

# North Carolina State University

## CONSTRUCTION ENGINEERING AND MANAGEMENT

Degree Earned: B.S. in Construction Engineering and Management

### MECHANICAL CONSTRUCTION CONCENTRATION

For Students entering after July 2009 (Sum2'09)

#### FRESHMAN YEAR

<u>Fall Semester</u>	<u>Credits</u>	<u>Spring Semester</u>	<u>Credits</u>
CH 101 Chemistry – A Molecular Science	3	CSC 112 Intro. to Computing - FORTRAN	3
CH 102 General Chemistry Laboratory	1	EC 205 Fund. of Economics (GEP Requirement <sup>1</sup> )	3
E 101 Intro. to Engineering & Prob. Solving	1	MA 241 Calculus II	4
E 115 Intro. to Computing Environments	1	PY 205 Physics for Engrs. & Sci. I	4
ENG 101 Academic writing and Research	4	PE XXX Phys. Ed/Healthy Living Elective	<u>1</u>
MA 141 Calculus I	4		15
PE 10X Fitness & Wellness Course	<u>1</u>		
	15		

#### SOPHOMORE YEAR

<u>Fall Semester</u>	<u>Credits</u>	<u>Spring Semester</u>	<u>Credits</u>
CE 214 Engineering Mechanics - Statics	3	CE 261 Construction Engr. Systems	3
Engineering Graphics Elective <sup>3</sup>	3	CE 313 Mechanics of Solids	3
MA 242 Calculus III	4	MSE 200 Mech. Prop. of Structural Materials	3
PY 208 Physics for Engrs. & Sci. II	4	ST 370 Probability and Statistics for Engrs.	3
Management Science Elective (GEP Requirement) <sup>1, 2</sup>	<u>3</u>	MA 341 Applied Diff. Equations I	3
	17	GEP Requirement <sup>1</sup>	<u>3</u>
			18

#### JUNIOR YEAR

<u>Fall Semester</u>	<u>Credits</u>	<u>Spring Semester</u>	<u>Credits</u>
CE 324 Structural Behav. Meas. <u>or</u>		CE 367 Mech. & Elec. Sys. in Buildings	3
CE 381 Hydraulics Sys. Meas. Lab	1	CE 465 Construction Equipment & Methods	3
CE 382 Hydraulics	3	MAE 302 Engr. Thermodynamics II	3
CE 463 Const. Estim., Planning & Control	3	MAE 306 ME Lab II	1
COMM 110 Public Speaking <u>or</u>	3	MAE 310 Heat Transfer Fundamentals	3
ENG 331 Comm. for Engineering & Technology		GEP Requirement <sup>1</sup>	<u>3</u>
MAE 301 Engr. Thermodynamics I	3		16
MAE 305 ME Lab I	1		
MAE 316 Strength of Mech. Components	<u>3</u>		
	17		

#### SENIOR YEAR

<u>Fall Semester</u>	<u>Credits</u>	<u>Spring Semester</u>	<u>Credits</u>
ACC 200 Managerial Accounting <u>or</u>		CE 469 Construction Engineering Project	3
MIE 330 Human Resource Management	3	MAE 403 Air Conditioning	3
CE 464 Legal Aspects of Contracting	3	MAE 421 Design of Solar Thermal Sys. <u>or</u>	
ECE 331 Principles of Electrical Engr. I	3	MAE 435 Princ. of Automatic Controls	3
MAE 406 Energy Conservation in Industry	3	GEP Requirement <sup>1</sup>	3
GEP Requirement <sup>1</sup>	<u>3</u>	GEP Requirement <sup>1</sup>	<u>2-3</u>
	15		14-15

**Minimum Credit Hours Required for Graduation<sup>4</sup> = 127**

<sup>1</sup> GEP Requirements to be selected from the list approved by the College of Engineering

<sup>2</sup> Management Science Elective (second Social Science) Select one: SOC 205, SOC 301, SOC 305/AFS 305 (USD), SOC 310, PS 202, PS 310, PS 312, PS 314, PS 315, PS 320

<sup>3</sup> Engineering Graphics Elective: see departmental list of approved courses

<sup>4</sup> Foreign Language Proficiency at the FL\_102 level is required for graduation

# CONSTRUCTION ENGINEERING AND MANAGEMENT

## MECHANICAL CONSTRUCTION CONCENTRATION

### COURSE LISTING WITH PRE- AND COREQUISITES IN PARENTHESES

For students entering after July 2009 (Sum2'09)

Fall Semester

CH 101 (CoReq. CH 102)  
 CH 102 (CoReq. CH 101)  
 E 101  
 E 115  
 ENG 101  
 MA 141  
 PE 10X Fitness & Wellness Course

Spring Semester

**FRESHMAN YEAR**

CSC 112 (CoReq. E 115 and MA 141)  
 EC 205 (GEP Requirement<sup>1</sup>)  
 MA 241 (C- or better in MA 141)  
 PY 205 (C- or better in MA 141)  
 PE XXX Physical Ed/Healthy Living Elective

**Matriculation Requirements (MR):** 1. C- or better in CH 101, CH 102, ENG 101, MA 141, MA 241, & PY 205  
 2. Completion of E 115

**SOPHOMORE YEAR**

CE 214 (MR, CoReq. MA 242) Engineering Graphics Elective <sup>3</sup>	CE 261 (CoReq. ST 370)
MA 242 (C- or better in MA 241)	CE 313 (MA 242, C- or better in CE 214)
PY 208 (C- or better in PY 205 and MA 241)	MSE 200 (CH 101)
Management Science Elective (GEP Requirement) <sup>1,2</sup>	ST 370 (MA 241)
	MA 341 (MA 242)
	GEP Requirement <sup>1</sup>

**JUNIOR YEAR**

(All CE courses listed below also require Junior Standing in CE, CEM, or ENE)

CE 324 (C- or better in CE 313) <b>or</b>	CE 367 (CE 382)
CE 381 (CoReq. CE 382)	CE 465 (CoReq. CE 261 or equiv. and ST 370)
CE 382 (CE 214, CoReq. MA 341 or ST 370)	MAE 302 (CSC 112, C- or better in MAE 301)
CE 463 (CE 261)	MAE 306 (MAE 305, CoReq. MAE 310)
COMM 110 <b>or</b>	MAE 310 (MA 341, C- or better in MAE 301, CoReq. CE 382)
ENG 331 (Junior Standing)	GEP Requirement <sup>1</sup>
MAE 301 (MA 242, PY 208)	
MAE 305 (Junior Standing)	
MAE 316 (C- or better in CE 313)	

**SENIOR YEAR**

ACC 220 <b>or</b>	CE 469 (CE 463, CoReq. CE 464, last semester)
MIE 330 (MIE 201)	MAE 403 (MAE 302, MAE 310, and CE 382)
CE 464 (Senior Standing)	MAE 421 (MAE 302, MAE 310) <b>or</b>
ECE 331 (MA 241, PY 208)	MAE 435 (MA 341, MAE 315)
MAE 406 (MAE 302, MAE 310)	GEP Requirement <sup>1</sup>
GEP Requirement <sup>1</sup>	GEP Requirement <sup>1</sup>

<sup>1</sup> GEP Requirements to be selected from the list approved by the College of Engineering.

<sup>2</sup> Management Science Elective (second Social Science) Select one: SOC 205, SOC 301, SOC 305/AFS 305 (USD), SOC 310, PS 202, PS 310, PS 312, PS 314, PS 315, PS 320.

<sup>3</sup> Engineering Graphics Elective: see departmental list of approved courses.