

James Madison University Advising Notes for Engineering

Advising notes before proceeding

Students seeking academic advising for this major are encouraged to meet with BRCC Professors Mr. Bob Zickefoose (Engineering, T103, zickefooseb@brcc.edu) or Dr. Jonathan Cook (Physics, T205, cookj@brcc.edu).

Progression through the AS – Science – Engineering Program

Progression through the AS Science – Engineering specialization degree depends on the student's initial level of math placement. If you do not already have credit for MTH 161/162 or MTH 167 and would like to be considered for direct placement into Calculus on the basis of your high school precalculus coursework, please make an appointment with an advisor to discuss. Students with a precalculus placement for either MTH 161 or MTH 167 are encouraged to attempt MTH 167 if they have a strong background in high school mathematics (A and B grades for all high school mathematics through at least algebra II/trigonometry, with a high school course in precalculus or functions preferred).

With a MTH 263 start, an AS Science – Engineering degree can be completed in 2 years, with four semesters at 17 credits each. With a MTH 167 start, it is still possible to complete in two years with a catch-up summer semester. While typical for engineering degrees, this is an extremely heavy credit load, and is not feasible for many students. Keep in mind that your first priority as a student seeking to transfer to a four year engineering program is **academic excellence**, and not finishing quickly – JMU is expecting you to maintain As and Bs in your math, science, and engineering coursework. Many students opt to spread out the coursework for the AS over three years to make the load more manageable, or complete some of their general education requirements during the summer sessions to reduce the credit load in fall/spring.

There are three advising guides which show pathways for:

- A two year plan for students who start in MTH 263
- A two year plan for students who start in MTH 167
- A three year plan for students who start in MTH 161

The AS Science – Engineering Specialization requires a minimum of 67 credits to complete. However, in order to meet BRCC's Associate of Science degree requirements, meet all prerequisites for those requirements, *and* fulfill JMU recommended transfer course requirements for engineering, students may need to complete additional credits at BRCC depending on their mathematics placement.

The Engineering Specialization truly starts when the student reaches MTH 263, as calculus is the gateway to all engineering courses except Foundations of Engineering (EGR 121). Students in precalculus or developmental mathematics are “pre-Engineering” and may wish to declare the more general AS-Science initially before committing to the specialization.

All mathematics, science, and engineering courses should be taken in the order they appear, in the semester they appear. Math, science, and engineering are strictly sequenced in terms of prerequisites, and have limited course offerings. When you see a course appearing in a specific semester in the guide (e.g. EGR 140 always

appears as spring class), assume unless confirmed otherwise that that is the *only* semester in which the course is offered, and if you miss it, you will not be able to schedule it until the following year.

Course Notes

- Students who satisfactorily complete EGR 121, 122, 140, & 245 will not be required to take ENGR 101, ENGR 112, ENGR 212, ENGR 221, ENGR 231 or ENGR 232 at JMU. Once at JMU, students will enroll in ENGR 301, Engineering Bridge Course for Transfer Students.
- Engineering students who start in MTH 167 in the fall and enroll in MTH 263 in the spring may take EGR 140 (Statics) concurrently with MTH 263.
- EGR 126 transfers to JMU as ENGR 000 (general engineering elective credit); CSC 201 transfers as CS 149.

Finally and most importantly: Come in and meet your program professors at the beginning of your program! Professors Zickefoose and Cook (contact info on the first page) will work with engineering students to help them plan their courses, and provide advice on what is needed to successfully transfer to JMU.