2016-17 
CHECKLIST FOR GRADUATION REQUIREMENTS IN ENGINEERING
Minimum of 132 s.h. required for graduation (36 s.h. must be 300/400-level courses)
(Additional hours to total 132 s.h. – includes second major, minor, and elective hours.)

Name_________________________________________ I.D. # ____________________

Elon Core Curriculum (56-60 sh)

FIRST-YEAR FOUNDATIONS:
COR 110 – Global Experience (4 s.h.) __________
ENG 110 – Writing: Argument & Inquiry (4 s.h.) __________
(C- or better required for graduation)
MTH 110 or 151 or 220 (4 s.h.) *MTH 151

Experiential Learning Requirement (ELR – 2 units required):
Included in experiential learning are study abroad, research, service-learning,
leadership, internships, (including co-ops, teaching, and practicum), or other
courses or experiences with ELR designation

World Language Requirement:
Students must meet one of the following: (a) complete a language course
numbered 122 or higher at Elon, or receive transfer or study abroad credit
for the same; (b) place into a language course numbered 200 or above
upon arriving at Elon, using a department of world languages approved
placement instrument; (c) score a 4 or 5 on an AP language exam or
similar exam. Each student must take the language placement test by
October 1 of his or her first full year at Elon. Students are allowed two
tries; the higher score is counted. That score stands and may not be
repeated by later testing. Consideration for Phi Beta Kappa membership
requires completion of one intermediate world language course,
placement beyond that level or equivalent proficiency.

STUDIES IN THE ARTS AND SCIENCES:
[Transfer students with at least 18 s.h. of transfer credit must complete 32
hours total in Studies in the Arts & Sciences, but may have as few as 7 hours
in one or more of the four Studies in the Arts & Sciences areas.]

Expression _______________ _______________ (8 s.h.) ________
[Eight hours chosen from at least two of the following: literature (in
English or world languages), philosophy, & fine arts (art, dance, fine
arts, music, music theatre, & theatre). At least one course must be
literature.]

Civilization _______________ _______________ (8 s.h.) ________
[Eight hours chosen from at least two of the following: history, world
languages, art history and religious studies.]

Society _______________ _______________ (8 s.h.) ________
[Eight hours chosen from at least two of the following: economics,
geography, human service studies, political science, psychology, &
sociology/anthropology, and public health studies 201 or 202.]

Science/Analysis *CHM 111 (Lab: ___) *CHM 112 (8 s.h.) ______
[Eight hours chosen from one or more of the following:
mathematics/statistics, science, computer science and information
science. At least one course must be a physical or biological
laboratory science.]

ADVANCED STUDIES (Must be outside major.)
_____________ _______________ (8 s.h.) ______
[Eight hours of 300-400 level coursework outside the major field and
chosen from areas under Studies in the Arts and Sciences.]

COR Interdisciplinary Capstone Seminar (4 s.h.) ______
[300-400 level COR course; requires junior/senior status.]

Major Requirements

A minimum of 70-82 s.h. depending upon concentration selected.

Major Core Requirements (54 s.h.):
_____*CHM 111 (4) - General Chemistry I with Lab
_____*CHM 112 (4) - General Chemistry II with Lab
_____ PHY 221 (4) & PHYL 221 – University Physics I
_____ PHY 222 (4) & PHYL 222 – University Physics II
_____ *MTH 151 (4) - Calculus I
_____ MTH 251 (4) - Calculus II
_____ MTH 252 (4) – Multivariable Calculus and Analytic Geometry
_____ *MTH 359 (4) - Differential Equations
_____ CSC 130 (4) – Computer Science I
_____ EGR 103 (4) – Challenges in Engineering
_____ EGR 206 (3) - Engineering Mechanics - Statics
_____ EGR 208 (3) - Engineering Mechanics – Dynamics

Select two (8 s.h.) of the following:
EGR 211 (3) & 212 (1) - Circuit Analysis/ Lab
EGR 306 (4) – Mechanics of Solids
EGR/PHY 310 (4) - Engineering Thermodynamics

(...Additional requirements for Engineering are continued on back.....)

*Required in major; may count in Elon Core Curriculum.
### Select one (1) of the following six (6) options

**B.S. in Engineering Physics (16 s.h.):**
- ____ PHY 314 (4) - Modern Physics
- ____ PHY 397 (4) - Research Methods I
- ____ PHY 398 (4) - Research Methods II
- ____ PHY 401 (4) - Classical Mechanics
  - OR-
  - ____ PHY 403 (4) - Electrodynamics I
- Select 4 s.h. of PHY at the 300-400 level

**B.S. in Engineering Mathematics (24 s.h.):**
- ____ MTH 243 (4) - Applied Mathematical Modeling
- ____ MTH 239 (4) - Linear Algebra
- ____ MTH 329/STS 341 (4) - Probability Theory and Statistics
- ____ MTH 445 (4) - Numerical Analysis
- ____ CSC 230 (4) - Computer Science II

Choose from one of the following options:
- ____ MTH 241 (4) - Discrete Structures
  - OR-
  - ____ MTH 330 (4) - Mathematical Reasoning

**B.S. in Computer Science/Engineering (24 s.h.):**
- MTH 241 (4) - Discrete Structures
  - OR-
  - ____ MTH 330 (4) - Mathematical Reasoning
  - ____ CSC 230 (4) - Computer Science II
  - ____ CSC 303 (4) - Mobile Computing
  - ____ CSC 330 (4) - Computer Science III
  - ____ CSC 331 (4) - Algorithm Analysis
  - ____ CSC 443 (4) - Computer Systems

**B.S. in Chemistry/Chemical Engineering (23 s.h.):**
- ____ CHM 211 (4) - Organic Chemistry I with Lab
- ____ CHM 212 (4) - Organic Chemistry II with Lab
- ____ CHM 311 (4) - Quantitative Analysis
- ____ CHM 332 (4) - Physical Chemistry I
- ____ CHM 341 (4) - Inorganic Chemistry I
  ^CHE 450 – Chemical Engineering Design I
  ^CHE 451 – Chemical Engineering Design II
  ^Taken at engineering school

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**B.S. in Environmental Science/Environmental Engineering (18-28 s.h.):**
- ____ ENS 111/113 (4) – Intro to Environmental Science w/ Lab
- ____ ENS 200 (4) – Strategies for Environmental Inquiry
- ____ CHM 211 (4) – Organic Chemistry I w/ Lab
- ____ MTH 329/STS 341 (4) – Probability Theory and Statistics

Ecological Processes (select one)
- BIO 215 (4) – Diversity of Life
- BIO 335 (4) – Field Biology
- ENS 320 (4) – Restoration Ecology
- ENS 330 (4) – Wildlife Ecology

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Social Sciences and Humanities (select two)
- POL 224 (4) – Environmental Policy and Law
- POL 322 (4) – State Environmental Policy/Administration
- POL 344 (4) – International Environmental Policy
- SOC 334 (4) – Environmental Sociology
- ENG 318 (4) – Science Writing
- ENG 339 (4) – American Environmental Writers
- COM 331 (4) – Environmental Communications
- ART 339 (4) – Ecological Art
- GIS 250+ (4) - Introduction to Geographical Systems
- POL 228+ (4) - U.S. Environmental Law and Politics
- POL 344+ (4) - Global Environmental Politics
+ (or affiliate school equivalent)

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**B.S. in Bio-physics / Biomedical Engineering (24 s.h.):**
- ____ BIO 111/113 (4) – Introductory Cell Biology and lab
- ____ BIO 245/246 (4) – Principles of Genetics and lab
- ____ PHY 314 (4) – Modern Physics
- ____ PHY 397-98 (4) – Research Methods I and II

Select one from the following:
- BIO 263 (4) – Human Anatomy
- BIO 264 (4) – Human Physiology

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Select one from the following:
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**Major Total**