UNDERGRADUATE AND PROFESSIONAL MAJOR CHANGE BULLETIN NO. 7 SPRING 2021

-REQUIREMENTS-

Faculty Senate approved March 25, 2021

The requirements listed below reflect the undergraduate major curricular changes approved by the Catalog Subcommittee since approval of the last Undergraduate Major Change Bulletin. All changes are underlined. Deletions are crossed out. The column to the far right indicates the date each change becomes effective. Note: Items marked {S} have been streamlined and do not require Catalog Subcommittee review.

Department	Proposed	Effective Date
Business	Event Management	8-21
Event Management	Please see the Carson College of Business section of this Catalog for additional instructions. To be admitted into the Event Management minor, students must meet the following minimum requirements:	
	 Complete 27 credits WSU cumulative GPA of at least 2.50 and not on academic probation 	
	The minor in event management requires a minimum of 19 credits of coursework, including:	
	 HBM 301 HBM 383 HBM 384 HBM 401 9 credits from the following: HBM 235, 358, 381, 480, 494, 498, IBUS 435. Students must maintain an overall GPA of at least 2.50 in courses required for the HBM major. A minimum of 9 credits of upper-division coursework must be taken in residence at WSU or though WSU-approved education abroad or educational exchange courses. Up to 6 credits may be transferred from another institution. 	
	To be admitted into this minor, students must meet with a business advisor and declare their interest. Students must ensure that they meet all course prerequisites before enrolling in any College of Business courses.	
	In addition, students must complete 400 hours of internship/industry experience to earn the minor. In order for hours to count for the requirement, they must meet the following criteria:	
	Hours must be worked after high-school graduation;All hours must be documented as paid;	

	 Hours must be worked at a company whose primary source of derived from hospitality services; and The employer evaluation for the hours must reflect an average 	revenue is of 80%	
	across the ratings criteria on the form.		
Civil and	Civil Engineering (129 <u>128</u> Credits)		8-21
Environmental Engineering			
Revise graduation	First Year		
requirements for	First Term	Credits	
Bachelor of	Arts [ARTS]	3	
Science in Civil Engineering	CHEM 105 [PSCI]	4	
Engineering	ENGLISH 101 [WRTG]	3	
	ENGR 120	2	
	MATH 171 [QUAN]	4	
	Second Term	Credits	
	BIOLOGY 102 [BSCI] or MBIOS 101 [BSCI]	4	
	Biological Sciences [BSCI]	<u>3</u>	
	ECONS 101 [SSCI] or 102 [SSCI]	3	
	HISTORY 105 [ROOT]	3	
	MATH 172	4	
	MATH 220	2	
	Second Year		
	First Term	Credits	
	CE 211	3	
	COM 102 [COMM] or H D 205 [COMM] or Humanities [HUM] ¹	3	
	<u>CST M 254</u>	<u>2</u>	
	Diversity [DIVR]	3	
	MATH 273	2	
	PHYSICS 201 [PSCI]	4	
	Second Term	Credits	
	<u>CE 203</u>	<u>2</u>	
	CE 215	3	
	CHEM 106, PHYSICS 202, or SOE 102^2	4	
	E E 221	2	
	ME 212	3	
	ME 220	1	
	STAT 360 or 370	3	
	Complete Writing Portfolio		

First Term	Credits
CE 302	2
CE 315	3
CE 317 [M]	4
<u>CE 330</u>	<u>3</u>
<u>CE 341</u>	<u>3</u>
CE Breadth Electives ^{3,4}	6
CST M 25 4	2
Second Term	Credits
CE 303	2
CE 320, MSE 201, or ME 301	3
<u>CE 321</u>	<u>2</u>
<u>CE 322</u>	<u>3</u>
<u>CE 351</u>	<u>3</u>
CE Breadth Electives ^{3,4}	6
ENGLISH 402 [WRTG] or COM 400 [COMM] ¹	3
MATH 315	3
Fourth Year	
First Term	Credits
CE 463	3
CE 480 [M]	1
CE Electives ^{4,5-<u>3</u>}	9
CE Laboratory Elective ⁶⁻⁴	3
Second Term	Credits
CE 465 [CAPS] $[M]^{7-5}$	<u>34</u>
CE 466	1
CE Electives ^{4,5-<u>3</u>}	9
Humanities [HUM] or upper-division CE Elective ^{1,8-<u>6</u>}	3
Complete Experiential Requirement ⁹⁻⁷	0 - 1
Exit Interview	
F ootnotes	students can choose one of
the following course combinations: COM 400 - 1, 200,400 1, 1 CE 1, 4	

² CHEM 106 strongly recommended for students emphasizing environmental engineering; SOE 102 strongly recommended for students emphasizing structural, geotechnical, or infrastructure engineering.

	³ CE Breadth Electives: Choose three courses from CE 322, 330, 341 and 351 and one other 300-400)-level	
	CE elective not including 495, 499 or any course used to fulfill a major requirement.	122 126	
	450, 456, 472, 473, or 476, which are designated as having a sustainability component.	33, 430,	
	 ⁵³ CE Elective courses: The 18 credits for elective courses must be distributed such that at least one continucluding the lab, is chosen from two different areas of study, which include Environmental (Cl 402, 403, 415, 418, 419, and 442); Geotechnical (CE 400, 425, and 435); Hydraulics (CE 416,450, 456, 460, and 475); Structural (CE 414, 430, 431, 433, 434, and 436); Sustainability (CE 405, 456, 472); and Transportation/Pavement (CE 400, 472, 473, and 476); Other approved courses include: of CE 488, 3 credits of 498, CST M 462, 466, or as approved by advisor. CE Design emphasis Elective 18 credits for elective courses, at least three courses designated as having a design emphasis, no including the lab, must be chosen. Eligible design courses include: CE 400, 403, 414, 416, 419, 42: 433, 434, 435, 436, 442, 450, 451, 456, 460, 473, <u>474</u> or 475476. ⁶⁴ CE Laboratory Elective: Choose one from CE 400, 415, or 416. 	ourse, E 401, 451, and 4 credits stives: Of ot 5, 431,	
	⁷⁵ Course to be taken in final semester. With permission of advisor, student may substitute ENGR 421	1 or 431	
	for CE 465. ⁸⁶ Upper-division CE Elective – any CE Elective or CE Breadth Elective not used to fulfill major requirements, or as approved by advisor. <u>In addition, CE 495 and 499 cannot be used to fulfill this</u> requirement.		
	⁹² Experiential Requirement: Requires completion of one of the following: 1) one credit of CE 495 or six or more credits of study abroad; 3) military service or participation in recognized ROTC progra	499; 2) .m.	
Civil and			8-21
Environmental	Construction Engineering (129 128 Credits)		
Engineering Revise			
graduation	First Vear		
requirements for			
Bachelor of	First Term	Credits	
Science in Construction	CHEM 105 [PSCI]	4	
Engineering	ECONS 101 [SSCI] or 102 [SSCI]	3	
8	HISTORY 105 [ROOT]	3	
	Humanities [HUM]	3	
	MATH 171 [QUAN]	4	
	Second Term	Credits	
	Arts [ARTS]	3	
	Biological Sciences [BSCI]	<u>3</u>	
	BIOLOGY 102 [BSCI] or MBIOS 101[BSCI]	4	
	CST M 102	2	
	ENGLISH 101 [WRTG]	3	
	MATH 172	4	
	Second Year		
	First Term	Credits	
	B LAW 210	3	
	CE 211	3	
	CST M 254	2	
	Diversity [DIVR]	3	
	PHYSICS 201	4	

Second Term	Credits
ACCTG 230	3
CE 215	3
CE 463	3
ME 212	3
ME 220	1
STAT 360 or 370	3
Complete Writing Portfolio	
Third Year	
First Term	Credits
CE 302	2
CE 315	3
CE 330	3
COM 400 [COMM]	3
CON E 252	2
CON E 360	3
Second Term	Credits
CE 303-<u>203</u>	2
CE 317 [M]	4
CE 414	3
CON E 351	2
CON E 361	3
CST M 356	3
Fourth Year	
First Term	Credits
CE 400	3
CE 433	3
CE 466	1
CST M 460	3
CST M 462	3
Professional Electives ¹	3
Complete Experiential Requirement ²	0 - 1
Second Term	Credits
CE 465 [M] [CAPS] ³	<u>34</u>
CE 480	1
CST M 368	3
CST M 473	3

	CST M 484 3	
	Professional Electives ¹ 3	
	Con E Exit Survey	
	Footnotes	
	¹ Professional Electives (6 credits required): Students must choose an area of emphasis and complete the required courses and additional professional electives: 1) Structures/Buildings: CE 431, 436; 2) Infrastructure/Pavement: CE 322, 473; 3) Foundations/Heavy Civil: CE 435; 4) Environmental Facilities: CE 341, 442; 5) General Civil: Any two 300-400 level CE course not used to fulfill major requirements. Additional professional electives included any 300-400-level CE, CST M or CON E course not used to fulfill major requirements.	
	² Experiential Requirement: Requires completion of one of the following: 1) one credit of CE 495 or 499; 2) six or more credits of study abroad; 3) military service or participation in recognized ROTC program.	
	⁵ CE 465 [M] [CAPS] must be taken in the final semester.	
Communication and Society Drop Bachelor of Arts in Communication and Society, Risk and Crisis Communication	Drop Bachelor of Arts in Communication and Society, Risk and Crisis Communication	8-21
Communication	Duan Dashalan of Ants in Communication and Society	8 21
and Society Drop Bachelor of Arts in Communication and Society, Communication and Technology	Communication and Technology	0-21
Digital Technology and	Digital Technology and Culture (120 Credits)	8-21
Culture Revise graduation requirements for Bachelor of Arts in Digital Technology and Culture	DTC Admission Requirements, Pullman and Tri-Cities Campuses The DTC major requires 39 credits composed of a 15-credit required core that includes an internship, options of 21 credits, and 3 DTC-related elective credits. A student may be admitted to the DTC major at any point during a semester. To be admitted, a student must have completed DTC 101 with a C or better. To remain in good standing in the major, students must : 1) Ccomplete DTC 201 and DTC 206 with a C or better , 2) Submit a graded DTC 206 Digital Inclusion statement along with the signed cover sheet via the online system within one semester of completing DTC 206, 3) Submit a digital portfolio following the DTC portfolio guidelines on the DTC website via the online system within one semester of completing DTC 201, and 4) and Mmaintain an overall GPA at WSU of 2.0 or higher. No DTC course may be taken on a pass, fail basis.	

First Year	
First Term	Credits
DTC 101 [ARTS]	3
ENGLISH 101 [WRTG]	3
Humanities [HUM]	3
Quantitative Reasoning [QUAN]	3
Foreign Language or Electives ¹	3 or 4
Second Term	Credits
Communication [COMM] or Written Communication [WRTG]	3
DTC 201 [ARTS]	3
HISTORY 105 [ROOT]	3
Social Sciences [SSCI]	3
Foreign Language or Electives ¹	3 or 4
Second Year	
First Term	Credits
Biological Sciences [BSCI] with lab ²	4
DTC 206 [DIVR]	3
Electives	9
Second Term	Credits
DTC OptionTrack Course ³	3
DTC Option Elective ⁴	3
Physical Sciences [PSCI] with lab ²	4
Electives	4
Complete Writing Portfolio	
Third Year	
First Term	Credits
DTC OptionTrack Courses ³	6
DTC Option Elective ⁴	3
Electives ⁵	6
Second Term	Credits
DTC Option <u>Track</u> Course ³	3
DTC Option Elective ⁴	3
Electives ⁵	9
Fourth Year	
Elast Terrer	Cuadita

	DTC 498 3	
	DTC-Related Elective ⁶ 3	
	DTC Option Elective ⁴ 3	
	Integrated Capstone [CAPS] 3	
	Electives ⁵ 6	
	Second Term Credits	
	DTC 497 3	
	Electives ⁵ 12	
	Senior Exit Survey	
	Footnotes	-
	¹ Two years of high school foreign language or at least two semesters of college-level foreign language are required by the College of Arts and Sciences for graduation.	
	² To meet University and College of Arts and Sciences requirements, students must take a [BSCI] course with lab and [PSCI] course with lab.	
	³ DTC Option Track Courses (12 credits): Students complete one of three five options: OptionTrack One - Digital Cinema, Sound, and Animation (DTC 208, 335, 354, 375 [M], and 435 or 491), OptionTrack Two - Information Systems and Structures Web Development (DTC 336, 356, 355 [M], 375 [M], 477 and 476 478), or OptionTrack Three - Interactive Technologies and Development Game Studies (DTC 354, 355 [M], 356, 477, 478 392 or 476, and 492), Track Four – Data Visualization and Curation (DTC 209 or 204, 331, 356 [M], and 476) or Option Five – Integrative Media and Design – (DTC 336, 354, 355 [M], and 436).	
	⁴ DTC Option Electives (9 <u>12</u> credits including an [M] course from any of the options): Option One Electives: DTC 355 [M], 356, 435, 476, 477; Option Two Electives: DTC 354, 355 [M], 475, 478, 491; Option Three Electives: DTC 335, 375 [M], 476, 491, 492. Students choose any four DTC classes not already completed for the major. May substitute one class (three credits) in the elective option with DTC 499. The degree must include two writing in the major [M] courses. These may be taken as a part of the option course work or as a DTC elective.	
	 ⁵ Electives must include sufficient 300-400-level coursework to meet the University requirement of 40 credits of upper-division coursework. 	
	 DTC Related Electives (3 credits): Approved courses include ANTH 301; ENGLISH 339, 342, 402 [M]; FINE ART 331, 332, 333, 337 385, 433, 434, 435; HISTORY 400, 438, 483; MIS 372; SOC 373, 430; WOMEN ST 300, 338, 340, 369. 	
Engineering and Computer Science	Bachelor of Science, Electrical Engineering (Vancouver only) (121 Credits)	8-21
Revise	For the major in the Electrical Engineering degree program on the Vancouver	
admission	campus, there are different benchmarks for incoming students based on their	
requirements for	academic standing students are admitted to the Electrical Engineering major upon	
Bachelor of	demonstrating they are ready to take MATH 171 (Calculus I) or higher and making	
Science in Electrical	their intention known to the department.	
Engineering	To remain in good standing, students must complete the benchmark courses: CS	
(Vancouver	251. ECE 214. ECE 234. ECE 260. MATH 171. MATH 172. MATH 220. MATH	
Only)	273, MATH 315, CHEM 105, PHYSICS 201 and PHYSICS 202 (or their transfer	
	equivalents) with a grade of C or better and obtain a WSU cumulative GPA of 2.5	
	or higher when the final benchmark course is completed.	
	Incoming Freshmen who are ready to take MATH 171 (Colculus 1) or higher are	
	admitted to the major upon making their intentions known to the department. To	
	remain in the major the student must pass CS 251 FCE 214 FCE 234 FCE 260	

	MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, and PHYSICS 201 with a grade of C or better and maintain good academic standing (i.e. overall cumulative GPA of 2.5 in first three semesters).	
	Incoming Freshmen who are not ready to take MATH 171 (Calculus 1) are admitted to the major upon completing CS 251, ECE 214, ECE 234, ECE 260, ENGLISH 101, CHEM 105, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, PHYSICS 201, and PHYSICS 202 with a grade of C or better; earning a cumulative WSU GPA of 2.5 or better; and making their intention know to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher ECE GPA).	
	Incoming transfer students are admitted to the major upon completing CS 251, ECE 214, ECE 234, ECE 260, ENGLISH 101, CHEM 105, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, PHYSICS 201, and PHYSICS 202 with a grade of C or better; earning a cumulative GPA of 2.5 or better at previous institution; and making their intention know to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher ECE GPA).	
	Current WSU students seeking to change their major are admitted to the major upon completing CS 251, ECE 214, ECE 234, ECE 260, ENGLISH 101, CHEM 105, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, PHYSICS 201, and PHYSICS 202 with a grade of C or better; earning a cumulative WSU GPA of 2.5 or better; and making their intention known to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher ECE GPA).	
	No courses listed in this schedule of studies may be taken on a pass/fail basis. All upper-division electrical engineering courses must be completed with a minimum 2.0 average GPA.	
Engineering and Computer Science Revise admission requirements for Bachelor of Science in Mechanical Engineering (Vancouver	Bachelor of Science, Mechanical Engineering (Vancouver Only) (121 Credits) For the major in the Mechanical Engineering degree program on the Vancouver campus, there are different benchmarks for incoming students based on their academic standing. students are admitted to the Mechanical Engineering major upon demonstrating they are ready to take MATH 171 (Calculus I) or higher and making their intention known to the department. To remain in good standing, students must complete the benchmark courses: MECH 211, MECH 212, MECH 215, MATH 171, MATH 172, MATH 220	8-21
Only)	MATH 273, MATH 315, CHEM 105 and PHYSICS 201 (or their transfer equivalents) with a grade of C or better and obtain a WSU cumulative GPA of 2.5 or higher when the final benchmark course is completed. Incoming Freshmen who are ready to take MATH 171 (Calculus 1) or higher are admitted to the major upon making their intentions known to the department. To remain in the major the student must pass CHEM 105, MATH 171, MATH 172,	

	 MATH 220, MATH 273, MATH 315, MECH 211, MECH 212, MECH 215, and PHYSICS 201 with a grade of C or better and maintain good academic standing (i.e. overall cumulative GPA of 2.5 in first three semesters). Incoming Freshmen who are not ready to take MATH 171 (Calculus 1) are admitted to the major upon completing CHEM 105, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, MECH 211, MECH 212, MECH 215, and PHYSICS 201 with a grade of C or better; earning a cumulative WSU GPA of 2.5 or better; and making their intention know to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher MECH GPA). Incoming transfer students are admitted to the major upon completing CHEM 105, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, MECH 211, MECH 212, MECH 215, and PHYSICS 201 with a grade of C or better; earning a cumulative GPA of 2.5 or better at previous institution; and making their intention known to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher MECH GPA). Current WSU students seeking to change their major are admitted to the major upon completing CHEM 105, MATH 171, MATH 172, MATH 122, MATH 220, MATH 273, MATH 315, MECH 211, MECH 212, MECH 215, and PHYSICS 201 with a grade of C or better; earning a cumulative WSU GPA of 2.5 or better; and making their intention known to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher MECH GPA). Current WSU students seeking to change their major are admitted to the major upon completing CHEM 105, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, MECH 211, MECH 212, MECH 215, or better; and making their intention known to the department. To remain in the major the student must maintain good academic standing (i.e. 2.0 or higher GPA each term; 2.0 or higher MECH GPA). No courses lis	
Engineering and Computer Science Revise requirements for minor in Electrical Engineering (Vancouver Only)	Electrical Engineering (Vancouver only) Students majoring in other disciplines may elect to obtain a minor in electrical engineering. The minor in electrical engineering consists of 20 credit hours that must include ECE 214, 260, 321, 325, and any two of ECE 324, 341, 349, 366, 370, 411, 414, 424, 461, or 462 upper division ECE 3XX or 4XX courses except ECE 451 and ECE 452. Though it is not required, students may choose their two optional courses in the following concentrations: VLSI design: ECE 349 and 366 Digital signal processing: ECE 341 and 414 Computer engineering: ECE 324 and 424 Power systems: ECE 461 and 462 All minor courses, except ECE 214, 260, 321 and 341, must be taken in residence at WSU Vancouver. The University requires at least 9 credit hours for any minor be 300-400-level and taken in residence at WSU or through WSU-approved education	8-21

	abroad or educational exchange courses. All prerequisites for minor courses must	
	be met. All minor courses must be completed with a minimum 2.0 GPA.	
Human Development Revise requirements for Bachelor of Arts in Human Development - Family and Consumer Sciences	Human Development - Family and Consumer Sciences Option (120 Credits) Students can be admitted as a Human Development major after completing 24 credits and earning a GPA of at least 2.0. A grade of C or better in all H D courses that apply to the option, A cumulative GPA of 2.6 or better in all H D courses that apply to the option, including substitutions, is required to (a) maintain admission in the major; and (b) complete the Bachelor of Arts degree in Human Development. <u>A</u> grade of C or better must be earned in all courses used to fulfill requirements for teacher certification. Of the 49 H D credits required for the major and Family and Consumer Sciences option, a minimum of 21 must be taken at WSU.	8-21
Mechanical and	[No Changes to the schedule of studies beyond this point] Mechanical Engineering (123 124 Credits)	8-21
Materials		
Engineering Revise	Admission Requirements	
graduation requirements for Bachelor of Science in	To be admitted into the Mechanical Engineering major, students must have earned an 83% or higher ALEKS placement score (MATH), or completed MATH 106 and 108, 171 or higher calculus course with "C" or better, or Calc AP score of 2.	
Mechanical Engineering	Transferring students must satisfy all of the above admission requirements. Students must earn a 2.6 GPA in transferred major courses and have earned a "C" or better in all transferred courses required for the ME degree.	
	Students transferring to degree-completion programs in Bremerton and Everett branches must have 2.6 average GPA in the following or equivalent courses, each completed with grade "C" or better: CE 211, CE 215, CHEM 105, CPT S 121 or 131, E E 221, ENGLISH 101, MATH 171, MATH 172, MATH 220, MATH 273, MATH 315, ME 116, ME 212, <u>ME 241</u> , PHYSICS 201, PHYSICS 202.	
	Benchmarks to Maintain Major in ME Status	
	To keep their status as Mechanical Engineering majors, students must: (1) maintain a 2.6 average GPA in major courses required for ME degree, (2) obtain a grade of C of better in all courses required for the ME degree. No more than one repeat per course is allowed in all ME and MSE courses required for the ME degree. Major courses required for the ME degree include all ME, MSE, physics, chemistry, and math courses listed in the schedule of studies.	
	Graduation Requirement Maintain a minimum 2.6 average GPA in major courses required for the ME degree.	
	Concentrations for BS in Mechanical Engineering	

manufacturing, of Autonomous Systems.	
Students are encouraged to consult with their advisor at their for approved alternative course sequences as well as allowe schedule studies.	r campus of residence d substitutions to the
First Year	
First Term	Credits
Arts [ARTS]	3
CHEM 105 [PSCI]	4
ENGR 120	2
HISTORY 105 [ROOT]	3
MATH 171 [QUAN]	4
Second Term	Credits
Biological Sciences [BSCI]	3
ECONS 102 [SSCI]	3
ENGLISH 101 [WRTG]	3
MATH 172	4
ME 116	2
Second Year	
First Term	Credits
CE 211	3
CPT S 121, 131, or <u>E E 221ME 241</u> ⁺	<u>23</u> or 4
MATH 220	2
MATH 273	2
PHYSICS 201	4
STAT 370	3
Second Term	Credits
CE 215	3
MATH 315	3
ME 212	3
ME 216	2
ME 220	1
PHYSICS 202	4
Complete Writing Portfolio	
Third Year	

E E 261	3
E E 262	1
ME 301	3
ME 303	3
ME 313	3
MSE 201	3
Second Term	Credits
ENGLISH 402 [WRTG]	3
ME 304	3
ME 306	2
ME 316	3
ME 348	3
Restricted Elective ²¹	3
Fourth Year	
First Term	Credits
Diversity [DIVR]	3
ME 415 [M]	3
Concentration Courses ^{3,42,3}	6
Restricted Elective ²¹	3
Second Term	Credits
Humanities [HUM]	3
ME 406 [M]	3
ME 416 [CAPS]	3
Concentration Course ^{3,42.3}	3
Complete Exit Survey	
Complete Fundamentals of Engineering Exam	
Footnotes	
CPT S 121 or 131 is required for the Autonomous Systems Concentration.	
$\frac{21}{2}$ Restricted Electives (at least 6 credits): Choose from ME 310 and 311 or ME 312	, ME 401, ME 405.
³² Concentration Paths (9 credits): General Concentration: Three technical electives remaining restricted elective. Thermo Fluids Concentration: Must take ME 405, a from the restrictive electives; two courses from ME 419, 431, 436, and 439; and courses	which may include the and either ME 312 or 401 one additional technical 405 from the restrictive