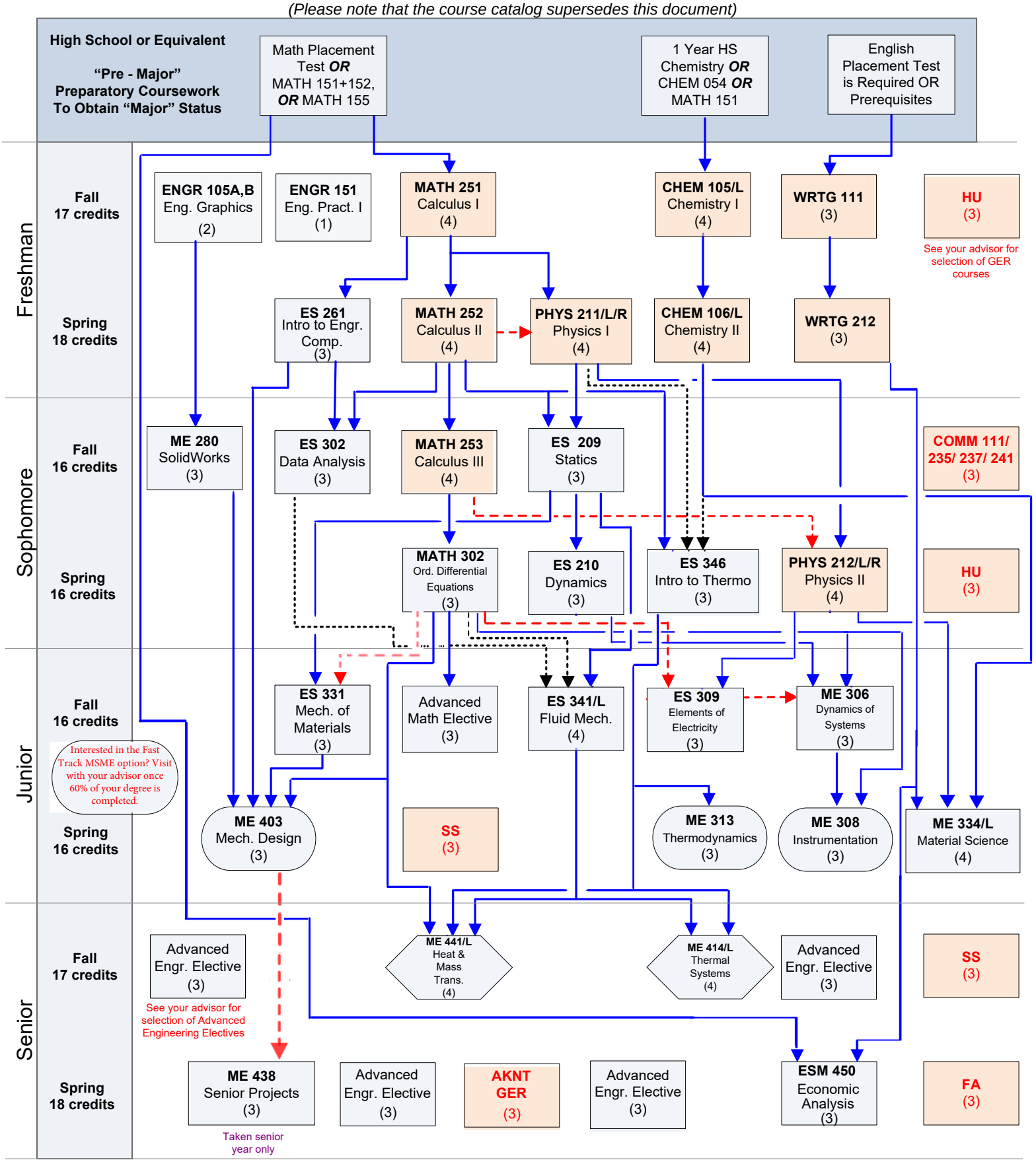
Name: _____ 2019/2020

Bachelor of Science in Mechanical Engineering (BSME)

Recommended Course Sequence & Prerequisites Flowchart

(Please note that the course catalog supersedes this document)



Key: **Prerequisite** — **Prerequisite or Concurrent** - - - **Either Class as Prerequisite** ·····

Offered EVERY Semester | Fulfills UAA GER requirement | Offered FALL only | Offered SPRING only

V. 5.31.2019

Advanced Engineering Electives (12 credits)

Mechanical Engineering students are required to take 12 credits of advanced engineering elective courses, of which at least 6 credits must be ME prefix courses from the list below. The remaining 6 credits may be ME prefix or non-ME prefix, but if you choose to go off the list ***you must petition to obtain prior approval from the ME Department faculty***.

Course	Number	Description	Credits	Prerequisites (must be completed with a min. grade of C)
ME	A408 or A608	Mechanical Vibrations	3	EE A306 or ME A 306 and ES A331
ME	A415 or A615	Composite Materials	3	ES A331 and ME A280 and ME A403
ME	A420	Automotive Engineering	3	(EE A306 or ME A306) and ES A331 and ME A280
ME	A421 or ME A621	Engineering Finite Element Analysis	3	ES A210 and ES A331 and ES A341 and ES A346
ME	A442	Advanced Fluid Mechanics	3	ES A341 and MATH A302
ME	A451 or 651	Aerodynamics	3	MATH A302 and ES A341 and ME A313
ME	A453 or A653	Renewable Energy Systems Engineering	3	ES A341 and ES A346
ME	A454	Manufacturing Design	3	ENGR A151 and ES A261 and ME A280
ME	A455 or A655	HVAC Systems Optimization	3	ES A341 and ES A346
ME	A459 or A659	Fracture Mechanics	3	ES A331
ME	A460 or ME A660	Turbomachinery	3	ES A341 and ES A341L and ME A313
ME/EE	A471	Automatic Control	3	(EE A306 or ME A306 or EE A353) and (ES A208 or ES A210) and MATH A302
ME	A610	Biomechanics	3	Graduate standing or instructor permission
ME	A630	Advanced Mechanics of Materials	3	Graduate standing or instructor permission
ME	A664	Corrosion Processes and Engineering	3	ES A346 and graduate standing or instructor permission

Advanced Mathematics Electives (3 credits)

Mechanical Engineering students are required to take 3 credits from the following list of elective courses. Some acceptable electives require additional prerequisite courses. So, students are advised to carefully select the elective that best fits their course history and course plan.

Course	Number	Description	Credits	Prerequisites (must be completed with a min. grade of C)
MATH	A314	Linear Algebra	3	MATH A252
MATH	A321	Analysis of Several Variables	3	MATH A253 and MATH A314
MATH	A371	Stochastic Processes	3	MATH A252 and STAT A307
MATH	A407	Mathematical Statistics I	3	MATH A253 and STAT A307
MATH	A410	Introduction to Complex Analysis	3	MATH A253
MATH	A422	Partial Differential Equations	3	MATH A302
MATH	A424	Adv. Engr. Math: Linear and Numerical Analysis	3	MATH A302 and PHYS A211
MATH	A425	Adv. Engr. Math: Partial Differential Equations and Complex Variables	3	MATH A302 and PHYS A211
MATH	A426	Numerical Analysis	3	MATH A252