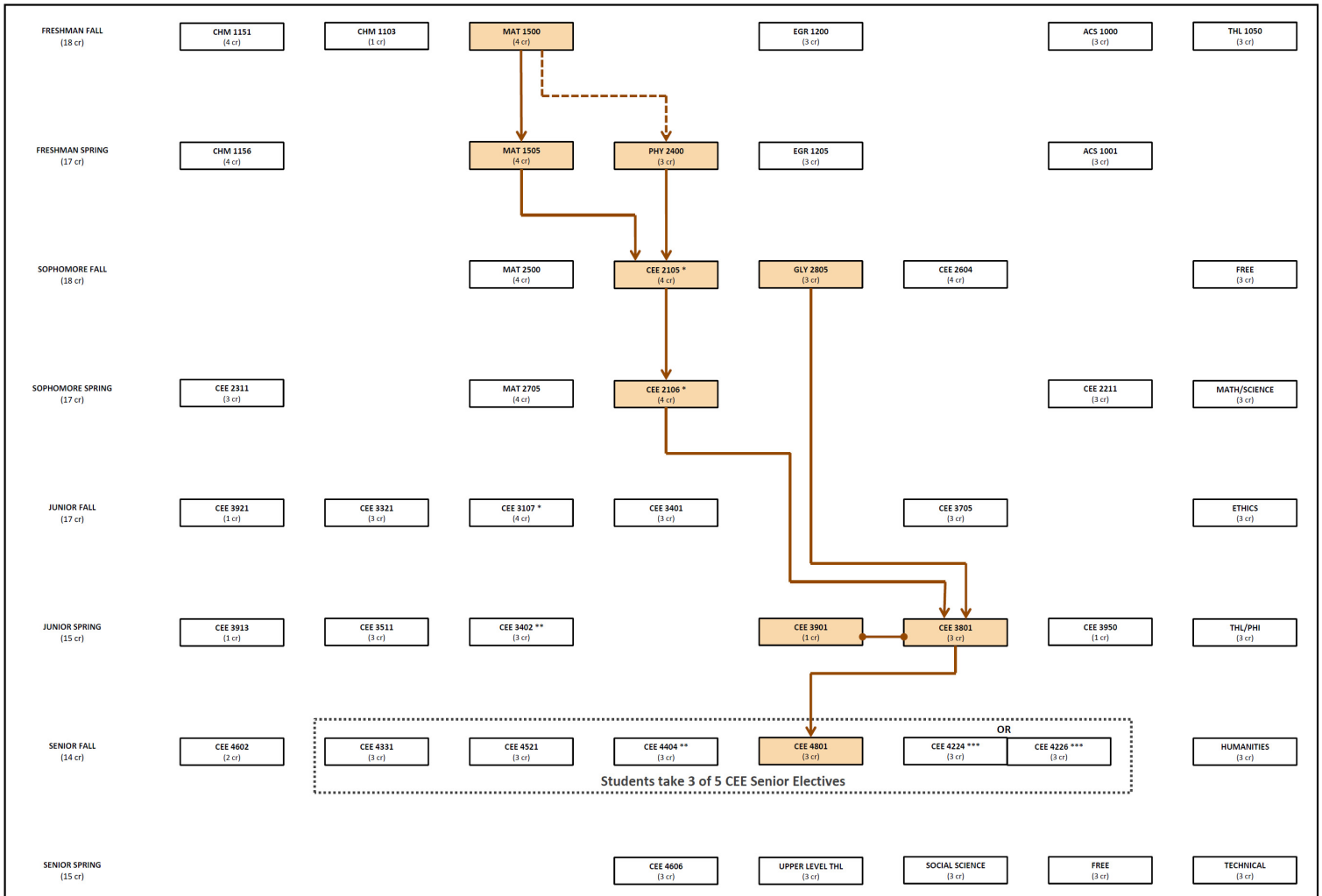

GEOTECHNICAL

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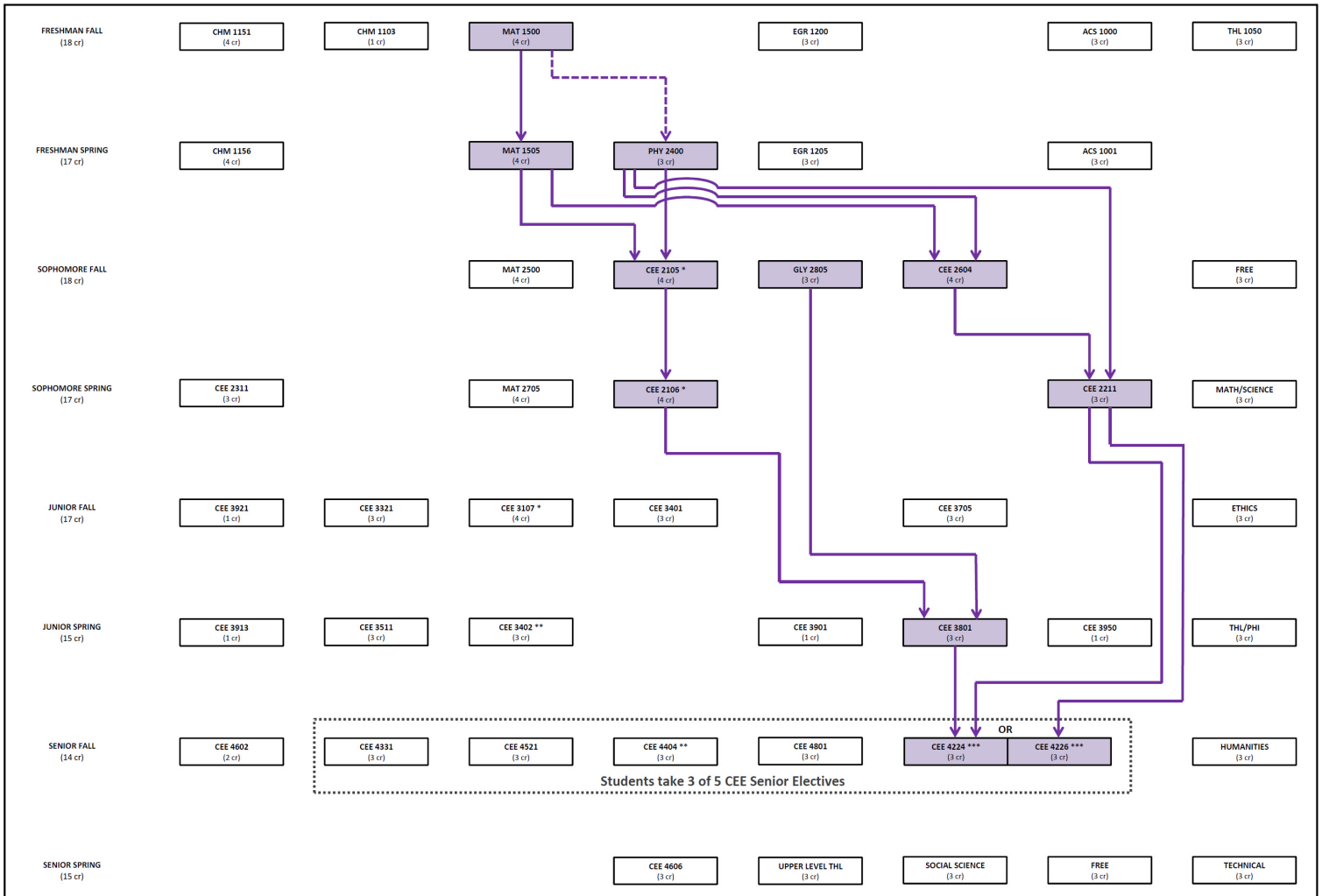

TRANSPORTATION

Prerequisite
Corequisite
Prerequisite that may be taken concurrently

* Mechanics courses (CEE 2105, CEE 2106, and CEE 3107) may be satisfied by alternative paths. See separate sheet for specific details.

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Updated 10/20/15

Alternative Mechanics Sequences

The standard CEE Mechanics sequence consists of CEE 2105, CEE 2106, and CEE 3107 but may be satisfied by alternative means for students that are out of sequence. A student may become out of sequence by failing a class, transferring into the department, or by studying abroad. The alternative path is only available for those students or at the discretion of the department chair. Alternative paths are summarized below.

"SOLIDS" PORTION

- The "SOLIDS" portion of the mechanics sequence normally consists of CEE 2105 (4) and CEE 2106 (4).
- Alternatively, this portion may be satisfied by taking either CEE 2100 (3) or CEE 2105 (4), along with both CEE 2103 (3) and CEE 3902 (2).
- A student does not satisfy the requirement by taking only CEE 2100 (3) and CEE 2106 (4).
- A student must complete CEE 2103 or CEE 2106 before the Junior Fall and CEE 2106 or CEE 3902 before the Junior Spring to "stay on track".
- Prerequisite information for "SOLIDS" mechanics courses and related upper level courses:

Course	Semester Offered	Prerequisites
CEE 2100: Statics	Spring, Summer	MAT 1505 and (PHY 2400 or PHY 2410)
CEE 2103: Mechanics of Solids	Spring, Summer	CEE 2100 or CEE 2105
CEE 2105: Mechanics I	Fall	MAT 1505 and (PHY 2400 or PHY 2410)
CEE 2106: Mechanics II	Spring	CEE 2105
CEE 3401: Structural Analysis	Fall	CEE 2103 or CEE 2106
CEE 3402: Structural Steel Design	Spring	CEE 2106 or (CEE 2103 and CEE 3902)
CEE 3801/3901: Soil Mechanics (and Lab)	Spring	GLY 2805 and (CEE 2103 or CEE 2106)
CEE 3902: CE Materials	Fall	CEE 2103

"FLUIDS" PORTION

- The "FLUIDS" portion of the mechanics sequence normally consists of CEE 3107 (4).
- Alternatively, this portion may be satisfied by taking both CEE 3500 (3) and CEE 3910 (1).
- A student must complete CEE 3107 or CEE 3500 before the Junior Spring to "stay on track".
- Prerequisite information for "FLUIDS" mechanics courses and related upper level courses:

Course	Semester Offered	Prerequisites
CEE 3107: Mechanics III	Fall	MAT 2500 and (CEE 2100 or CEE 2105)
CEE 3321/3921: Water & Wastewater Treatment (and Lab)	Fall	CEE 2311 and (CEE 3107 or CEE 3500)
CEE 3500: Fluid Mechanics	Fall, Spring	MAT 2500 and (CEE 2100 or CEE 2105)
CEE 3511/3913: Hydraulic Egr & Hydrology (and Lab)	Spring	CEE 3107 or CEE 3500
CEE 3910: Fluid Mechanics Lab	Fall	none

Unique Curricular Opportunities within Civil and Environmental Engineering

CEE 4610 International Research Collaboration (3 credits)

Currently, this class is associated with an internship program at the Panama Canal Authority (ACP). The student will perform research under the guidance of a CEE faculty member and an ACP mentor. The topic and plan of study must be pre-approved to obtain credit. The student must prepare a written report and present the results of their work at a poster session that is held as part of CEE Day. CEE Day is an annual event showcasing student research and capstone design presentations. It is typically held on a Friday afternoon in late April. CEE 4610 may be counted as a technical or free elective in the BSCE curriculum.

CEE 4611 Civ Engr Service Learning (1 credit)

The CEE Department has a strong commitment to service. One manifestation of this commitment is CEE 4611 Civ Engr Service Learning. This class is offered when there is a project and faculty available. Typically, the class involves a fall or spring break trip to an international destination to perform service as well as weekly class meetings. Class sizes are limited. Students will be notified when this class is offered. Note that as a one-credit course, CEE 4611 does not fulfill any elective requirements.

CEE 4612 CEE Undergraduate Research (3 credits)

If a student is interested in performing research they may perform this research either for pay *or* for credit (not both). In either case, the student must seek out a faculty mentor to determine if there is an opportunity for involvement. Projects that are suitable for undergraduate involvement are not always available. If the student is planning to perform research for credit by enrolling in CEE 4612, the student must fill out a form (available from the sponsoring faculty) describing the research that will performed that is signed by the student, faculty mentor, and department chair prior to enrolling in the course. Students should have a GPA of 3.00 or above to enroll. To earn credit for CEE 4612, the student must prepare a written report and present the results of their work at a poster session that is held as part of CEE Day. CEE Day is an annual event showcasing student research and capstone design presentations. It is typically held on a Friday afternoon in late April. CEE 4612 may be counted as a technical or free elective in the BSCE curriculum.

Minors

Villanova offers many minors to students. You must apply to the department offering the minor and meet with their advisors to ensure that you are on track to complete the minor. Some, but not all, minors are reflected on your CAPP (Curriculum, Advising, and Program Planning) sheet. If you wish to pursue a minor, it is your responsibility to ensure that you can complete the required courses. Careful selection of electives will minimize the number of extra courses required.

Within the College of Engineering

There are two minors offered within the College of Engineering that appeal to CEE students: BioEngineering and Engineering Entrepreneurship.

BioEngineering

The minor in Bioengineering bridges the Colleges of Engineering, Liberal Arts and Sciences and Nursing to provide students with an interdisciplinary experience. Dr. Metin Duran is the contact person within CEE for this minor. Requirements can be found here: http://www1.villanova.edu/villanova/artsci/bioengineering.html.

Engineering Entrepreneurship

Villanova University's unique Engineering Entrepreneurship minor receives support from the Kern Family Foundation, whose objective it is to equip engineers with an entrepreneurial mindset that will enable them to contribute to business success. This minor is open to students in all engineering disciplines beginning in their sophomore year. Students are encouraged to talk to Dr. Pritipal Singh in the ECE Department to obtain more information about the minor. Requirements can be found here: http://www1.villanova.edu/villanova/engineering/undergrad/minors/entrepreneurship.html.

Other Minors Outside the College of Engineering

The College of Arts and Sciences offers a range of different minors/concentrations. A full listing can be found here: http://www1.villanova.edu/villanova/artsci/undergrad.html. The minors most commonly pursued by CEE students are described in more detail.

Summer Business Institute

While it is possible to obtain a business minor during the "regular" school year, it is very difficult for most CEE students. Most students with an interest in business attend the Summer Business Institute, which is a full time, 16 credit, 10 week program held every summer. More information

about this program can be found here:
http://www1.villanova.edu/villanova/business/undergraduate/minorsnonbusiness/sbi.html.

Mathematics

Students studying Civil Engineering take a significant number of math courses that may be used to partially fulfill a minor in mathematics. Details about this minor can be found here:
http://www1.villanova.edu/villanova/artsci/mathematics/academic-programs/undergrad/minor.html.

Sustainability Studies

Many students studying Civil Engineering are interested in Sustainability. The Sustainability Studies minor is administered by the College of Liberal Arts & Sciences, but Dr. Andrea Welker, from the CEE Department, is the program director. Information about this minor available here:
http://www1.villanova.edu/villanova/artsci/geoenv/academicprograms/sustainabilityminor/courses.html.

5 year Master's Program

Full-time students have the option of applying for admission into the five-year combined Bachelor of Science in Civil Engineering/Master of Science in Civil Engineering program. A cumulative undergraduate GPA of 3.00 or higher is generally considered the minimum required for consideration for admission into the combined BS/MS Program. More information on the program, including how to apply, can be found here
http://www1.villanova.edu/villanova/engineering/undergrad/majors/civil/5year.html.

A student in the MSCE program can focus on environmental, geotechnical, structural, transportation, or water resources engineering. The student can also combine areas of interest into an interdisciplinary MSCE program. All graduate courses must be taken at Villanova University.

Typical Five-Year Plan

- Earn a BS degree after four years of study and complete the 30-credit requirement for the MS degree with one additional year of work.
- Generally, a student in the BS/MS program completes two graduate courses during their senior year and completes the remainder of the graduate program over the 12-month period following the senior year. See the rules regarding enrolling in graduate courses in this document.
- A student may opt for either a thesis track program or a non-thesis track program; the former may require additional time.

Application Timeline

Students interested in participating in the BS/MS program should contact the Department of Civil and Environmental Engineering Graduate Program Advisor (currently Dr. Bridget Wadzuk) as early as possible during their undergraduate studies. A letter of intent should be submitted to the CEE chair during the spring semester of their junior year. Students should apply to the BS/MS program during the fall semester of their senior year.

Scholarship

The Department of Civil and Environmental Engineering offers at least one scholarship each year to students in the BS/MS program. The grant covers tuition during the fifth year in return for 10 hours of work per week devoted to CEE department activities. Students who wish to be considered for the tuition scholarships must submit their graduate application by April 1st of the spring semester of their junior year. Awardees will be notified in early June of that year.

Study Abroad

Philosophy

One way to prepare students for an increasingly connected world is through study abroad. The University and the Department highly value the immersive experience provided by study abroad. The University has a very open policy regarding study abroad programs. Students can choose any program they want as long as it meets four basic criteria: 1. accredited, non-US university affiliation; 2. courses taught by non-US faculty; 3. integrated living arrangements; and 4. non-profit status. The department has added one additional criterion: 5. the experience must not delay the student's time to graduation.

Semester Programs

The CEE Department has identified several programs that meet these requirements. Please ask the Study Abroad Advisor, Dr. Andrea Welker, for the most current version of the list (a version is available here (https://www1.villanova.edu/villanova/vpaa/abroad/findprogram.html) although it tends to lag behind). Typically, students go abroad either second semester of sophomore year or first semester of junior year. The recommended classes were determined by considering the following:

- Finding classes that are suitable substitutes for ours. The goal is have at least a 70% overlap in content. It is important for any student considering studying abroad to recognize that it is not possible to find exact matches to our course content and thus, students will be expected to learn some material on their own once they return.
- Being sure that our students will be allowed into a class at the receiving university as they have their own prerequisites.
- Ensuring that it is possible from a time-tabling perspective for students to take the classes they need. For example, students may end up needing to take a mixture of 2nd and 3rd year classes, which can lead to problems with scheduling.

Typically, the deadline for all paperwork is the break before the student is going to study abroad (e.g. fall break for the spring and spring break for the fall). Villanova has a "home tuition policy" which means that students will pay Villanova tuition while they are gone and Villanova will pay the school they are attending. Students are responsible for room and board.

Before departure, students will determine what classes they are going to take and have the CEE study abroad advisor approve their classes. It is critical that the student also informs their primary advisor of what electives they plan to take overseas by providing their advisor with a copy of the prior approval form. If the student finds interesting courses once they arrive overseas, there is an email-template for the student to complete to have the course approved. The students should send this email to their primary advisor in the CEE Department, Dr. Welker, and their advisor from the Office of Education Abroad.

Students must earn the equivalent of a "C" or above in all approved classes while abroad for the credits to transfer. The classes will appear with a "T" on their transcripts; the student will receive credit for the course, but it will not affect their GPA.

Office of Education Abroad

The first step for a student considering studying abroad is to attend one of the orientation sessions at the Office of Education Abroad (http://www1.villanova.edu/villanova/vpaa/abroad.html). The schedule for the orientation sessions can be found on their website. The Office of Education Abroad will help you with the application process, finding accommodations, visas, etc.

CEE Study Abroad Advisor

The CEE Study Abroad Advisor, Dr. Andrea Welker, will help you with course selection and will sign your prior approval form. She can also put you in contact with students that have studied abroad in the past.

Summer Programs

The Office of Education Abroad runs many summer programs. These programs run for six to ten weeks. Typically, the programs available for the summer are available on the Office of Education Abroad website by spring break.

Course Registration

Preparing for Registration

The first step to prepare for registration *is to obtain and review your CAPP*. Instructions on how to obtain your CAPP can be found here: http://www1.villanova.edu/villanova/engineering/resources/policies/caap.html. An example is provided at the end of this section. Note that the degree requirements have changed and this example is for you to understand what the CAPP looks like, not to provide you with your curricular requirements, which were described previously in this document. To register for classes, you also need to make an appointment to see your advisor. Many CEE faculty post a schedule on their door the week prior to registration so that you can find a mutually agreeable time for advising. You will receive your Personal Identification Number (PIN) to register for classes at this meeting. You should bring the following to the meeting:

- Your CAPP
- A list of classes you intend to take the next semester
- Any questions you might have about internships, graduate school, minors, etc.

The registrar has created instructions (printed and a video) guiding you through the registration process: http://www1.villanova.edu/villanova/enroll/registrar/registration.html.

Name: [redacted]
ID:

Villanova University
Unofficial Academic Progress Report
Request No: 11
12-MAY-2014
Page 1

Program: ECE - B.S. in Civil Engineering
College: EG - Engineering
Degree: EBSCE - B.S. in Civil Engineering
Major: CE - Civil Engineering
Minor:

Primary Advisor: Duran, M. Metin - Civil and Environmental Engine
Term: 201530 - Spring 2015
Catalog Term: 201220 - Fall 2011 (JR)
SAT: V: 690 M: 730
Academic Info Release: YES

Program Met Indicator:	No	Attempted Hours	75.00
Required Credits:	130.00	Quality Hours:	288.05
Completed Credits:	86.00	Actual GPA:	3.84
Villanova Credits:	72.00	Tech GPA:	3.83
Transfer Credits:	14.00	Minimum GPA:	2.00

Area: EG-ECE-YR1 EBSCE - Civil Eng year 1 (35.0 credits) - Met

CHM 1103		1.0	201220	CHM	1103	General Chemistry Lab I	1.0	A
CHM 1151		4.0	201220	CHM	1151	General Chemistry I	4.0	A
ACS 1000		0.0	201220	ACS	1000	Ancients	3.0	A
EGR 1200		3.0	201220	EGR	1200	Egr. Interdisciplinary Proj. I	3.0	A
MAT 1500		4.0	201220	MAT	1500	Calculus I	4.0	AP
THL_1000	0.0		201220	THL	1000	Christian Faith and Life	3.0	A
CHM_1156	0.0		201230	CHM	1156	General Chemistry II for Egr	4.0	A
EGR 1205		3.0	201230	EGR	1205	Egr Interdisciplinary Proj II	3.0	A
ACS 1001		3.0	201230	ACS	1001	Moderns	3.0	A
MAT 1505		4.0	201220	MAT	1505	Calculus II	4.0	A-
PHY 2400		3.0	201230	PHY	2400	Physics I Mechanics	3.0	A-

Area GPA: 3.93 Area Credits: 35.0

Area: EG-ECE-YR2 EBSCE - Civil Eng year 2 (29.0 credits) - Met

CEE 2105		4.0	201320	CEE	2105	Mechanics I: Fund. Behavior	4.0	A-
CEE 2604		0.0	201320	CEE	2604	Civil Engineering Fundamentals	4.0	A-
MAT 2500		4.0	201320	MAT	2500	Calculus III	4.0	A
GLY 2805		3.0	201320	GLY	2805	Geology for Engineers	3.0	A
CEE 2106		4.0	201330	CEE	2106	Mech II: Material Behavior	4.0	B
CEE 2311		3.0	201330	CEE	2311	Environmental Engr Science	3.0	A
MAT 2705		4.0	201230	MAT	2705	Diff Equation with Linear Alg	4.0	A
CEE 2211		3.0	201330	CEE	2211	Transportation Engineering	3.0	A

Area GPA: 3.77 Area Credits: 29.0

Area: **EG-ECE-YR3 EBSCE - Civil Eng year 3** (25.0 credits) - Not Met

CEE 3107		**4.0**						
CEE 3401		3.0	201420	CEE	3401	Structural Analysis	3.0	T
CEE 3921		1.0	201420	CEE	3921	Environmental Egr Lab	1.0	T
CEE 4701		**0.0**						
CEE 3321		3.0	201420	CEE	3321	Water & Wastewater Treatment	3.0	T
CEE 3801		3.0	201430	CEE	3801	Soil Mechanics	3.0	*
CEE 3511		3.0	201430	CEE	3511	Hydraulic Egr & Hydrology	3.0	B
CEE 3913		1.0	201430	CEE	3913	Hydraulic Egr & Hydrology Lab	1.0	*
CEE 3901		1.0	201430	CEE	3901	Soil Mechanics Lab	1.0	*
STRC_DSG	0.0		201430	CEE	3402	Structural Steel Design	3.0	*

Area GPA: 3.00 Area Credits: 18.0

Area: **EG-ECE-YR4 EBSCE - Civil Eng year 4** (14.0 credits) - Not Met

CEE 4602		2.0	201520	CEE	4602	Professional Practice in CEE	2.0	*
CEE 4606		**3.0**						
CEE_ELE(3)	0.0		201520	CEE	4521	Water Resources Egr Design	3.0	*
			201520	CEE	4404	Reinforced Concrete Design	3.0	*
			201520	CEE	4801	Foundation Design	3.0	*

Area GPA: 0.00 Area Credits: 11.0

Area: **EG-ECE-FRE EBSCE - Elective** (27.0 credits) - Not Met

MAT_SCI_EL	**0.0**							
TECH_ELE	0.0		201330	GEV	3550	Natural Hazards	3.0	A
THL_2000	**0.0**							
ETHICS	0.0		201430	ETH	2050	The Good Life: Eth & Cont Prob	3.0	*
THL_PHI	0.0		201320	PJ	5000	TOP:GrowngIntoJusticeThruAgric	3.0	A
HUM_ELEC	0.0		201220	ENG	1050	The Literary Experience	3.0	AP
SOC_ELEC	0.0		201330	GEV	1500	Physical Geography	3.0	A
FREE_1	0.0		201520	CEE	3705	Engineering Economics	3.0	*
FREE_2	0.0		201520	SAR	2021	Basic Drawing Techniques	3.0	*

Area GPA: 4.00 Area Credits: 21.0

Unused Courses:

201220	VEXP	1000	The Environmental Experience	1.0	S
201420	VAB	1000	Study Abroad	12.0	OC
201420	IS	4100	Spec Top in Irish Studies	3.0	A
201420	CEE	3500	Fluid Mechanics	3.0	T
201420	GEV	4350	Spec Topics in Environm Sci	3.0	T
201520	CEE	3910	Fluid Mechanics Laboratory	1.0	
				23.0	

International Experience:

Enrolling in Graduate Classes

Undergraduates are permitted to enroll in graduate classes if their GPA is 3.0, they are a senior, and have obtained the appropriate approvals by submitting the "Permission to Enter Graduate Classes" form and an "Add" form for the graduate class. The graduate courses may be used as a technical or free elective, or they may be used to count towards a master's degree provided all of the undergraduate requirements have been met (in other words, classes may not count towards both the BS and MS). A student may take a maximum of two graduate courses per semester and they may not exceed 18 credits in a given semester. No more than three graduate courses taken as an undergraduate may be used toward a (future) graduate degree. The College of Engineering's policy can be found here: http://www1.villanova.edu/villanova/engineering/resources/policies/gradcourses.html.

Permission to Register for Engineering Graduate Course

Semester: _____

Name: _____ **ID:** _____ **Major:** _____
Last Name, First Name

Current GPA: _____ **Credit Load including this course:** _____

If spring, enter credit load in previous fall semester: _____

Course requested:

Course # _____ **CRN:** _____ **Course name:** _____
Subject, number and section

Required Signatures:

Student: _____ **Advisor:** _____

Course Instructor: _____ **Course Chair:** _____

Submit form for Dean's Office Approval:

_____ _____
Nancy O'Connor, Manager, Academic Policy and Procedures, 302B CEER **Date**

Rev. 02/03/2015

Course Overloads

If students intend to take more than 19 credits in a given semester they must obtain permission to overload by submitting a "Course Overload" form to their advisor with an "Add" form for the additional course. Approval is dependent upon past academic performance. The form can be found here: http://www1.villanova.edu/villanova/engineering/resources/policies/overload.html.

Courses Taken Elsewhere/Transferring Courses

Students may take classes elsewhere over the summer. The student must submit a "Permission to take Classes Elsewhere" form to the chair for approval before taking the class. The student must submit the course description with the form with a verifiable web address. Any chemistry/physics courses must be calculus-based and intended for engineering or science majors. Students must earn the equivalent of a "C" or above for the credits to transfer. The class(es) will appear with a "T" on their transcripts; the student will receive credit for the course, but it will not affect your GPA. Official transcripts must be sent to Mrs. Linda DeAngelis for the transfer to be processed.

Villanova University ❖ College of Engineering

Request for Permission to take a Course Elsewhere

1. Submit this completed form, with a copy of the intended institution's course description, to your Engineering Department Chairperson for approval.
2. Remit official transcript to Department Chairperson upon completion of the approved course.
   - ✓The attended school must be an accredited institution.
   - ✓A grade of C or better must be received in order to obtain credit.
   - ✓Freshmen: Submit all materials to intended Department Chairperson.

Name (Print) _____ Student I.D. # _____

Year _____ Major _____ Phone # _____

Intended School _____ City/State _____ Semester _____

	Subject	Course #	Course Title	Credit
Villanova Course				
Proposed Course				

Student's Signature _____ Date _____

Chairman's Action: ___ Recommend Approval
___ Recommend Disapproval Reason _____
_____

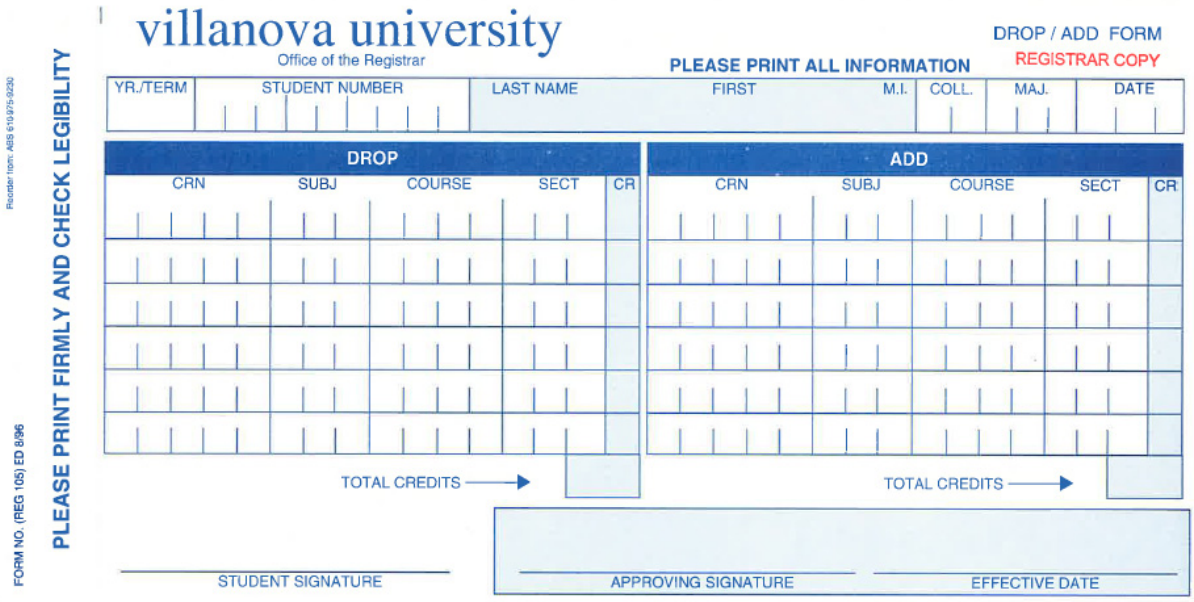
Chairman's Signature _____ Date _____

Associate Dean's Action: ___ Recommend Approval
___ Recommend Disapproval

Associate Dean of Academic Affairs' Signature _____ Date _____

Adding/Dropping Courses

Courses can be added or dropped during the first week of class by either using your PIN on Novasis or by submitting an add/drop form to the Registrar's Office in Tolentine 202/203. An example is shown in this document.



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Office of the Registrar

DROP / ADD FORM

REGISTRAR COPY

PLEASE PRINT ALL INFORMATION

PLEASE PRINT FIRMLY AND CHECK LEGIBILITY

FORM NO. (REG 105) ED 8/96

YR./TERM | STUDENT NUMBER | LAST NAME | FIRST | M.I. | COLL. | MAJ. | DATE

DROP: CRN | SUBJ | COURSE | SECT | CR

ADD: CRN | SUBJ | COURSE | SECT | CR

TOTAL CREDITS

TOTAL CREDITS

STUDENT SIGNATURE

APPROVING SIGNATURE

EFFECTIVE DATE

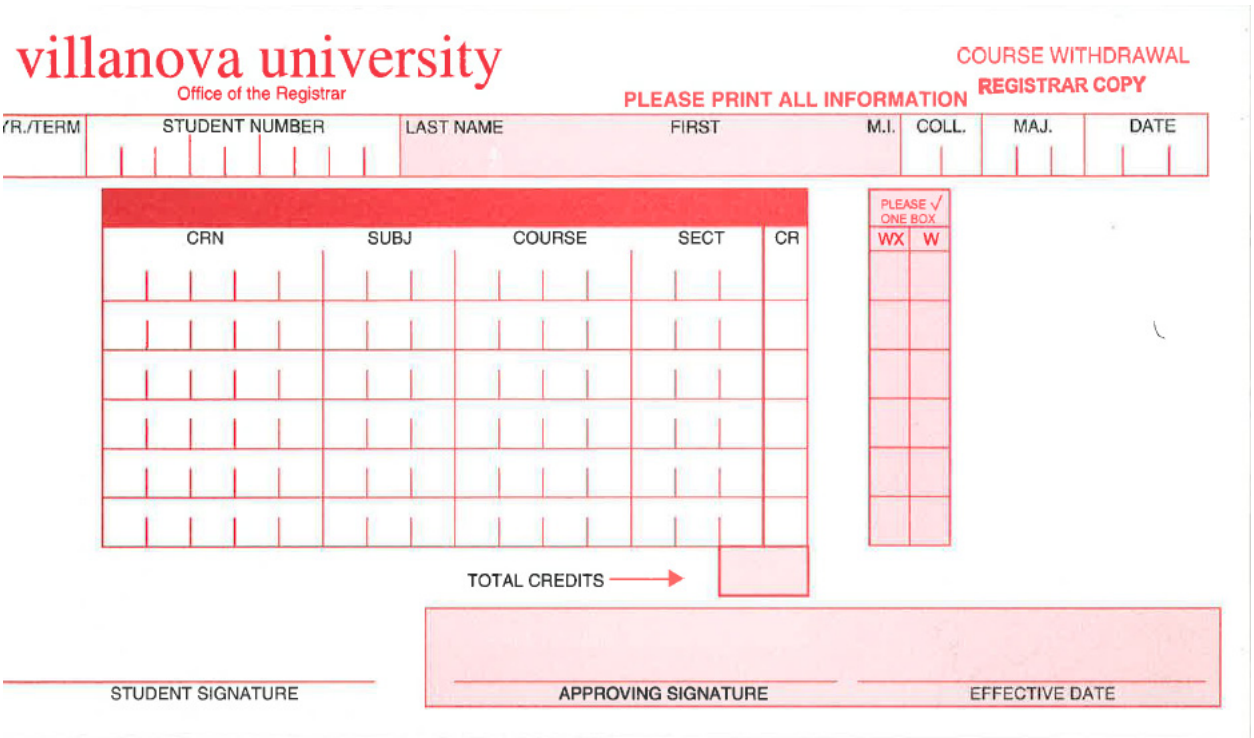
Withdrawal from a Course

After the first week of classes, courses may be dropped until the WX deadline (typically the tenth week of the semester) by filling out a WX form. The course will appear on the student's transcript with a WX in the grade column, although it will have no effect on the student's GPA. To drop a course after the first week, but before the WX deadline, the following approvals are needed:

- Dropping a single non-CEE course: advisor approval
- Dropping more than one non-CEE course: advisor and chair approval
- Dropping at least one CEE course: advisor and chair approval

Dropping a course after the WX deadline is considered a withdrawal. The course grade will be a W, which carries zero grade points in the calculation of the student's GPA (same value as an F). The student must submit a withdrawal form to the Registrar's Office.

It is important for students to consider the impacts of dropping a course on their student status (full time/part time) and their ability to graduate on time. Students are encouraged to review the prerequisite flow chart to understand the ramifications of dropping a course, and to consult their academic advisor before dropping a course.



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Office of the Registrar

COURSE WITHDRAWAL

REGISTRAR COPY

PLEASE PRINT ALL INFORMATION

YR./TERM	STUDENT NUMBER	LAST NAME	FIRST	M.I.	COLL.	MAJ.	DATE

CRN	SUBJ	COURSE	SECT	CR	PLEASE ✓ ONE BOX WX	W

TOTAL CREDITS →

STUDENT SIGNATURE

APPROVING SIGNATURE

EFFECTIVE DATE

Graduation

Students are responsible for ensuring that they are progressing towards graduation and that they have satisfied all of the graduation requirements.

CAPP

The CAPP form is the easiest way to ensure that all requirements have been met. As described previously, students should examine their CAPP every semester and discuss their progress towards graduation with their advisor. Towards the end of the fall semester of senior year students will be given a printed copy of their CAPP, which they are to have signed by their advisor indicating that they are aware of what additional courses are required to graduate. This signed CAPP form is then returned to Dr. Metin Duran.

Requirements for Graduation

To graduate from the program, students must:

- Complete all courses as specified on their CAPP
- Earn an overall grade-point average of at least 2.00
- Earn a technical grade-point average of at least 2.00 for all technical courses specified by the College of Engineering. These include all courses offered by the following departments: Astronomy and Astrophyics (AST), Biology (BIO), Chemistry (CHM), Computer Science (CSC), Environmental Studies (ENV), Mathematics (MAT), Meteorology (MET), and Physics (PHY), as well as all courses within the College of Engineering (CHE, CEE, ECE, EGR, GLY, ME)

CEE Day

CEE Day is typically held the last Friday afternoon in April. Students will present their final capstone designs (CEE 4606) and students enrolled in CEE 4610, CEE 4611, and CEE 4612 will present posters describing their work. Students that have been involved in other activities may be asked to create a poster as well. Attendance for senior and enrollees in undergraduate research (CEE 4612) and the international experience (CEE 4610) is mandatory. Furthermore, seniors must stay for the entire CEE Day event.

CEE Senior Survey

When seniors hand in their final Capstone Design (CEE 4606) reports they will complete the senior survey and engage in a discussion about their experiences within our program. The date is typically the first non-class day after the spring semester concludes and it typically takes about one hour.

Other Information

Full Time/Part Time Status

Students enrolled in less than 12 credits are part-time students. Students that consider dropping a class must consider how it will affect their student status. Consequences of part-time status may include:

- Higher rates of tuition
- Loss of eligibility for student aid or student housing
- Loss of eligibility for the Dean's List, participation in athletics, or ROTC
- May not be a Resident Assistant

Starting the fall of 2016, students will be charged full time tuition if they are registered for 9 credits or more.

Academic Standing

A student is in "good standing" as long as their technical and overall GPA is above a 2.0. The technical GPA (TGPA) includes all math, science, and engineering courses. Low GPAs may incur action by the Academic Standing Committee of the College of Engineering. These actions may include a warning letter, academic probation (no extra-curricular activities and the next semester GPA must be above 2.5), and request to leave the College, which may or may not include a right to appeal.

Changing Majors

Changes to a student's major must be requested and approved by the Department Chair and the Associate Dean for Academic Affairs in the College of Engineering. College changes must be requested and approved by the Dean of the college in which the student intends to enroll.

Learning Disability Accommodation

It is the policy of Villanova to make reasonable academic accommodations for qualified individuals with disabilities. If you are a person with a disability please make arrangements to register with the Learning Support Office by contacting 610-519-5636 or at nancy.mott@villanova.edu as soon as possible. Registration with the Learning Support Office is required to receive accommodations.

The Office of Disability Services collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The ODS provides Villanova University students with physical disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact Gregory Hannah, advisor to students with disabilities at 610-519-3209 or visit the office on the second floor of the Connelly Center.

Fundamentals of Engineering Examination

Passing the Fundamentals of Engineering Examination is a critical step in obtaining your Professional Engineer License. Students completing at least two years of their degree are eligible to take the FE. Many students take the FE at the beginning of senior year. Information on the exam can be found at: http://ncees.org/exams/fe-exam/.

Civil Engineering Student Organizations

Villanova University offers an array of student organizations. Some of these organizations are affiliated with the CEE Department:

- American Society of Civil Engineers
    - Steel Bridge
    - GeoWall
- Institute of Transportation Engineers
- NovaCANE
- Structural Engineers of PA
- Chi Epsilon (honor society)