



## UNDERGRADUATE CURRICULUM CHANGE MEMO

**Date:** December 3, 2020

**From:** Carlos Ferregut, Chair of Civil Engineering  
Tzu-Liang (Bill) Tseng, Chair of Industrial, Manufacturing and Systems Engineering  
Jack Chessa, Chair of Mechanical Engineering

**Through:** Louis Everett, Chair of Curriculum Committee, College of Engineering

**Through:** Norman Love, Associate Dean for Academic Affairs and Undergraduate Studies, College of Engineering

**Through:** Patricia Nava, Interim Dean, College of Engineering

**To:** Art Duval, Chair of University Curriculum Committee

**Proposal Title:** Engineering Curriculum Change for the Fall 2021 Catalog

To streamline the transfer process between EPCC and UTEP the departments have agreed to a new transfer equivalency that will transfer from EPCC to UTEP and will remove the BE courses.

The table below shows the new transfer equivalency

EPCC Courses		UTEP Courses	
ENGR 1304	Engineering Graphics I	MECH 1305	Graphic & Design Fundamentals
ENGR 2301	Mechanics I: Statics	CE 2315	Statics
ENGR 2302	Mechanics II: Dynamics	MECH 2340	Mechanics II - Dynamics
ENGR 2305	Electrical Circuits I	EE 2350	Electric Circuits I
ENGR 2332	Mechanics of Materials	CE 2334	Mechanics of Materials
ENGR 2334	Chemical Engineering Thermodynamics I	MECH 2311	Intro to Thermal-fluid Sci

The details of the changes are provided on the following pages.

The Department of Civil Engineering proposes the following changes to the Bachelor of Science in Civil Engineering degree plan:

1. Addition of MECH 2340

Rationale: Due to the change in equivalency, students will be allowed to take either CE 2338 or MECH 2340.

The Department of Industrial, Manufacturing and Systems Engineering proposes the following changes to the Bachelor of Science in Industrial and Systems Engineering degree plan:

1. Addition of EE 2350

Rationale: Due to the change in equivalency, students will be allowed to take either IE 2377 or MECH 2342 or EE 2350.

The Department of Mechanical Engineering proposes the following changes to the Bachelor of Science in Mechanical Engineering degree plan:

1. Addition of CE 2315, EE 2350 and CE 2334
2. Course Prerequisite changes

Rationale: Due to the change in equivalency, students will be allowed to take either:

- a. MECH 1321 or CE 2315
- b. MECH 2342 or EE 2350
- c. MECH 2322 or CE 2334

Therefore, the courses in which MECH 1321, MECH 2342, MECH 2322 are a prerequisite will be changed to allow the respective CE courses as prerequisites.

Each department agrees to the catalog and course changes as shown in the next pages.

# CURRICULUM CHANGE PROPOSAL

## APPROVAL PAGE

Proposal Title:

College:

Department:

### DEPARTMENT CHAIR

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I have read the enclosed proposal and approve this proposal on behalf of the department.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

### COLLEGE CURRICULUM COMMITTEE CHAIR

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I have read the enclosed documents and approve the proposal on behalf of the college curriculum committee.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

### COLLEGE DEAN

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I have read the enclosed documents and approve the proposal on behalf of the college. I certify that the necessary funds will be allocated by the college in support of this proposal.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**From:** [Ferregut, Carlos](#)  
**To:** [Love, Norman D](#)  
**Cc:** [Carrasco, Cesar J.](#); [Granda, Virginia D](#)  
**Subject:** RE: EPCC Equivalency Proposal  
**Date:** Thursday, January 7, 2021 6:46:50 PM  
**Attachments:** [image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image010.png](#)

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Norman,

I approve the changes.

Best

cf

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**From:** Love, Norman D <[ndlove@utep.edu](mailto:ndlove@utep.edu)>  
**Sent:** Thursday, January 7, 2021 11:16 AM  
**To:** Ferregut, Carlos <[ferregut@utep.edu](mailto:ferregut@utep.edu)>  
**Cc:** Carrasco, Cesar J. <[ccarras@utep.edu](mailto:ccarras@utep.edu)>; Granda, Virginia D <[granda@utep.edu](mailto:granda@utep.edu)>  
**Subject:** FW: EPCC Equivalency Proposal

Dear Dr. Ferregut,

I hope that you had a good holiday break and are enjoying the new year.

If you agree with the changes in the proposal for Civil Engineering, would you please sign the form or approve via email?

We are hoping to have this submitted by January 13.

Norman

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**From:** Norman Love <[ndlove@utep.edu](mailto:ndlove@utep.edu)>  
**Date:** Friday, December 18, 2020 at 10:13 AM  
**To:** "Ferregut, Carlos" <[ferregut@utep.edu](mailto:ferregut@utep.edu)>  
**Cc:** "Carrasco, Cesar J." <[ccarras@utep.edu](mailto:ccarras@utep.edu)>, "Granda, Virginia D" <[granda@utep.edu](mailto:granda@utep.edu)>  
**Subject:** EPCC Equivalency Proposal

Dear Dr. Ferregut,

The attached proposal regarding EPCC transfer equivalencies was reviewed by the College Curriculum Committee and was tentatively approved.

**From:** [Tseng, Bill](#)  
**To:** [Love, Norman D](#)  
**Cc:** [Smith, Eric D](#); [Granda, Virginia D](#)  
**Subject:** RE: EPCC Equivalency Proposal  
**Date:** Friday, December 18, 2020 10:20:41 PM  
**Attachments:** [Curriculum Change Proposal Approval Page-Bill Tseng-12-18-20.pdf](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)

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Dear Dr. Love,

Yes, I approve the changes in the proposal for the BS ISE.

Attached, please find the signed approval page. Thanks,

Bill



**Tzu-Liang (Bill) Tseng, Ph.D., CMfgE**

Professor and Chair of Department of Industrial, Manufacturing and Systems Engineering (IMSE)  
Director, Research Institute for Manufacturing & Engineering Systems (RIMES)  
The University of Texas at El Paso  
500 W. University Ave.  
El Paso, TX 79968  
Office: 915-747-7990  
Fax: 915-747-7184  
[utep.edu/engineering/imse/index.html](http://utep.edu/engineering/imse/index.html)

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**From:** Love, Norman D  
**Sent:** Friday, December 18, 2020 10:14 AM  
**To:** Tseng, Bill <[btseng@utep.edu](mailto:btseng@utep.edu)>  
**Cc:** Smith, Eric D <[esmith2@utep.edu](mailto:esmith2@utep.edu)>; Granda, Virginia D <[granda@utep.edu](mailto:granda@utep.edu)>  
**Subject:** EPCC Equivalency Proposal

Dear Dr. Tseng,

The attached proposal regarding EPCC transfer equivalencies was reviewed by the College Curriculum Committee and was tentatively approved.

However, the College Committee believed that before moving on to the university level Curriculum Committee meeting next month that it would be required to have your approval in written form.

Therefore, I'm attaching the proposal to this email. If you agree with the changes in the proposal for the BS ISE, would you please sign the form or approve via email?

Regards,

Norman



**Norman Love, Ph.D.**

Associate Dean for Academic Affairs and Undergraduate Studies  
Professor of Mechanical Engineering  
Provost's Faculty Fellow, University Honors Program

College of Engineering  
The University of Texas at El Paso  
500 W. University Ave.  
El Paso, TX 79968-0521  
Office: 915-747-8981  
Fax: 915-747-5437  
[utep.edu/engineering/eec/index.html](http://utep.edu/engineering/eec/index.html)

**From:** [Everett, Louis](#)  
**To:** [Love, Norman D](#); [Chessa, Jack F.](#)  
**Cc:** [Abed, Methaq S](#); [Granda, Virginia D](#); [Solis, Iliana](#)  
**Subject:** RE: EPCC Equivalency Proposal  
**Date:** Monday, January 11, 2021 9:40:12 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

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I spoke to Drs. Chessa and Abed about this proposal.

We agree to it.

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**From:** Love, Norman D <[ndlove@utep.edu](mailto:ndlove@utep.edu)>  
**Sent:** Thursday, January 7, 2021 11:16 AM  
**To:** Chessa, Jack F. <[jfchessa@utep.edu](mailto:jfchessa@utep.edu)>  
**Cc:** Everett, Louis <[leverett@utep.edu](mailto:leverett@utep.edu)>; Abed, Methaq S <[msabed@utep.edu](mailto:msabed@utep.edu)>; Granda, Virginia D <[granda@utep.edu](mailto:granda@utep.edu)>  
**Subject:** FW: EPCC Equivalency Proposal

Dear Dr. Chessa,

I hope that you had a good holiday break and are enjoying the new year.

If you agree with the changes in the proposal for Mechanical Engineering, would you please sign the form or approve via email?

We are hoping to have this submitted by January 13.

Norman

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**From:** Norman Love <[ndlove@utep.edu](mailto:ndlove@utep.edu)>  
**Date:** Friday, December 18, 2020 at 10:13 AM  
**To:** "Chessa, Jack F." <[jfchessa@utep.edu](mailto:jfchessa@utep.edu)>  
**Cc:** "Everett, Louis" <[leverett@utep.edu](mailto:leverett@utep.edu)>, "Granda, Virginia D" <[granda@utep.edu](mailto:granda@utep.edu)>  
**Subject:** EPCC Equivalency Proposal

Dear Dr. Chessa,

The attached proposal regarding EPCC transfer equivalencies was reviewed by the College Curriculum Committee and was tentatively approved.

However, the College Committee believed that before moving on to the university level Curriculum Committee meeting next month that it would be required to have your approval in written form.

# Civil Engineering Degree Plan

Required Credits: 128

Students are expected to satisfy all prerequisites and co-requisites for all required and elective courses at the time of registration.

Code	Title	Hours
<b>University Core Curriculum(All courses require a grade of C or better.)</b>		
<a href="#">Complete the University Core Curriculum requirements.</a>		42
<b>Civil Engineering Designated Core (All courses require a grade of C or better.)</b>		
Required courses:		
<a href="#">CE 2326</a>	Econ for Engrs & Scientists	
<a href="#">CHEM 1105</a>	Laboratory for CHEM 1305	
<a href="#">CHEM 1305</a>	General Chemistry	
<a href="#">CS 1320</a>	Computer Programming Sci/Engr	
<a href="#">MATH 1508</a>	Precalculus ((Listed if completed, but not required))	
or <a href="#">MATH 1310</a>	Trigonometry and Conics	
<a href="#">PHYS 2420</a>	Introductory Mechanics	
<b>Civil Engineering Core (All courses require a grade of C or better.)</b>		
Required Courses:		
<a href="#">CE 1301</a>	Civil Engineering Fundamentals	3

Code	Title	Hours
<a href="#">CE 1313</a>	Engineering Measurements	3
<a href="#">CE 2315</a>	Statics	3
<a href="#">CE 2334</a>	Mechanics of Materials	3
<a href="#">CE 2335</a>	Geological Engineering	3
<a href="#">CE 2338</a>	Mechanics II (Dynamics)	3
or <a href="#">MECH 2340</a> or <a href="#">PHYS 3331</a>	<u>Mechanics II - Dynamics</u> , <u>Thermal Physics</u>	
<a href="#">CE 2343</a>	Structural Analysis	3
<a href="#">CE 2373</a>	Engr Probability & Statistics	3
<a href="#">CE 2375</a>	Intro to Fluid Mechanics	3
<a href="#">CE 2385</a>	Environmental Engr Fundamental	3
<a href="#">MATH 1411</a>	Calculus I	4
<a href="#">MATH 1312</a>	Calculus II	3
<a href="#">MATH 2313</a>	Calculus III	3
<a href="#">MATH 2326</a>	Differential Equations	3
<b>Civil Engineering Major</b>		
Required Courses:		
<a href="#">CE 3334</a>	Construction Management	3

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<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">CE 3336</a>	Civil Engineering Materials	3
<a href="#">CE 3342</a>	Water & Waste Water Engr	3
<a href="#">CE 3345</a>	Design of Concrete Structures	3
<a href="#">CE 3348</a>	Geotechnical Engineering	3
<a href="#">CE 3361</a>	Design of Steel Structures	3
<a href="#">CE 3456</a>	Hydrology & Hydraulic Engr	4
<a href="#">CE 4188</a>	Senior Design I	1
<a href="#">CE 4195</a>	Jr. Professional Orientation	1
<a href="#">CE 4288</a>	Senior Design II	2
<a href="#">CE 4339</a>	Geostructural Design	3
<a href="#">CE 4340</a>	Transportation Engineering	3
<a href="#">CE 4375</a>	Adv. Topics in Civil Engr.	3
<a href="#">CE 4376</a>	Adv Topics in Civ Engr II	3
<b>Lower Division Technical Elective:</b>		
Select on course from the following (Only 3 hours apply towards the requirement):		3
<a href="#">BIOL 1305</a>	General Biology	

Code	Title	Hours
<a href="#">CHEM 1306</a>	General Chemistry	
<a href="#">MATH 3323</a>	Matrix Algebra	
<a href="#">PHYS 2421</a>	Introductory Electromagnetism	
<b>Upper Division Technical Elective:</b>		
Select one course from the <u>following</u> or any other upper division course from the College of Engineering (excluding CE) or College of Science (Only 3 hours apply towards the requirement).		3
<a href="#">ACCT 2301</a>	Principles of Accounting I	
<a href="#">CE 4377</a>	Adv Topics in Civil Engr III	
<a href="#">CHEM 1306</a>	General Chemistry	
<a href="#">MATH 3323</a>	Matrix Algebra	
<a href="#">POLS 3350</a>	Intro to Public Administration	
<a href="#">POLS 3351</a>	The Public Policy Process	
<a href="#">POLS 4359</a>	Urban Planning	
<a href="#">RWS 3359</a>	Technical Writing	
<b>Total Hours</b>		<b>128</b>

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4-year sample degree plan

## BS Civil Engineering (Starting with Pre-Calculus)

Code	Title	Hours
<b>BACHELOR OF SCIENCE IN CIVIL ENGINEERING</b>		
<b>Summer</b>		
(if needed)		
<a href="#">MATH 1508</a>	Precalculus <sup>7</sup>	
or <a href="#">MATH 1310</a>	Trigonometry and Conics	
<b>FRESHMAN</b>		
<b>Fall</b>		
<a href="#">CE 1301</a>	Civil Engineering Fundamentals <sup>1</sup>	3
<a href="#">UNIV 1301</a>	Seminar/Critical Inquiry <sup>1</sup>	3
<a href="#">MATH 1411</a>	Calculus I <sup>1</sup>	4
<a href="#">PHYS 2420</a>	Introductory Mechanics <sup>1</sup>	4
<a href="#">RWS 1301</a>	Rhetoric & Composition I <sup>1</sup>	3
<b>Spring</b>		
<a href="#">CE 2315</a>	Statics <sup>1</sup>	3
<a href="#">MATH 1312</a>	Calculus II <sup>1</sup>	3
<a href="#">CHEM 1305</a> & <a href="#">CHEM 1105</a>	General Chemistry and Laboratory for CHEM 1305 <sup>1</sup>	4
<a href="#">CE 1313</a>	Engineering Measurements <sup>1</sup>	3
<a href="#">RWS 1302</a>	Rhetoric & Composition 2 <sup>1</sup>	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
<a href="#">CE 2334</a>	Mechanics of Materials <sup>1</sup>	3
<a href="#">MATH 2313</a>	Calculus III <sup>1</sup>	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">CE 2375</a>	Intro to Fluid Mechanics	3
Science Elective (3 hrs towards degree) <sup>2</sup>		3
<a href="#">CS 1320</a>	Computer Programming Sci/Engr <sup>1</sup>	3
<a href="#">HIST 1301</a>	History of U.S. to 1865 <sup>1</sup>	3
<b>Spring</b>		
<a href="#">CE 2343</a>	Structural Analysis <sup>1</sup>	3
Dynamics Elective (3 hrs. towards degree) <sup>3</sup>		3
<a href="#">MATH 2326</a>	Differential Equations <sup>1</sup>	3
<a href="#">HIST 1302</a>	History of U.S. Since 1865 <sup>1</sup>	3
<a href="#">CE 2385</a>	Environmental Engr Fundamental <sup>1</sup>	3
<a href="#">CE 2335</a> or GEO 3321	Geological Engineering	3
<b>JUNIOR</b>		
<b>Fall</b>		
<a href="#">CE 2373</a>	Engr Probability & Statistics	3
<a href="#">CE 3336</a>	Civil Engineering Materials	3
<a href="#">CE 3345</a>	Design of Concrete Structures	3
<a href="#">CE 2326</a>	Econ for Engrs & Scientists <sup>1</sup>	3
<a href="#">CE 3456</a>	Hydrology & Hydraulic Engr	4
<a href="#">CE 4195</a>	Jr. Professional Orientation	1
<b>Spring</b>		
<a href="#">CE 3348</a>	Geotechnical Engineering	3
<a href="#">CE 3361</a>	Design of Steel Structures	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">CE 3334</a>	Construction Management	3
<a href="#">CE 3342</a>	Water & Waste Water Engr	3
<a href="#">POLS 2310</a>	Introduction to Politics	3
<b>SENIOR</b>		
<b>Fall</b>		
<a href="#">CE 4340</a>	Transportation Engineering	3
<a href="#">CE 4188</a>	Senior Design I	1
<a href="#">CE 4339</a>	Geostructural Design	3
<a href="#">CE 4375</a>	Adv. Topics in Civil Engr.	3
<a href="#">POLS 2311</a>	American Gover & Politics	3
Creative Arts Elective <sup>*,4,1</sup>		3
<b>Spring</b>		
<a href="#">CE 4288</a>	Senior Design II	2
<a href="#">CE 4376</a>	Adv Topics in Civ Engr II	3
General Elective (3 hrs. towards degree) <sup>5</sup>		3
Language Phil. & Cult. Elective <sup>*,6,1</sup>		3

**Notes:**

\*Prerequisite Course

\*+Corequisite if scheduled for the same semester.

1 A grade of "C" or better must be achieved for all Lower-Division courses, including the Arts and Humanities electives, as well as [CE 2373](#) ([IE 3373](#)) & [CE 2335](#) ([GEOL 3321](#))

2 [MATH 3323](#), [PHYS 2421](#), [CHEM 1306](#) OR [BIOL 1305](#)

Code	Title	Hours
3	<a href="#">CE 2338</a> or <a href="#">MECH 2340</a> or <a href="#">PHYS 3331</a> (Prerequisite for <a href="#">CE 2338</a> is <a href="#">CE 2315</a> and <a href="#">MATH 1312</a> )	
4	Select an ART course from <a href="#">ART 1300</a> ; <a href="#">ARTH 1305</a> , <a href="#">1306</a> ; <a href="#">DANC 1304</a> ; <a href="#">MUSL 1324</a> , <a href="#">1327</a> , <a href="#">2321</a> ; <a href="#">THEA 1313</a> ; <a href="#">FILM 1390</a>	
5	<a href="#">CE 4377</a> , <a href="#">POLS 3350</a> , <a href="#">POLS 3351</a> ; POL 4359, <a href="#">RWS 3359</a> , <a href="#">ACCT 2301</a> , <a href="#">MATH 3323</a> , <a href="#">CHEM 1306</a>	
6	Select a Lang. Philosophy and Culture course from <a href="#">ENGL 2311</a> , <a href="#">2312</a> , <a href="#">2313</a> , <a href="#">2314</a> , <a href="#">2318</a> ; <a href="#">FREN 2322</a> ; <a href="#">HIST 2301</a> , <a href="#">2302</a> ; <a href="#">PHIL 1301</a> , <a href="#">2306</a> ; <a href="#">RS 1301</a> ; <a href="#">SPAN 2340</a> ; <a href="#">WS 2300</a> , <a href="#">2350</a>	
7	Not required for Calculus I ready students	
<b>Total Hours</b>		<b>128</b>

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Course List

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### 4-year sample degree plan

## BS Civil Engineering (Starting with Calculus)

Code	Title	Hours
<b>BACHELOR OF SCIENCE IN CIVIL ENGINEERING</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
<a href="#">CE 1301</a>	Civil Engineering Fundamentals <sup>1</sup>	3
<a href="#">UNIV 1301</a>	Seminar/Critical Inquiry <sup>1</sup>	3
<a href="#">MATH 1411</a>	Calculus I <sup>1</sup>	4
<a href="#">PHYS 2420</a>	Introductory Mechanics <sup>1</sup>	4
<a href="#">RWS 1301</a>	Rhetoric & Composition I <sup>1</sup>	3

<b>Code</b>	<b>Title</b>	<b>Hou rs</b>
<b>Spring</b>		
<a href="#">CE 2315</a>	Statics <sup>1</sup>	3
<a href="#">MATH 1312</a>	Calculus II <sup>1</sup>	3
<a href="#">CHEM 1305</a> & <a href="#">CHEM 1105</a>	General Chemistry and Laboratory for CHEM 1305 <sup>1</sup>	4
<a href="#">CE 1313</a>	Engineering Measurements <sup>1</sup>	3
<a href="#">RWS 1302</a>	Rhetoric & Composition 2 <sup>1</sup>	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
<a href="#">CE 2334</a>	Mechanics of Materials <sup>1</sup>	3
<a href="#">MATH 2313</a>	Calculus III <sup>1</sup>	3
<a href="#">CE 2375</a>	Intro to Fluid Mechanics	3
Science Elective (3 hrs towards degree) <sup>2</sup>		3
<a href="#">CS 1320</a>	Computer Programming Sci/Engr <sup>1</sup>	3
<a href="#">HIST 1301</a>	History of U.S. to 1865 <sup>1</sup>	3
<b>Spring</b>		
<a href="#">CE 2343</a>	Structural Analysis <sup>1</sup>	3
Dynamics Elective (3 hrs. towards degree) <sup>3</sup>		3
<a href="#">MATH 2326</a>	Differential Equations <sup>1</sup>	3
<a href="#">HIST 1302</a>	History of U.S. Since 1865 <sup>1</sup>	3
<a href="#">CE 2385</a>	Environmental Engr Fundamental <sup>1</sup>	3
<a href="#">CE 2335</a> or GEO 3321	Geological Engineering	3

<b>Code</b>	<b>Title</b>	<b>Hou rs</b>
<b>JUNIOR</b>		
<b>Fall</b>		
<a href="#">CE 2373</a>	Engr Probability & Statistics	3
<a href="#">CE 3336</a>	Civil Engineering Materials	3
<a href="#">CE 3345</a>	Design of Concrete Structures	3
<a href="#">CE 2326</a>	Econ for Engrs & Scientists <sup>1</sup>	3
<a href="#">CE 3456</a>	Hydrology & Hydraulic Engr	4
<a href="#">CE 4195</a>	Jr. Professional Orientation	1
<b>Spring</b>		
<a href="#">CE 3348</a>	Geotechnical Engineering	3
<a href="#">CE 3361</a>	Design of Steel Structures	3
<a href="#">CE 3334</a>	Construction Management	3
<a href="#">CE 3342</a>	Water & Waste Water Engr	3
<a href="#">POLS 2310</a>	Introduction to Politics	3
<b>SENIOR</b>		
<b>Fall</b>		
<a href="#">CE 4340</a>	Transportation Engineering	3
<a href="#">CE 4188</a>	Senior Design I	1
<a href="#">CE 4339</a>	Geostructural Design	3
<a href="#">CE 4375</a>	Adv. Topics in Civil Engr.	3
<a href="#">POLS 2311</a>	American Gover & Politics	3
Creative Arts Elective <sup>*4,1</sup>		3



Code	Title	Hours
<b>Spring</b>		
<a href="#">CE 4288</a>	Senior Design II	2
<a href="#">CE 4376</a>	Adv Topics in Civ Engr II	3
General Elective (3 hrs. towards degree) <sup>5</sup>		3
Language Phil. & Cult. Elective <sup>*6,1</sup>		3
<b>Notes:</b>		
*Prerequisite Course		
*+Corequisite if scheduled for the same semester.		
1 A grade of "C" or better must be achieved for all Lower-Division courses, including the Arts and Humanities electives, as well as <a href="#">CE 2373</a> ( <a href="#">IE 3373</a> ) & <a href="#">CE 2335</a> ( <a href="#">GEOL 3321</a> )		
2 <a href="#">MATH 3323</a> , <a href="#">PHYS 2421</a> , <a href="#">CHEM 1306</a> OR <a href="#">BIOL 1305</a>		
3 <a href="#">CE 2338</a> or <a href="#">MECH 2340</a> or <a href="#">PHYS 3331</a> (Prerequisite for <a href="#">CE 2338</a> is <a href="#">CE 2315</a> and <a href="#">MATH 1312</a> )		
4 Select an ART course from <a href="#">ART 1300</a> ; <a href="#">ARTH 1305</a> , <a href="#">1306</a> ; <a href="#">DANC 1304</a> ; <a href="#">MUSL 1324</a> , <a href="#">1327</a> , <a href="#">2321</a> ; <a href="#">THEA 1313</a> ; <a href="#">FILM 1390</a>		
5 <a href="#">CE 4377</a> , <a href="#">POLS 3350</a> , <a href="#">POLS 3351</a> ; POL 4359, <a href="#">RWS 3359</a> , <a href="#">ACCT 2301</a> , <a href="#">MATH 3323</a> , <a href="#">CHEM 1306</a>		
6 Select a Lang. Philosophy and Culture course from <a href="#">ENGL 2311</a> , <a href="#">2312</a> , <a href="#">2313</a> , <a href="#">2314</a> , <a href="#">2318</a> ; <a href="#">FREN 2322</a> ; <a href="#">HIST 2301</a> , <a href="#">2302</a> ; <a href="#">PHIL 1301</a> , <a href="#">2306</a> ; <a href="#">RS 1301</a> ; <a href="#">SPAN 2340</a> ; <a href="#">WS 2300</a> , <a href="#">2350</a>		
7 Not required for Calculus I ready students		
<b>Total Hours</b>		<b>128</b>
Course List		

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# BS in Industrial and Systems Engineering

## Degree Plan

Required Credits: 120

Code	Title	Hours
<b>University Core Curriculum</b>		
<a href="#">Complete the University Core Curriculum requirements.</a>		42
<b>Industrial Engineering Designated Core (All courses require a grade of C or better.)</b>		
Required Courses:		
<a href="#">CE 2326</a>	Econ for Engrs & Scientists	3
<a href="#">CHEM 1105</a>	Laboratory for CHEM 1305	1
<a href="#">CHEM 1305</a>	General Chemistry	3
<a href="#">MATH 1508</a>	Precalculus ((Listed if completed, but not required))	3-5
or <a href="#">MATH 1310</a>	Trigonometry and Conics	
<a href="#">PHYS 2420</a>	Introductory Mechanics	4
Industrial Engineering Prerequisites (All courses require a grade of C or better.)		
<a href="#">MATH 1411</a>	Calculus I	4

Code	Title	Hours
<b>Industrial Engineering Core (All courses require a grade of C or better.)</b>		
Required Courses:		
<a href="#">CE 2315</a>	Statics	3
or <a href="#">MECH 1321</a>	Mechanics I-Statics	
<a href="#">IE 1333</a>	Computational Methods	3
<a href="#">MECH 2331</a>	Matl & Manufacturing Processes	3
or <a href="#">MME 2303</a>	Intro to Materials Sci & Engrg	
<a href="#">IE 2333</a>	Decision Support Systems	3
<a href="#">IE 2377</a>	Electro-Mechanical Systems	3
or <a href="#">MECH 2342</a>	Electro Mechanical Systems	
or <a href="#">EE 2350</a>	<a href="#">Electric Circuits I</a>	
<a href="#">MATH 1312</a>	Calculus II	3
<a href="#">MATH 2313</a>	Calculus III	3
<a href="#">MATH 2326</a>	Differential Equations	3
<a href="#">MECH 1305</a>	Graphic & Design Fundamentals	3
<a href="#">MECH 2131</a>	Manufacturing Engineering Lab	1

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<b>Industrial Engineering Major</b>		
Required Courses:		
<a href="#">IE 3331</a>	Systems Engineering	3
<a href="#">IE 3334</a>	Intro to Work Design	3
<a href="#">IE 3352</a>	Design of Experiments	3
<a href="#">IE 3373</a>	Engr Probability & Stat Models <sup>c</sup>	3
<a href="#">IE 3390</a>	Oper Research I: Deter Models	3
<a href="#">IE 4266</a>	Senior Design	2
<a href="#">IE 4334</a>	Work Design- Prod. & Safety	3
<a href="#">IE 4353</a>	Industrial Systems Simulation	3
<a href="#">IE 4385</a>	Statist Quality Cntrl/Reliabil	3
<a href="#">IE 4390</a>	Oper Research II: Stoch Models	3
<a href="#">IE 4391</a>	Prod Plan & Inv Cont Sys	3
<a href="#">MATH 3323</a>	Matrix Algebra <sup>c</sup>	3
<a href="#">MATH 4329</a>	Numerical Analysis	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
Technical Electives:		
Select three courses from the following, or any other upper division course from the College of Engineering, College of Science, or College of Business Administration:		9
<a href="#">IE 4371</a>	Engineering Problems	
<a href="#">IE 4395</a>	Special Topics Industrial Engr	
<a href="#">IE 4396</a>	Intl Manufacturing Intern I	
<a href="#">RWS 3359</a>	Technical Writing	
<b>Total Hours</b>		<b>120</b>

Course List

C Courses require a grade of C or better.

4-year sample degree plan

## BS Industrial and Systems Engineering (Starting with Pre-Calculus)

Code	Title	Hours
<b>BACHELOR OF SCIENCE IN INDUSTRIAL AND SYSTEMS ENGINEERING</b>		
<b>Summer</b>		
<a href="#">MATH 1508</a>	Precalculus	3-5
or <a href="#">MATH 1310</a>	Trigonometry and Conics	
<b>FRESHMAN</b>		
<b>Fall</b>		
<a href="#">RWS 1301</a>	Rhetoric & Composition I +	3
<a href="#">CHEM 1305</a> & <a href="#">CHEM 1105</a>	General Chemistry and Laboratory for CHEM 1305 +	4
<a href="#">UNIV 1301</a>	Seminar/Critical Inquiry +	3
<a href="#">MATH 1411</a>	Calculus I +	4
<a href="#">IE 1333</a>	Computational Methods	3
<b>Spring</b>		
<a href="#">RWS 1302</a>	Rhetoric & Composition 2 +	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">MME 2303</a>	Intro to Materials Sci & Engrg +	3
or <a href="#">MECH 2331</a>	Matl & Manufacturing Processes	
<a href="#">PHYS 2420</a>	Introductory Mechanics +	4
<a href="#">MATH 1312</a>	Calculus II +	3
<a href="#">IE 2333</a>	Decision Support Systems	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
Component Area elective +		3
<a href="#">HIST 1302</a>	History of U.S. Since 1865 +	3
<a href="#">CE 2315</a>	Statics +	3
or <a href="#">MECH 1321</a>	Mechanics I-Statics	
<a href="#">MATH 2313</a>	Calculus III +	3
<a href="#">MECH 1305</a>	Graphic & Design Fundamentals +	3

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Code	Title	Hours
<b>Spring</b>		
Creative Arts elective +		3
<a href="#">POLS 2310</a>	Introduction to Politics +	3
<a href="#">IE 2377</a>	Electro-Mechanical Systems +	3
or <a href="#">MECH 2342</a>	Electro Mechanical Systems	
or <a href="#">EE 2350</a>	<a href="#">Electric Circuits I</a>	
<a href="#">IE 3373</a>	Engr Probability & Stat Models +	3
<a href="#">MATH 3323</a>	Matrix Algebra +	3
<b>JUNIOR</b>		
<b>Fall</b>		
<a href="#">CE 2326</a>	Econ for Engrs & Scientists +	3
<a href="#">MATH 2326</a>	Differential Equations +	3
<a href="#">HIST 1301</a>	History of U.S. to 1865 +	3
<a href="#">MATH 4329</a>	Numerical Analysis	3



<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">IE 3390</a>	Oper Research I: Deter Models	3
<b>Spring</b>		
<a href="#">POLS 2311</a>	American Gover & Politics +	3
Lang, Phil, & Culture elective +		3
<a href="#">IE 3334</a>	Intro to Work Design	3
<a href="#">IE 3352</a>	Design of Experiments	3
<a href="#">IE 4334</a>	Work Design- Prod. & Safety	3
<b>SENIOR</b>		
<b>Fall</b>		
Technical Elective I		3
<a href="#">IE 3331</a>	Systems Engineering	3
<a href="#">IE 4353</a>	Industrial Systems Simulation	3
<a href="#">IE 4391</a>	Prod Plan & Inv Cont Sys	3

Code	Title	Hours
Technical Elective III		3

**Spring**

Technical Elective II		3
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<a href="#">IE 4266</a>	Senior Design	2
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<a href="#">MECH 2131</a>	Manufacturing Engineering Lab	1
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<a href="#">IE 4385</a>	Statist Quality Cntrl/Reliabil	3
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<a href="#">IE 4390</a>	Oper Research II: Stoch Models	3
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**Notes:**

+ Grade of "C" or better required.

Technical Electives: Select three courses from the following IE 4333, [IE 4371](#), [IE 4395](#), [IE 4396](#), IE 4397; [RWS 3359](#); or any Junior or Senior level course from the College of Engineering, College of Science, or College of Business Administration

<b>Total Hours</b>		<b>123-125</b>
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Course List

4-year sample degree plan

## BS Industrial and Systems Engineering (Starting with Calculus)

Code	Title	Hours
<b>BACHELOR OF SCIENCE IN INDUSTRIAL AND SYSTEMS ENGINEERING</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
<a href="#">RWS 1301</a>	Rhetoric & Composition I +	3
<a href="#">CHEM 1305</a> & <a href="#">CHEM 1105</a>	General Chemistry and Laboratory for CHEM 1305 +	4
<a href="#">UNIV 1301</a>	Seminar/Critical Inquiry +	3
<a href="#">MATH 1411</a>	Calculus I +	4
<a href="#">IE 1333</a>	Computational Methods	3
<b>Spring</b>		
<a href="#">RWS 1302</a>	Rhetoric & Composition 2 +	3
<a href="#">MME 2303</a>	Intro to Materials Sci & Engrg +	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
or <a href="#">MECH 2331</a>	Matl & Manufacturing Processes	
<a href="#">PHYS 2420</a>	Introductory Mechanics +	4
<a href="#">MATH 1312</a>	Calculus II +	3
<a href="#">IE 2333</a>	Decision Support Systems	3
<b>SOPHOMORE</b>		
<b>Fall</b>		
Component Area elective +		3
<a href="#">HIST 1302</a>	History of U.S. Since 1865 +	3
<a href="#">CE 2315</a>	Statics +	3
or <a href="#">MECH 1321</a>	Mechanics I-Statics	
<a href="#">MATH 2313</a>	Calculus III +	3
<a href="#">MECH 1305</a>	Graphic & Design Fundamentals +	3
<b>Spring</b>		
Creative Arts elective +		3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">POLS 2310</a>	Introduction to Politics +	3
<a href="#">IE 2377</a>	Electro-Mechanical Systems +	3
or <a href="#">MECH 2342</a>	Electro Mechanical Systems	
or <a href="#">EE 2350</a>	<u>Electric Circuits I</u>	
<a href="#">IE 3373</a>	Engr Probability & Stat Models +	3
<a href="#">MATH 3323</a>	Matrix Algebra +	3
<b>JUNIOR</b>		
<b>Fall</b>		
<a href="#">CE 2326</a>	Econ for Engrs & Scientists +	3
<a href="#">MATH 2326</a>	Differential Equations +	3
<a href="#">HIST 1301</a>	History of U.S. to 1865 +	3
<a href="#">MATH 4329</a>	Numerical Analysis	3
<a href="#">IE 3390</a>	Oper Research I: Deter Models	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<b>Spring</b>		
<a href="#">POLS 2311</a>	American Gover & Politics +	3
Lang, Phil, & Culture elective +		3
<a href="#">IE 3334</a>	Intro to Work Design	3
<a href="#">IE 3352</a>	Design of Experiments	3
<a href="#">IE 4334</a>	Work Design-Prod. & Safety	3
<b>SENIOR</b>		
<b>Fall</b>		
Technical Elective I		3
<a href="#">IE 3331</a>	Systems Engineering	3
<a href="#">IE 4353</a>	Industrial Systems Simulation	3
<a href="#">IE 4391</a>	Prod Plan & Inv Cont Sys	3
Technical Elective III		3

Code	Title	Hours
<b>Spring</b>		
Technical Elective II		3
<a href="#">IE 4266</a>	Senior Design	2
<a href="#">MECH 2131</a>	Manufacturing Engineering Lab	1
<a href="#">IE 4385</a>	Statist Quality Cntrl/Reliabil	3
<a href="#">IE 4390</a>	Oper Research II: Stoch Models	3
<b>Notes:</b>		
+ Grade of "C" or better required.		
Technical Electives: Select three courses from the following IE 4333, <a href="#">IE 4371</a> , <a href="#">IE 4395</a> , <a href="#">IE 4396</a> , IE 4397; <a href="#">RWS 3359</a> ; or any Junior or Senior level course from the College of Engineering, College of Science, or College of Business Administration		
<b>Total Hours</b>		<b>120</b>

Course List

# BS in Mechanical Engineering Degree Plan

Required Credits: 128

Code	Title	
<b>University Core Curriculum</b>		
<a href="#">Complete the University Core Curriculum requirements.</a>		42
<b>Mechanical Engineering Designated Core (All courses require a grade of C or better.)</b>		
<a href="#">CE 2326</a> Econ for Engrs & Scientists is a designated core course. It is required for graduation even if other course is used to fulfill the core. All Mechanical Engineering majors are encouraged to take <a href="#">CE 2326</a> to fulfill the core.		
Required Courses:		
<a href="#">CE 2326</a>	Econ for Engrs & Scientists	3
<a href="#">CHEM 1305</a> & <a href="#">CHEM 1105</a>	General Chemistry and Laboratory for CHEM 1305	4
<a href="#">MATH 1508</a>	Precalculus ((Listed if completed, but not required))	3-5
or <a href="#">MATH 1310</a>	Trigonometry and Conics	
<a href="#">PHYS 2420</a>	Introductory Mechanics	4
<b>Mechanical Engineering (Other Requirements) (All courses require a grade of C or better.)</b>		

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Code	Title	
<b>Required Courses:</b>		
<a href="#">MATH 1411</a>	Calculus I	4
<a href="#">MATH 1312</a>	Calculus II	3
<a href="#">MATH 2313</a>	Calculus III	3
<a href="#">MATH 2326</a>	Differential Equations	3
<b>Science Elective</b>		
Select one of the following options:		4
<a href="#">BIOL 1305</a> & <a href="#">BIOL 1107</a>	General Biology and Topics in Study of Life I <sup>c</sup>	
<a href="#">CHEM 1306</a> & <a href="#">CHEM 1106</a>	General Chemistry and Laboratory for CHEM 1306 <sup>c</sup>	
<a href="#">PHYS 2421</a>	Introductory Electromagnetism	
<b>MATH/Science Elective</b>		
Select one of the following:		
<a href="#">BIOL 1306</a>	Organismal Biology	
<a href="#">MATH 3323</a>	Matrix Algebra	
<a href="#">MATH 3335</a>	Applied Analysis I	

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Code	Title
<a href="#">MATH 4329</a>	Numerical Analysis
<a href="#">MATH 4336</a>	Applied Analysis II
<a href="#">PHYS 2325</a>	Survey of Modern Physics
<a href="#">PHYS 3351</a>	Analytical Mechanics I
<a href="#">STAT 3320</a>	Probability and Statistics
<b>MATH Elective</b>	
Select one of the following:	
<a href="#">MATH 3323</a>	Matrix Algebra
<a href="#">MATH 3335</a>	Applied Analysis I
<a href="#">MATH 4329</a>	Numerical Analysis
<a href="#">MATH 4336</a>	Applied Analysis II
<a href="#">STAT 3320</a>	Probability and Statistics
<b>Mechanical Engineering Major</b>	
Required Courses: <sup>1</sup>	
<a href="#">MECH 1305</a>	Graphic & Design Fundamentals <sup>c</sup>

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Code	Title	
<a href="#">MECH 1321</a> or <a href="#">CE 2315</a>	Mechanics I-Statics <sup>c</sup> <a href="#">Statics</a> <sup>c</sup>	3
<a href="#">MECH 2103</a>	Engineering Computations <sup>3</sup>	1
<a href="#">MECH 2311</a>	Intro to Thermal-fluid Sci <sup>c</sup>	3
<a href="#">MECH 2322</a> or <a href="#">CE 2334</a>	Mechanics of Materials <sup>c</sup> <a href="#">Mechanics of Materials</a> <sup>c</sup>	3
<a href="#">MECH 2331</a>	Matl & Manufacturing Processes <sup>c</sup>	3
<a href="#">MECH 2340</a>	Mechanics II - Dynamics <sup>c</sup>	3
<a href="#">MECH 2342</a> or <a href="#">EE 2350</a>	Electro Mechanical Systems <sup>c</sup> <a href="#">Electric Circuits I</a> <sup>c</sup>	3
<a href="#">MECH 3312</a>	Thermodynamics <sup>3</sup>	3
<a href="#">MECH 3314</a>	Fluid Mechanics <sup>3</sup>	3
<a href="#">MECH 3334</a>	Mechanical Design <sup>3</sup>	3
<a href="#">MECH 3345</a>	System Dynamics <sup>3</sup>	3
<a href="#">MECH 3352</a>	Engineering Analysis II <sup>3</sup>	3

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Code	Title	
<a href="#">MECH 4315</a>	Heat Transfer <sup>3</sup>	3

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<a href="#">MECH 4366</a>	Senior Design Project <sup>2,3</sup>	3
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**Select one of the following:**

<a href="#">MECH 2131</a>	Manufacturing Engineering Lab <sup>c</sup>	
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<a href="#">MECH 2132</a>	Additive Manufacturing Lab <sup>c</sup>	
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<a href="#">MECH 2133</a>	Metal Casting Lab <sup>c</sup>	
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**Select two of the following:**

<a href="#">MECH 3103</a>	Mechatronics Lab <sup>3</sup>	
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<a href="#">MECH 3113</a>	Thermo-fluid Lab <sup>3</sup>	
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<a href="#">MECH 3123</a>	Solid Mechanics Lab <sup>3</sup>	
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**Select one of the following:**

<a href="#">MECH 4326</a>	Finite Element Analysis <sup>3</sup>	
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<a href="#">MECH 4330</a>	Dynamic Systems Simulation <sup>3</sup>	
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<a href="#">MECH 4392</a>	Special Topics in Computation <sup>3</sup>	
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**Select five of the following (minimum of one from each area):**

Code	Title
Solid Mechanics Area	
<a href="#">MECH 4336</a>	Principles of Engr Design <sup>3</sup>
<a href="#">MECH 4395</a>	Special Topics in Mech. Engr. <sup>3</sup>
Thermal Fluid Area	
<a href="#">MECH 4316</a>	Thermal System Design <sup>3</sup>
<a href="#">MECH 4394</a>	Special Topics in Therm Fluid <sup>3</sup>
Electro-Mechanical Area	
<a href="#">MECH 4346</a>	Mechatronics <sup>3</sup>
<a href="#">MECH 4393</a>	Special Topics in Elect-Mech <sup>3</sup>
<b>Total Hours</b>	<b>128</b>

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Course List

C Course require a grade of C or better.

<sup>1</sup> All institutional courses appearing in this area count towards the major GPA with a minimum of 2.0

<sup>2</sup> Must be in the last full semester and have a 2.0 GPA or better in major.

<sup>3</sup> Course requires grade of D or better

4-year sample degree plan

## BS Mechanical Engineering (Starting with Pre-Calculus)

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Code	Title	Hours
<b>BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING</b>		
<b>Summer</b>		
(if needed)		
<a href="#">MATH 1508</a>	Precalculus	
or <a href="#">MATH 1310</a>	Trigonometry and Conics	
<b>FRESHMAN</b>		
<b>Fall</b>		
<a href="#">MECH 1305</a>	Graphic & Design Fundamentals <sup>1</sup>	3
<a href="#">RWS 1301</a>	Rhetoric & Composition I <sup>1</sup>	3
<a href="#">MATH 1411</a>	Calculus I <sup>1</sup>	4
<a href="#">PHYS 2420</a>	Introductory Mechanics <sup>1</sup>	4
<a href="#">UNIV 1301</a>	Seminar/Critical Inquiry <sup>1</sup>	3
<b>Spring</b>		
<a href="#">MECH 1321</a> or <a href="#">CE 2315</a>	Mechanics I-Statics <sup>1</sup> <a href="#">Statics</a> <sup>1</sup>	3
<a href="#">HIST 1301</a>	History of U.S. to 1865 <sup>1</sup>	3
<a href="#">RWS 1302</a>	Rhetoric & Composition 2 <sup>1</sup>	3
<a href="#">MATH 1312</a>	Calculus II <sup>1</sup>	3
<a href="#">CHEM 1305</a>	General Chemistry <sup>1</sup>	3
<a href="#">CHEM 1105</a>	Laboratory for CHEM 1305 <sup>1</sup>	1

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Code	Title	Hours
<b>SOPHOMORE</b>		
<b>Fall</b>		
<a href="#">MECH 2322</a> or <a href="#">CE 2334</a>	Mechanics of Materials <sup>1</sup> <a href="#">Mechanics of Materials</a> <sup>1</sup>	3
<a href="#">MATH 2313</a>	Calculus III <sup>1</sup>	3
<a href="#">MECH 2331</a>	Matl & Manufacturing Processes <sup>1</sup>	3
Design and Manufacturing Studio <sup>1,8</sup>		1
<a href="#">HIST 1302</a>	History of U.S. Since 1865 <sup>1</sup>	3
Science Elective *		4
<b>Spring</b>		
<a href="#">MECH 2340</a>	Mechanics II -Dynamics <sup>1</sup>	3
<a href="#">MECH 2311</a>	Intro to Thermal-fluid Sci <sup>1</sup>	3
<a href="#">MECH 2103</a>	Engineering Computations <sup>1</sup>	1
<a href="#">MECH 2342</a> or <a href="#">EE 2350</a>	Electro Mechanical Systems <sup>1</sup> <a href="#">Electric Circuits I</a> <sup>1</sup>	3
<a href="#">CE 2326</a>	Econ for Engrs & Scientists <sup>1</sup>	3
<a href="#">MATH 2326</a>	Differential Equations <sup>1</sup>	3
<b>JUNIOR</b>		
<b>Fall</b>		
Laboratory Experience <sup>2</sup>		1
<a href="#">MECH 3352</a>	Engineering Analysis II	3
<a href="#">MECH 3312</a>	Thermodynamics	3
<a href="#">MECH 3314</a>	Fluid Mechanics	3

<b>Code</b>	<b>Title</b>	<b>Hours</b>
<a href="#">POLS 2310</a>	Introduction to Politics <sup>1</sup>	3
Math Elective <sup>1,3</sup>		3
<b>Spring</b>		
Laboratory Experience <sup>2</sup>		1
<a href="#">COMM 1302</a>	Business/Profession Comm <sup>1</sup>	3
<a href="#">MECH 3345</a>	System Dynamics	3
<a href="#">MECH 3334</a>	Mechanical Design	3
Humanities Electives <sup>1</sup>		3
Science/Math Elective <sup>4</sup>		3
<b>SENIOR</b>		
<b>Fall</b>		
Design Elective Solid Mechanics Area <sup>5</sup>		3
Design Elective Thermal Fluid Area <sup>5</sup>		3
<a href="#">MECH 4315</a>	Heat Transfer	3
Computational Elective <sup>6</sup>		3
Design Elective Electro-Mechanical <sup>5</sup>		3
<b>Spring</b>		
<a href="#">MECH 4366</a>	Senior Design Project <sup>7</sup>	3
Design Elective Any Area <sup>5</sup>		3
Design Elective Any Area <sup>5</sup>		3
<a href="#">POLS 2311</a>	American Gover & Politics <sup>1</sup>	3
Visual and Performing Art Elective		3

**Notes:**



Code	Title	Hours
•	Must be either <a href="#">CHEM 1306</a> with <a href="#">CHEM 1106</a> , <a href="#">BIOL 1107</a> with 1305 or <a href="#">PHYS 2421</a> or by permission of advisor.	•
1 Grade of C or better required		
2 From the department approved list of Design and Project Experience I and II courses.		
3. Selected from <a href="#">MATH 3323</a> , <a href="#">3335</a> , <a href="#">4326</a> , <a href="#">4329</a> , <a href="#">4336</a> , <a href="#">STAT 3320</a> . By completing 3 of these electives you may be eligible for a Mathematics minor, interested students should consult the Department of Mathematics.		
4. Approved courses are: <a href="#">BIOL 1306</a> , <a href="#">PHYS 2325</a> , <a href="#">PHYS 3351</a> , PHYS 4348 or any course listed in NOTE 3 (not already taken). Also, as per the UTEP core curriculum requirements two of your science classes must be in the same area (either BIOL, PHYS, OR CHEM).		
5. From the department approved list of Design Electives.		
6. From the department approved list of Computational Electives.		
7. Must be in the last full semester and have a 2.0 GPA or better in major.		
8. From the department approved list of Design and Manufacturing Studio courses.		
<b>Total Hours</b>		<b>128</b>

Course List

4-year sample degree plan

## BS Mechanical Engineering (Starting with Calculus)

Code	Title	Hours
<b>BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING</b>		
<b>FRESHMAN</b>		
<b>Fall</b>		
<a href="#">MECH 1305</a>	Graphic & Design Fundamentals <sup>1</sup>	3
<a href="#">RWS 1301</a>	Rhetoric & Composition I <sup>1</sup>	3
<a href="#">MATH 1411</a>	Calculus I <sup>1</sup>	4
<a href="#">PHYS 2420</a>	Introductory Mechanics <sup>1</sup>	4
<a href="#">UNIV 1301</a>	Seminar/Critical Inquiry <sup>1</sup>	3
<b>Spring</b>		
<a href="#">MECH 1321</a> or <a href="#">CE 2315</a>	Mechanics I-Statics <sup>1</sup> <a href="#">Statics<sup>1</sup></a>	3
<a href="#">HIST 1301</a>	History of U.S. to 1865 <sup>1</sup>	3
<a href="#">RWS 1302</a>	Rhetoric & Composition 2 <sup>1</sup>	3
<a href="#">MATH 1312</a>	Calculus II <sup>1</sup>	3
<a href="#">CHEM 1305</a> & <a href="#">CHEM 1105</a>	General Chemistry and Laboratory for CHEM 1305 <sup>1</sup>	4

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Code	Title	Hours
<b>SOPHOMORE</b>		
<b>Fall</b>		
<a href="#">MECH 2322</a> or <a href="#">CE 2334</a>	Mechanics of Materials <sup>1</sup> <a href="#">Mechanics of Materials</a> <sup>1</sup>	3
<a href="#">MATH 2313</a>	Calculus III <sup>1</sup>	3
<a href="#">MECH 2331</a>	Matl & Manufacturing Processes <sup>1</sup>	3
Design and Manufacturing Studio <sup>1,8</sup>		1
<a href="#">HIST 1302</a>	History of U.S. Since 1865 <sup>1</sup>	3
Science Elective *		4
<b>Spring</b>		
<a href="#">MECH 2340</a>	Mechanics II -Dynamics <sup>1</sup>	3
<a href="#">MECH 2311</a>	Intro to Thermal-fluid Sci <sup>1</sup>	3
<a href="#">MECH 2103</a>	Engineering Computations	1
<a href="#">MECH 2342</a> or <a href="#">EE 2350</a>	Electro Mechanical Systems <sup>1</sup> <a href="#">Electric Circuits I</a> <sup>1</sup>	3
<a href="#">CE 2326</a>	Econ for Engrs & Scientists <sup>1</sup>	3
<a href="#">MATH 2326</a>	Differential Equations <sup>1</sup>	3
<b>JUNIOR</b>		

Code	Title	Hours
<b>Fall</b>		
Laboratory Experience <sup>1,2</sup>		1
<a href="#">MECH 3352</a>	Engineering Analysis II	3
<a href="#">MECH 3312</a>	Thermodynamics	3
<a href="#">MECH 3314</a>	Fluid Mechanics	3
<a href="#">POLS 2310</a>	Introduction to Politics <sup>1</sup>	3
Math Elective <sup>3</sup>		3
<b>Spring</b>		
Laboratory Experience <sup>2</sup>		1
<a href="#">COMM 1302</a>	Business/Profession Comm <sup>1</sup>	3
<a href="#">MECH 3345</a>	System Dynamics	3
<a href="#">MECH 3334</a>	Mechanical Design	3
Humanities Electives <sup>1</sup>		3
Science/Math Elective <sup>1,4</sup>		3
<b>SENIOR</b>		
<b>Fall</b>		
Design Elective Solid Mechanics Area <sup>5</sup>		3

Code	Title	Hours
Design Elective Thermal Fluid Area <sup>5</sup>		3
<a href="#">MECH 4315</a>	Heat Transfer	3
Computational Elective <sup>6</sup>		3
Design Elective Electro-Mechanical <sup>5</sup>		3
<b>Spring</b>		
<a href="#">MECH 4366</a>	Senior Design Project <sup>7</sup>	3
Design Elective Any Area <sup>5</sup>		3
Design Elective Any Area <sup>5</sup>		3
<a href="#">POLS 2311</a>	American Gover & Politics <sup>1</sup>	3
Visual and Performing Art Elective <sup>1</sup>		3

**Notes:**

- Must be either [CHEM 1306](#) with [CHEM 1106](#), [BIOL 1107](#) with 1305 or [PHYS 2421](#) or by permission of advisor. •

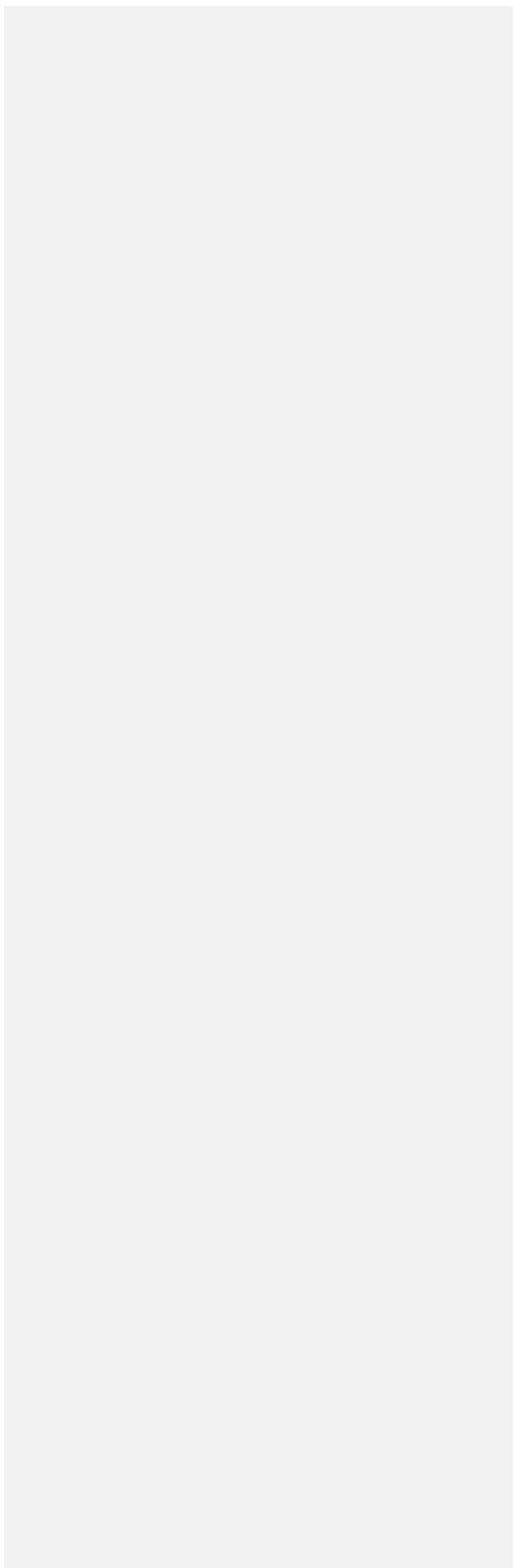
1 Grade of C or better required

2 From the department approved list of Design and Project Experience I and II courses.

3. Selected from [MATH 3323](#), [3335](#), [4326](#), [4329](#), [4336](#), [STAT 3320](#). By completing 3 of these electives you may be eligible for a Mathematics minor, interested students should consult the Department of Mathematics.

Code	Title	Hours
4. Approved courses are: <a href="#">BIOL 1306</a> , <a href="#">PHYS 2325</a> , <a href="#">PHYS 3351</a> , PHYS 4348 or any course listed in NOTE 3 (not already taken). Also, as per the UTEP core curriculum requirements two of your science classes must be in the same area (either BIOL, PHYS, OR CHEM).		
5. From the department approved list of Design Electives.		
6. From the department approved list of Computational Electives.		
7. Must be in the last full semester and have a 2.0 GPA or better in major.		
8. From the department approved list of Design and Manufacturing Studio courses.		
<b>Total Hours</b>		<b>128</b>

Course List



# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 2322

Course Title Mechanics of Materials

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 1321 w/C or better ) OR (BE 2434 w/C or better)	(MECH 1321 w/C or better ) OR (BE 2434 w/C or better) OR (CE 2315 w/C or better )

These changes will be reflected in Banner, Goldmine, and the catalog

# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 2340

Course Title Mechanics II -Dynamics

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 1321 w/C or better ) OR (BE 2434 w/C or better)	(MECH 1321 w/C or better ) OR (BE 2434 w/C or better) OR (CE 2315 w/C or better )

These changes will be reflected in Banner, Goldmine, and the catalog



# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 3103

Course Title Mechatronics Lab

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 2324 w/C or better ) OR (BE 2377 w/C or better)	(MECH 2342 w/C or better ) OR (BE 2377 w/C or better) OR (EE 2350 w/C or better)

These changes will be reflected in Banner, Goldmine, and the catalog

# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 3123

Course Title Solid Mechanics Lab

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 2322 w/C or better ) OR (BE 2303 w/C or better)	MECH 2322 w/C or better ) OR (BE 2303 w/C or better) OR (CE 2334 w/C or better)

These changes will be reflected in Banner, Goldmine, and the catalog

# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 3323

Course Title Solid Mechanics Lab

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 2322 w/C or better )	MECH 2322 w/C or better ) OR (BE 2303 w/C or better) OR (CE 2334 w/C or better)

These changes will be reflected in Banner, Goldmine, and the catalog

# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 3334

Course Title Mechanical Design

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 2331 w/C or better ) AND (MECH 2322 w/C or better ) OR (BE 2303 w/C or better)	(MECH 2331 w/C or better ) AND ((MECH 2322 w/C or better ) OR (BE 2303 w/C or better) OR (CE 2334 w/C or better))

These changes will be reflected in Banner, Goldmine, and the catalog

# COURSE CHANGE FORM

All fields below are required

---

College : Engineering

Department : Mechanical Engineering

Rationale for changing the course:

Due to the change in equivalency, prerequisite changes are needed

All fields below are required

---

Subject Prefix and number MECH 3345

Course Title System Dynamics

Change	From	To
Ex. Prerequisite	Ex. POLS 2310	Ex. POLS 2312
Prerequisite	(MECH 2340 w/C or better ) OR (BE 2338 w/C or better ) AND (MECH 2342 w/C or better ) OR (BE 2377 w/C or better)	((MECH 2340 w/C or better) OR (BE 2338 w/C or better )) AND ((MECH 2342 w/C or better ) OR (BE 2377 w/C or better) OR (EE 2350 w/C or better))

These changes will be reflected in Banner, Goldmine, and the catalog

**From:** [Martin, Enid A](#)  
**To:** [Granda, Virginia D](#)  
**Cc:** [Love, Norman D](#)  
**Subject:** RE: Change of Equivalencies in Engineering Courses Transferring from EPCC  
**Date:** Monday, January 11, 2021 7:51:23 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)


Hello Virginia,

My apologies for the delayed response.


There should be no issues with the equivalencies below. Please keep in mind that changes can only be entered for future terms. In order to process the changes, please send a formal memo for each course independently .

Let me know if you have any questions.

Best,



**Enid Martin, MA**  
 Transfer Coordinator  
  
 The Office of Admissions & Recruitment  
 The University of Texas at El Paso  
 500 W. University Ave.  
 El Paso, TX 79968  
 Office: 915-747-7516  
[utep.edu/admissions](http://utep.edu/admissions)



**From:** Granda, Virginia D <[granda@utep.edu](mailto:granda@utep.edu)>  
**Sent:** Thursday, December 17, 2020 1:20 PM  
**To:** Martin, Enid A <[eamartin@utep.edu](mailto:eamartin@utep.edu)>  
**Cc:** Love, Norman D <[ndlove@utep.edu](mailto:ndlove@utep.edu)>  
**Subject:** Change of Equivalencies in Engineering Courses Transferring from EPCC

Good afternoon Enid,

I know you are in a busy season, but I hope you are doing well.

We want to let you know that our college is planning to change the way some engineering courses from EPCC transfer to UTEP engineering degrees.

Below is the table that shows the changes we are proposing:

EPCC Courses		UTEP Courses	
ENGR 1304	Engineering Graphics I	MECH 1305	Graphic & Design Fundamentals
ENGR 2301	Mechanics I: Statics	CE 2315	Statics
ENGR 2302	Mechanics II: Dynamics	MECH 2340	Mechanics II - Dynamics
ENGR 2305	Electrical Circuits I	EE 2350	Electric Circuits I
ENGR 2332	Mechanics of Materials	CE 2334	Mechanics of Materials
ENGR 2334	Chemical Engineering Thermodynamics I	MECH 2311	Intro to Thermal-fluid Sci

We would like to know if you see anything in the equivalencies that would not work.

Best Regards,

Virginia

**Virginia Granda-Becker**  
 Coordinator for Academic Affairs and Undergraduate Studies  
  
 College of Engineering  
 The University of Texas at El Paso  
 500 W. University Ave