

**THE COLLEGE OF NEW JERSEY**  
**DEGREE REQUIREMENTS**  
**Bachelor of Science in Mechanical Engineering (ESME)**

NAME \_\_\_\_\_ SS# \_\_\_\_\_

Admission Term \_\_\_\_\_ Date \_\_\_\_\_

Total Number of transfer credits from 2-year programs \_\_\_\_\_ (not to exceed 60 credits)

Retain this sheet to record progress toward your degree. Eligibility for graduation requires:

- 1) completion of or testing out of all courses printed on this sheet (and/or courses entered by faculty advisor with your approval)
- 2) minimum of 42 s.h. earned at TCNJ excluding credit by exam
- 3) minimum of 133 s.h. excluding Basic Skills and Seminar courses
- 4) a cumulative grade point average of 2.00
- 5) meeting all Engineering Department policy requirements

Gender	_____
Western	_____
Non-Western	_____

**I. General Education Requirements 28 S.H.**  
 (Consult College Catalog or Course Schedule for acceptable courses)

Plan Grade Sem	Cr	TCNJ Course Required	Cr
___ ___ ENGR 095 Intro to Engr.	0	_____	___
___ ___ WRI 102 Academic Writing	4	_____	___
___ ___ IDSC 151 Athens to New York	3	_____	___
___ ___ IDSC 252 Soc, Ethics & Tech.	3	_____	___
___ ___ Social Sciences (process)	3	ECON 200 Microeconomics	___
___ ___ Social Sciences (content)	3	_____	___
___ ___ Fine or Performing Arts	3	STEC 161 Creative Design	___
___ ___ History	3	_____	___
___ ___ Literature	3	_____	___
___ ___ Philosophy/Religion	3	_____	___

**II. Math and Physical Science 39 S.H**

Plan Grade Sem	Cr	TCNJ Course Required	Cr
___ ___ MAT 127 Calculus A	4	_____	___
___ ___ MAT 128 Calculus B	4	_____	___
___ ___ MATH 229 Calculus III	3	_____	___
___ ___ MATH 386 Differential Eqns.	3	_____	___
___ ___ ENGR 272 Adv. Engr. Math I	3	_____	___
___ ___ ENGR 342 Adv. Engr. Math II	3	_____	___
___ ___ MECH 321 Numerical Analysis	3	_____	___
___ ___ CSC 215 Computer Prgm.(FORT)	4	_____	___
___ ___ PHY 201 General Physics I	4	_____	___
___ ___ PHY 202 General Physics II	4	_____	___
___ ___ CHE 201 General Chemistry I	4	_____	___

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**III. General Engineering Requirements**                      26 S.H.

Plan			Cr	Authorized Substitution	Cr
Grade Sem					
___ ___	ENGR 091/92	Engr. Seminar Fr. #1/#2	0	_____	0
___ ___	ENGR 093/94	Engr. Seminar Jr. #1/#2	0	_____	0
___ ___	ENGR 098	Fundamentals of Engineering Review	0	_____	0
___ ___	ENGR 099	Sr. Professional Seminar	0	_____	0
___ ___	ENGR 142	Fund. of Engr. Design	3	_____	3
___ ___	ENGR 212	Circuits Analysis I	3	_____	3
___ ___	ENGR 214	Circuits Analysis Laboratory	1	_____	1
___ ___	ENGR 222	Statics	3	_____	3
___ ___	ENGR 262	Dynamics	3	_____	3
___ ___	ENGR 312	Digital Cks. & Microprocessors	3	_____	3
___ ___	ENGR 322	Thermodynamics	3	_____	3
___ ___	ENGR 352	Control Systems I	3	_____	3
___ ___	ENGR 354	Control Systems Laboratory	1	_____	1
___ ___	ENGR 372	Engineering Economy	3	_____	3

**IV. Mechanical Engineering Requirements**                      41 S.H.

Plan					
Grade Sem					
___ ___	ENGR 152	Engineering Materials Science	3	_____	3
___ ___	ENGR 232	Manufacturing Processes	3	_____	3
___ ___	MECH 251	Strength of Materials	3	_____	3
___ ___	MECH 263	Mechanical Engr. Lab. I	1	_____	1
___ ___	MECH 311	Mechanical Design Analysis I	3	_____	3
___ ___	MECH 363	Mechanical Engr. Lab. II	1	_____	1
___ ___	MECH 361	Fluid Mechanics	3	_____	3
___ ___	MECH 371	Thermodynamics II	3	_____	3
___ ___	MECH 433	Mechanical Engr. Lab. III	1	_____	1
___ ___	MECH 411	Heat Transfer	3	_____	3
___ ___	MECH 463	Mechanical Engr. Lab. IV	1	_____	1
___ ___	MECH 460	Computer Aided Mech.Engr.Des.	3	_____	3
___ ___	MECH 495	Senior Project I	1	_____	1
___ ___	MECH 496	Senior Project II	3	_____	3
___ ___	Area Elective	*see approved list	3	_____	3
___ ___	Area Elective	*see approved list	3	_____	3
___ ___	Area Elective	*see approved list	3	_____	3

DATE: \_\_\_\_\_ EVALUATOR: \_\_\_\_\_  
 \_\_\_\_\_ Degree Completion

**Any deviation from the above course listing must be authorized by your advisor and the department chair (see Course Substitution Approval Form).**

\*Area electives must be chosen from the following approved list:

- |   |  |
|---|--|
| MECH 421 Kinematics & Mechanism                   | MECH 492 Independent Study             |
| MECH 431 Mechanical Design Analysis II            | ELEC 421 Control Systems II            |
| MECH 441 Vibration Analysis                       | ELEC 481 Robotics                      |
| MECH 451 Heating, Ventilating, & Air Conditioning | ENGR 412 Process & Quality Control     |
| MECH 461 Thermal Systems Design                   | ENGR 452 Project Management            |
| MECH 471 Compressible Fluid Mechanics             | ENGR 472 Special Topics in Engineering |
| MECH 481 Advanced Strength of Materials           |  |