

Recommended Manufacturing Engineering 8-Semester Course Sequence-Updated for Fall 2017

FALL

| 1 st Year | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|----------------------|--|---------------|---------------|----|----|-----|----|
| MATH 1441 | Calculus I w/ Laboratory | | | A | 4 | | |
| ENGL 1101 | Composition I | | | A | 3 | | |
| ENGR 1133 | Engineering Graphics | | | F | 3 | | |
| CHEM 1147 | Comprehensive General Chemistry w/ lab | | Note 1 | F | 4 | | |
| FYE 1220 | First Year Seminar | | | U | 2 | | |
| MENG 1310 | MFG Processes Lab | | | | 1 | | |

Note 1a: CHEM 1145 and CHEM 1146

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| 2 nd Year | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|----------------------|---------------------------------------|--------------------------------|------|----|----|-----|----|
| STAT 2231 | Intro to Statistics I | MATH 1441-CoB | | F | 3 | | |
| PHYS 2212 | Principles of Physics II | PHYS 2211-CoB | | F | 4 | | |
| MFGE 2142 | Fundamentals of Engineering Mechanics | MATH 2242-CoB PHYS 2211-CoB | | F | 4 | | |
| MFGE 2533 | MFG Processing 2 Studio | MENG 1310-CoB MFGE 2531-CoB | | | 3 | | |
| HLTH 1520 | Healthful Living | | | U | 2 | | |

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| 3 rd Year | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|----------------------|--|---|------|----|----|-----|----|
| MFGE 3131 | Design for Manufacturability, Assembly, Sustainability | MFGE 2142-CoB MFGE 2421-CoB MFGE 2533-CoB | | | 3 | | |
| MFGE 3541 | Energy Science Studio (Fluids/Thermo/Hxt) | PHYS 2211-CoB MATH 2242-CoB | | | 4 | | |
| MFGE 3421 | Industrial Controls and Networking Studio | ENGR 2131-CoB MFGE 2534-CoB | | | 2 | | |
| MFGE 3531 | Adv Materials Process Studio | ENGR 1133-CoB MFGE 2142-CoB | | | 3 | | |
| ECON 2105 | Economics | | | E | 3 | | |
| KINS 1xxx | Physical Activity | | | U | 1 | | |

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| 4 th Year | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|----------------------|--|---|------|----|----|-----|----|
| MFGE 4321 | Manufacturing Engineering Capstone I | Note 4a | | | 2 | | |
| MFGE 4533 | Industrial Robotics and Automation | MFGE 2142-CoB MFGE 3337-CoB MFGE 3421-CoB | | | 3 | | |
| MFGE 4135 | Lean MFG Principles and Engineering Project Management | MFGE 3132-CoB | | | 3 | | |
| see reverse | MFG Technical Track | | | | 3 | | |
| HIST 1112 | World History II | | | B | 3 | | |
| Note 4b | Fine Art Elec/Humanities | | | C | 3 | | |

Note 4a: MFGE 3131-CoB, MFGE 3132-CoB, MFGE 3337-CoB, MFGE 3541-CoB

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Note 4b Option 1: ART 1000, COMM 1110, HUMN 2433, HUMN 2434, MUSC 1100, PHIL 1030, RELS 2130, THEA 1100, FORL 100x or 200x
Option 2: HUMN 2321 and HUMN 2322

SPRING

| | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|-----------|---|-----------------------------------|------|----|----|-----|----|
| MATH 2242 | Calculus II w/ Laboratory | MATH 1441-CoB | | D | 4 | | |
| ENGL 1102 | Composition II | ENGL 1101-CoB | | A | 3 | | |
| PHYS 2211 | Principles of Physics I | MATH 1441-CoB | | D | 4 | | |
| HIST 2110 | The United States: A Comprehensive Survey | | | E | 3 | | |
| MFGE 2531 | Material Science Studio for MfgE | CHEM 1147-CoB or CHEM 1146-CoB | | | 3 | | |
| FYE 1410 | Global Citizen | FYE 1220 | | B | 1 | | |

CoB - Prerequisite completed with a grade of C or Better

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| | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|-------------------|--|--------------------------------|------|----|----|-----|----|
| MFGE 2534 | Applied Computing in MFGE | ENGR 1133-CoB MENG 1310-CoB | | | 3 | | |
| MFGE 2239 | Engineering Modeling and Mathematical Analysis | STAT 2231-CoB co-MENG 2139 | | | 3 | | |
| MENG 2139 | Numerical Methods in Engineering | MATH 2242-CoB | | | 3 | | |
| ENGR 2131 | Electronics & Circuits Analysis | PHYS 2212-CoB co-MENG 2139 | | | 3 | | |
| ENGL 2111 or 2112 | Lit/Humanities | ENGL 1102-CoB | | C | 3 | | |
| MFGE 2421 | Intro to Additive Mfg | ENGR 1133-CoB MFGE 2142-CoB | | F | 2 | | |

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| | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|-----------|---|---|------|----|----|-----|----|
| MFGE 3132 | Quality and Statistical Process Control for Engineers | MFGE 2239-CoB | | | 3 | | |
| MFGE 3337 | Hydraulics and Electro-mechanical Systems | ENGR 2131-CoB MFGE 3541-CoB MFGE 3421-CoB | | | 3 | | |
| MFGE 3423 | Facilities Design | MFGE 2533-CoB | | | 2 | | |
| POLS 1101 | Intro. to American Gov't | | | E | 3 | | |
| | SACS Free Elective *MFG Technical Track Recommendation | | | | 3 | | |
| KINS 1xxx | Physical Activity | | | | 1 | | |

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| | | Prerequisites | Subs | Ar | Cr | Sem | Gr |
|----------------|--|---|------|----|----|-----|----|
| MFGE 4322 | Manufacturing Engineering Capstone II | MFGE 4135-CoB MFGE 4321-CoB MFGE 4533-CoB | | | 2 | | |
| MFGE 4614 | Senior Seminar: Professional Skills and Leadership | Note 4c | | | 1 | | |
| see reverse | MFG Technical Track | | | | 6 | | |
| Note 4d | Social Science Elective | | | E | 3 | | |
| Note 4e | Environmental Sci w/Lab | | | D | 4 | | |

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Note 4c: MFGE 3132-CoB, MFGE 3421-CoB, MFGE 3531-CoB, MFGE 3541-CoB, MFGE 2421-CoB, MFGE 3131-CoB

Note 4d: ANTH 1102 or GEOG 1130 or PSYC 1101 or SOCI 1101

Note 4e: PHYS 1149 or CHEM 1040 or BIOL 1230 W/1210, or GEOL 1340 or University approved transfer substitution

Manufacturing Engineering Technical Tracks (choose 1 track for 9 credits total)

SAP Option (Choose 9 credits as Recommended MFGE Technical Track)

| | | | | | | | |
|-----------|--|-------------|--|--|---|--|--|
| CISM 4237 | Business Intelligence | see catalog | | | 3 | | |
| CISM 4333 | Human Resources Information Systems | see catalog | | | 3 | | |
| CISM 4334 | ERP Systems Using SAP | see catalog | | | 3 | | |
| CISM 4335 | ABAP Programming for SAP | see catalog | | | 3 | | |
| CISM 4336 | ERP and Enterprise Performance | see catalog | | | 3 | | |
| CISM 4434 | Enterprise System Configuration | see catalog | | | 3 | | |
| CISM 4435 | ERP Web Portal Customization and Collaboration using SAP NetWeaver | see catalog | | | 3 | | |

Occupational Health and Safety Option (Choose 9 credits as Recommended MFGE Technical Track)

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|-----------|--|--|--|--|---|--|--|
| TSEC 5336 | Environmental Law | | | | 3 | | |
| TSEC 5333 | Industrial Hygiene and Ergonomics | | | | 3 | | |
| TSEC 5334 | Hazardous Waste | | | | 3 | | |
| TSEC 5335 | Systems Safety in Manufacturing | | | | 3 | | |
| TSEC 5331 | Occupational Safety and Environmental Compliance | | | | 3 | | |

Lean and Six Sigma Green Belt Option (Choose 9 credits as Recommended MFGE Technical Track)

| | | | | | | | |
|-----------|---------------------------------|--------------------------------|--|--|---|--|--|
| TMAE 5134 | Lean World Class Manufacturing | MENG 3333-CoB MFGE 3531-CoB | | | 3 | | |
| MFGE 5131 | Lean and Six Sigma Green Belt-1 | MFGE 3132-CoB | | | 3 | | |
| MFGE 5132 | Lean and Six Sigma Green Belt-2 | MFGE 5131-CoB | | | 3 | | |

Manufacturing Automation Option (Choose 9 credits as Recommended MFGE Technical Track)

| | | | | | | | |
|-----------|-------------------------------|---|--|--|---|--|--|
| MFGE 5238 | Facilities Maintenance | MFGE 3337-CoB MFGE 3423-CoB MFGE 4533-CoB | | | 3 | | |
| MFGE 5333 | Additive Manufacturing Studio | MFGE 2421-CoB MFGE 3131-CoB | | | 3 | | |
| MENG 5331 | Automation and CIMS | Note 5 | | | 3 | | |

Note 5: ENGR 1133-CoB and ENGR 1731-CoB or MFGE 2534-CoB and MENG 3333-CoB or MFGE 2533-CoB

Materials Processing Option (Choose 9 credits as Recommended MFGE Technical Track)

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|-----------|---|--------------------------------|--|--|---|--|--|
| MENG 5138 | Composite Materials: Manufacturing, Analysis and Design | Note 6 | | | 3 | | |
| MFGE 5535 | NanoManufacturing | MFGE 3531-CoB MENG 5138-CoB | | | 3 | | |
| MFGE 5534 | Packaging | MFGE 3531-CoB MENG 5138-CoB | | | 3 | | |

Note 6: MENG 3135-CoB OR MFGE 3131-CoB AND MENG 3333-CoB OR MFGE 3531-CoB

MFGE General Option (Choose 9 credits from courses making up any of the other option(s))

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|--|--|--|--|--|---|--|--|
| | | | | | 3 | | |
| | | | | | 3 | | |
| | | | | | 3 | | |

Note: An appropriate supervised practicum experience or special topic course (MFGE 4890 or 4090) can be substituted for one technical elective with the advanced approval of the department chair.

- (1) The advisement philosophy of the Georgia Southern University, as stated in the catalog is as follows: "Georgia Southern University accepts the premise that ultimately a student's program is his or her own responsibility".
- (2) The catalog also states that one of the requirements for graduation is that the total institutional GPA of all courses applying for the degree must be 2.0 or greater.
- (3) Degree/Graduation clearance must be completed at least three semesters before your intended graduation date. Failure to do so may result in a delay in graduating.
- (4) The statements set forth in the University Catalog and this checksheet are for information purposes only and should not be construed as the basis of a contract between the students and this institution. While the provisions of this checksheet and the catalog will ordinarily be applied as stated, Georgia Southern University reserves the right to change any provision listed herein, including but not limited to academic requirements for graduation. While this checksheet is a reasonably correct tool, the university catalog is the differed to resource for any discrepancies.
- (5) Co-requisite and pre-requisite changes are effective immediately upon approval of the curriculum committee. Students having completed a course prior to its pre-req changing are not required to retake the course (and its new pre-req) if they no longer satisfy the new pre-req(s).

I hereby acknowledge by signing below, that I have read, understand and agree to the five (5) statements above.

Signature

Date

Refer to GSU catalog for official document

Course Sequence - Fall 2017 E6