

PROGRESS REPORT AND PLAN OF STUDY FOR B.S. IN SYSTEMS ENGINEERING

For students entering Fall 2016 or later

Student _____ G# _____ GMU-Email _____ Ph.No. _____

1st Sem/Year at GMU _____ Advisor's Name _____ Date _____

Sem/Year this form was filled out _____ Non-GMU Email (Optional) _____

Instructions:

- 1) **PRINT OUT YOUR DEGREE ANALYSIS FROM PATRIOTWEB. TO REVIEW YOUR PROGRESS, ENTER CHECK MARKS (✓) ON COURSES YOU ARE CURRENTLY TAKING AND FOR ALL COURSES YOU HAVE ALREADY TAKEN. MARK TRANSFER COURSES SHOWING IN YOUR DEGREE ANALYSIS WITH A "T". FILL OUT THE SEM/YR (Ex: F22, S23, Sum20) TO SHOW COURSES YOU WILL BE TAKING FOR THE COMING SEMESTERS. USE THE NEXT PAGE TO PLAN BY SEMESTER AND COPY THE DATA ONTO THIS SHEET. THIS SHEET MUST BE COMPLETED IN FULL FOR APPROVAL.**

- 2) **NOTE: No math, science, or VSE course, required for the major, may be attempted more than three times. Those students who do not successfully complete such a course within three attempts will be terminated from the major.**

*For catalog year **prior** to Fall 2014, CS 211, PHYS 260, MATH 203, MATH 214 and STAT 354 do not require a grade of C or better.

For catalog year **prior to Fall 2015, SYST 395 is not required. ***CHEM 211 corequisite not required for BIOL 213

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Technical Emphasis _____ (See attached for list of courses)

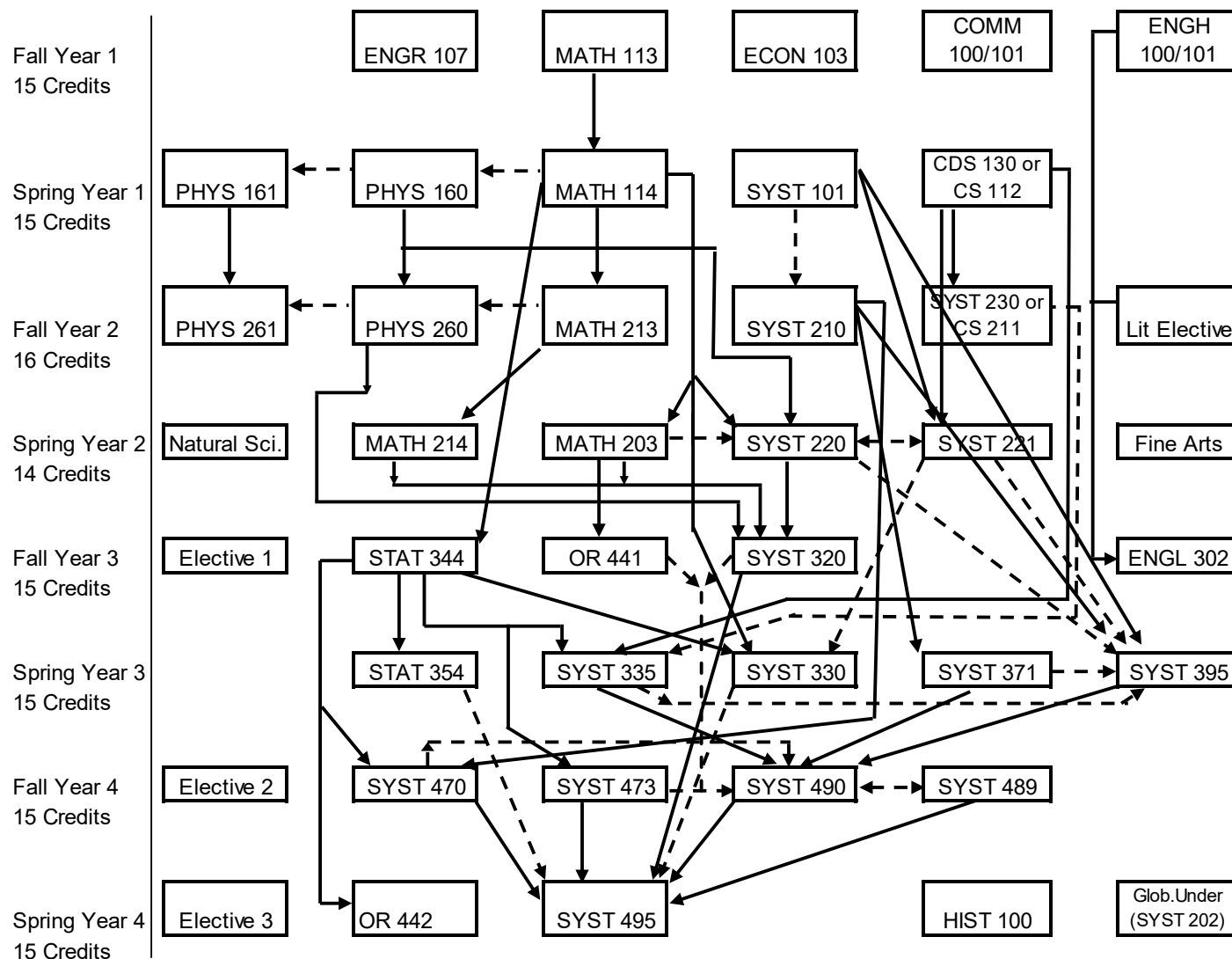
Student's Signature _____ Date _____ Advisor's Signature _____ Date _____ Chair's Signature _____ Date _____

Semester-hour credits must total at least 123 hours, at least 45 of which must be at the 300 or above level courses. Note Transfer courses labeled with an "L3XX" in the GMU equivalent course do not count towards the 45 hours of 300 or above level courses. At least one-fourth of the total semester hours must be taken at GMU in order to satisfy the residency requirements.

Students must attach a degree evaluation with this plan of study. The above signatures indicate that the degree evaluation is attached and has been reviewed in particular to identify transfer credits that do or do not apply to this program.

Prerequisites for the BSSE

The following chart shows the prerequisite sequences for required courses in the SE program. Prerequisites for technical elective sequences vary with the specialization area and the specific electives chosen. *It is essential for students to complete their mathematics and physics courses as early as possible because many later courses have these courses as prerequisites.*



Last updated: April 27, 2020

Prerequisite Diagram for Required Courses in BSSE Program

(Solid lines represent prerequisites; dashed lines represent corequisites)

Students taking SYST 490 must have 90 satisfactory credits applicable to the BS degree.

This diagram can also be found at http://seor.gmu.edu/bsse/BSSE_prerequisite_graph.pdf

BS SYSTEMS ENGINEERING: LIST OF ALL COURSE REQUIREMENTS (TOTAL CREDITS 123)

Mathematics and Statistics Credits 23

- ___ MATH 113 - Analytic Geometry and Calculus I
- ___ MATH 114 - Analytic Geometry and Calculus II **Prereq(s)** C or better in MATH 113
- ___ MATH 203 - Linear Algebra **Prereq(s)** C or better in MATH 114 or MATH 116
- ___ MATH 213 - Analytic Geometry and Calculus III **Prereq(s)** C or better in MATH 114 or MATH 116
- ___ MATH 214 - Elementary Differential Equations **Prereq(s)** Grade of C or better in MATH 213 or 215
- ___ STAT 344 - Probability and Statistics for Engineers and Scientists I **Prereq(s)** MATH 114 or MATH 116
- ___ STAT 354 - Probability and Statistics for Engineers and Scientists II **Prereq(s)** STAT 344

Natural Sciences Credits 12

- ___ PHYS 160 - University Physics I **Coreq(s)** MATH 114
- ___ PHYS 161 - University Physics I Laboratory **Coreq(s)** PHYS 160 and MATH 114
- ___ PHYS 260 - University Physics II **Prereq(s)** PHYS 160 with a grade of C or better **Coreq(s)** MATH 213
- ___ PHYS 261 - University Physics II Laboratory **Prereq(s)** PHYS 161 **Coreq(s)** MATH 213 and PHYS 260

Choose among the following

- ___ PHYS 262 - University Physics III **Prereq(s)** PHYS 260 with a grade of C or better **Coreq(s)** MATH 214 **and**
- ___ PHYS 263 - University Physics III Laboratory **Prereq(s)** PHYS 261 **Coreq(s)** PHYS 262 **or**
- ___ CHEM 271 - General Chemistry for Engineers **and** CHEM 272 General Chemistry for Engineers Laboratory **or**
- ___ CHEM 211 - General Chemistry **and** CHEM 213 General Chemistry Laboratory **or**
- ___ BIOL 213 - Cell Structure and Function **Coreq(s)** CHEM 211 (coreq waived for BSSE students)

Computer Science Credits 7

- ___ CDS 130 Computing for Scientists **Prereq(s)** C or better in MATH 110 or MATH 113 **or** CS 112 - Introduction to Computer Programming **Prereq(s)** C or better in MATH 104 or MATH 105 or MATH 113
- ___ SYST 230 Object-oriented Modeling and Design **Prereq(s)** C or better in CDS 130 or CS 112 **or** CS 211 - Object-Oriented Programming **Prereq(s)** Grade of C or better in CS 112

Engineering Credits 2

- ___ ENGR 107 - Introduction to Engineering

Systems Engineering Credits 55

- ___ SYST 101 - Understanding Systems Engineering
- ___ SYST 210 - Systems Design **Prereq(s)** SYST 101 or sophomore standing
- ___ SYST 220 - Dynamical Systems I **Prereq(s)** MATH 114 or MATH 116 and PHYS 160 **Coreq(s)** MATH 203 and SYST 221
- ___ SYST 221 - Systems Modeling Laboratory **Prereq(s)** SYST 101, CS 112 **Coreq(s)** SYST 220
- ___ SYST 320 - Dynamical Systems II **Prereq(s)** SYST 220, MATH 203, MATH 214, PHYS 260
- ___ SYST 330 - Systems Methods **Prereq(s)** MATH 114 or MATH 116 **Coreq(s)** STAT 344 and SYST 221
- ___ SYST 335 - Discrete Systems Modeling and Simulation **Prereq(s)** CS 112 and STAT 344 or MATH 351 **Coreq(s)** CS 211
- ___ SYST 371 - Systems Engineering Management **Coreq(s)** SYST 210
- ___ SYST 395 - Applied Systems Engineering **Prereq(s)** Grade of C or better in SYST 101 and SYST 210 **Coreq(s)** SYST 220, SYST 221, SYST 335, SYST 371
- ___ SYST 470 - Human Factors Engineering **Prereq(s)** SYST 210 and STAT 344
- ___ SYST 473 - Decision and Risk Analysis **Prereq(s)** STAT 344 or STAT 346 or MATH 351 or grade of C or better in STAT 250
- ___ SYST 489 - Senior Seminar **Coreq(s)** SYST 490
- ___ SYST 490 - Senior Design Project I **Prereq(s)** SYST 335, SYST 371, SYST 395, and 90 satisfactory credits **Coreq(s)** SYST 320, SYST 470, SYST 473, SYST 489, and OR 441
- ___ SYST 495 - Senior Design Project II **Prereq(s)** Grade of C or better in SYST 489 and SYST 490 **Coreq(s)** SYST 330, STAT 354
- ___ OR 441 - Deterministic Operations Research **Prereq(s)** MATH 203, or permission of instructor
- ___ OR 442 - Stochastic Operations Research **Prereq(s)** STAT 344 or STAT 346 or MATH 351
- ___ 3 approved technical electives selected from one of the Technical Emphasis Areas. Credits 9

Mason Core Credits 24

Students must complete all Mason Core requirements

- ___ COMM 100 - Public Speaking **or** COMM 101 - Interpersonal and Group Interaction
- ___ ECON 103 - Contemporary Microeconomic Principles
- ___ ENGH 100 or 101 - Composition for Multilingual Writers 4 credits or Composition 3 credits.
- ___ ENGH 302 - Advanced Composition (must complete a natural sciences and technology section)
- ___ Literature
- ___ Arts
- ___ Western Civilization/World History
- ___ Global Understanding