



Program Approval Form

For approval of new programs and deletions or modifications to an existing program.

Action Requested:

- Create New (SCHEV approval required except for minors)
 Inactivate Existing
 Modify Existing (check **ALL** that apply)

- Title (SCHEV approval required except for minors)
 Concentration (Choose one): Add Delete Modify
 Degree Requirements
 Admission Standards/ Application Requirements
 Other
 Changes: _____

Type (Check one):

- B.A. B.S. Minor
 Master's
 Ph.D.
 Undergraduate Certificate*
 Graduate Certificate*
 Bachelor's/Accelerated Master's Other:

College/School:
Submitted by:

Volgenau School of Engineering
Colin James Reagle

Department: Mechanical Engineering
Ext: 3-1712 Email: creagle@gmu.edu

Effective Term:

Fall 2018

Please note: For students to be admitted to a new degree, minor, certificate or concentration, the program must be fully approved, entered into Banner, and published in the University Catalog.

Justification: (attach separate document if necessary)

Updated to include changes to CHEM 251. New courses ECE 330 and ME 331 added to curriculum replacing ECE 285/286

Program Title: (Required)

Title must identify subject matter. Do not include name of college/school/dept.

Concentration(s):

Admissions Standards / Application Requirements: (Required only if different from those listed in the University Catalog)

Degree Requirements:

Consult University Catalog for models, attach separate document if necessary using track changes for modifications

Existing	New/Modified
Mechanical Engineering	
<p>Engineering Credits: 61 ECE 285 - Electric Circuit Analysis I Credits: 3 ECE 286 - Electric Circuit Analysis II Credits: 3 ME 151 - Practicum in Engineering Credits: 2 ME 211 - Statics Credits: 3 ME 212 - Solid Mechanics Credits: 3 ME 221 - Thermodynamics Credits: 3 ME 231 - Dynamics Credits: 3 ME 311 - Mechanical Experimentation I Credits: 1 ME 313 - Material Science Credits: 3 ME 321 - Mechanical Experimentation II Credits: 1 ME 322 - Fluid Mechanics Credits: 3 ME 323 - Heat Transfer Credits: 3 ME 331 - Mechatronics Credits: 3 ME 341 - Design of Mechanical Elements Credits: 3 or ME 342 - Design of Thermal Systems Credits: 3 ME 352 - Entrepreneurship in Engineering Credits: 3 ME 432 - Control Engineering Credits: 4 ME 443 - Mechanical Design I Credits: 3 ME 444 - Mechanical Design II Credits: 3 ME 453 - Developing the Societal Engineer Credits: 2</p> <p>Technical Electives Credits: 12 ME 431 Systems Dynamics Credits: 3 ME 454 Project Mgmt for Engineers Credits: 3 ME 471 Introduction to Astronautics Credits: 3 ME 498 Independent Study in Mechanical Engineering Credits: 0-3 ME 499 Special Topics in Mechanical Engineering Credits: 0-4</p> <p>Mathematics and Science Credits: 32 CHEM 251 - General Chemistry for Engineers or (CHEM 211 - General Chemistry I Credits: 3 and CHEM 213 - General Chemistry Laboratory I Credits: 1)</p>	<p>Engineering Credits: 61 ECE 330 - Circuit Theory Credits: 3 ME 151 - Practicum in Engineering Credits: 2 ME 211 - Statics Credits: 3 ME 212 - Solid Mechanics Credits: 3 ME 221 - Thermodynamics Credits: 3 ME 231 - Dynamics Credits: 3 ME 311 - Mechanical Experimentation I Credits: 1 ME 313 - Material Science Credits: 3 ME 321 - Mechanical Experimentation II Credits: 1 ME 322 - Fluid Mechanics Credits: 3 ME 323 - Heat Transfer Credits: 3 ME 331 - Mechatronics Credits: 3 ME 341 - Design of Mechanical Elements Credits: 3 or ME 342 - Design of Thermal Systems Credits: 3 ME 352 - Entrepreneurship in Engineering Credits: 3 ME 432 - Control Engineering Credits: 4 ME 443 - Mechanical Design I Credits: 3 ME 444 - Mechanical Design II Credits: 3 ME 453 - Developing the Societal Engineer Credits: 2</p> <p>Technical Electives Credits: 12 ME 431 Systems Dynamics Credits: 3 ME 454 Project Mgmt for Engineers Credits: 3 ME 471 Introduction to Astronautics Credits: 3 ME 498 Independent Study in Mechanical Engineering Credits: 0-3 ME 499 Special Topics in Mechanical Engineering Credits: 0-4</p> <p>Mathematics and Science Credits: 32 CHEM 211 - General Chemistry I Credits: 3 and CHEM 213 - General Chemistry Laboratory I Credits: 1 or (CHEM 271 - Credits: 3 and CHEM 272 - Credits: 1) MATH 113 - Analytic Geometry and Calculus I Credits: 4</p>

MATH 113 - Analytic Geometry and Calculus I Credits: 4
MATH 114 - Analytic Geometry and Calculus II Credits: 4
MATH 213 - Analytic Geometry and Calculus III Credits: 3
MATH 214 - Elementary Differential Equations Credits: 3
ME 351 – Analytical Methods in Engineering Credits: 3
PHYS 160 - University Physics I Credits: 3
PHYS 161 - University Physics I Laboratory Credits: 1
PHYS 260 - University Physics II Credits: 3
PHYS 261 - University Physics II Laboratory Credits: 1

Math/Science Elective Credits: 3

BIOL 213 - Cell Structure and Function Credits: 4
BIOL 309 OR EVPP 309 OR GEOL 309 - Introduction to Oceanography Credits: 3
(CHEM 212 – General Chemistry II Credits: 3 and CHEM 214 – General Chemistry II Laboratory Credits: 1)
CHEM 300 - Chemistry of Semiconductor Processing Credits: 3
CHEM 333 - Physical Chemistry for the Life Sciences I Credits: 3
CLIM OR GEOL 412 - Physical Oceanography Credits: 3
CLIM 411 - Atmospheric Dynamics Credits: 3
CLIM 429 - Atmospheric Thermodynamics Credits: 3
EVPP 210 - Environmental Biology: Molecules and Cells Credits: 4
(PHYS 262 - University Physics III Credits: 3 and PHYS 263 - University Physics III Laboratory Credits: 1)
PHYS 331 - Fundamentals of Renewable Energy Credits: 3
MATH 203 – Linear Algebra Credits: 3
MATH 290 - Introduction to Advanced Mathematics Credits: 3
MATH 301 - Number Theory Credits: 3
MATH 302 - Foundations of Geometry Credits: 3
MATH 312 – Geometry Credits: 3
MATH 313 - Introduction to Applied Analysis Credits: 3
MATH 314 - Introduction to Applied Mathematics Credits: 3
MATH 351 – Probability Credits: 3
MATH 411 - Functions of a Complex Variable Credits: 3
STAT 344 - Probability and Statistics for Engineers and Scientists I Credits: 3
STAT 346 - Probability for Engineers Credits: 3

Computer Science Credits: 4

CS 112 - Introduction to Computer Programming Credits: 4

Communication and Economics Credits: 6

COMM 100 or COMM 101 Credits: 3
ECON 103 - Contemporary Microeconomic Principles Credits: 3

Additional Mason Core Credits: 18

Written Communication Credits: 6
Literature Credits: 3
Arts Credits: 3
Western Civilization/World History Credits: 3
Global Understanding Credits: 3

Writing Intensive Requirement

Mason's writing-intensive requirement is satisfied by ME 444 – Mechanical Design II (pending approval).

Synthesis Requirement

MATH 114 - Analytic Geometry and Calculus II Credits: 4
MATH 213 - Analytic Geometry and Calculus III Credits: 3
MATH 214 - Elementary Differential Equations Credits: 3
ME 351 – Analytical Methods in Engineering Credits: 3
PHYS 160 - University Physics I Credits: 3
PHYS 161 - University Physics I Laboratory Credits: 1
PHYS 260 - University Physics II Credits: 3
PHYS 261 - University Physics II Laboratory Credits: 1

Math/Science Elective Credits: 3

BIOL 213 - Cell Structure and Function Credits: 4
BIOL 309 OR EVPP 309 OR GEOL 309 - Introduction to Oceanography Credits: 3
(CHEM 212 – General Chemistry II Credits: 3 and CHEM 214 – General Chemistry II Laboratory Credits: 1)
CHEM 300 - Chemistry of Semiconductor Processing Credits: 3
CHEM 333 - Physical Chemistry for the Life Sciences I Credits: 3
CLIM OR GEOL 412 - Physical Oceanography Credits: 3
CLIM 411 - Atmospheric Dynamics Credits: 3
CLIM 429 - Atmospheric Thermodynamics Credits: 3
EVPP 210 - Environmental Biology: Molecules and Cells Credits: 4
(PHYS 262 - University Physics III Credits: 3 and PHYS 263 - University Physics III Laboratory Credits: 1)
PHYS 331 - Fundamentals of Renewable Energy Credits: 3
MATH 203 – Linear Algebra Credits: 3
MATH 290 - Introduction to Advanced Mathematics Credits: 3
MATH 301 - Number Theory Credits: 3
MATH 302 - Foundations of Geometry Credits: 3
MATH 312 – Geometry Credits: 3
MATH 313 - Introduction to Applied Analysis Credits: 3
MATH 314 - Introduction to Applied Mathematics Credits: 3
MATH 351 – Probability Credits: 3
MATH 411 - Functions of a Complex Variable Credits: 3
STAT 344 - Probability and Statistics for Engineers and Scientists I Credits: 3
STAT 346 - Probability for Engineers Credits: 3

Computer Science Credits: 4

CS 112 - Introduction to Computer Programming Credits: 4

Communication and Economics Credits: 6

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Written Communication Credits: 6
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Writing Intensive Requirement

Mason's writing-intensive requirement is satisfied by ME 444 – Mechanical Design II (pending approval).

Synthesis Requirement

Mason's synthesis requirement for mechanical engineering majors is satisfied by ME 444 - Mechanical Design II.

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Courses offered via distance:
(if applicable)

TOTAL CREDITS REQUIRED:

*For Certificates Only: Indicate whether students are able to pursue on a Full-time basis Part-time basis

Approval Signatures


 Department _____ Date 12/11/17

 College/School _____ Date 1/9/18

 Date _____

Provost's Office _____ Date _____
Required for Minors and Interdisciplinary Programs

If this program may impact another unit or is in collaboration with another unit at Mason, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date

For Undergraduate Programs only

Undergraduate Council Member _____ Provost Office _____ Undergraduate Council Approval Date _____

For Graduate Programs Only

Graduate Council Member _____ Provost Office _____ Graduate Council Approval Date _____

For Registrar Office's Use Only: Received _____ Banner _____ Catalog _____ revised 9/2/2016