Program Change Request

Date Submitted: 02/26/21 10:27 am

Viewing: : Mechanical Engineering, BS/Applied and Engineering Physics, Accelerated MS

Last approved: 02/01/21 12:51 pm

Last edit: 07/12/21 9:16 am

Changes proposed by: jbazaz

Catalog Pages
Using this Program

Applied and Engineering Physics, MS

Mechanical Engineering, BS

2021-2022

Rationale for

Are you completing this form on someone else's behalf?

Yes

Requestor:

In Workflow

1. **Registrar-Programs:Workflow Review**
2. **ME Chair-Undergraduate**
3. **VS Undergraduate Studies Committee Chair**
4. **PHYS Chair**
5. **SC Curriculum Committee**
6. VS Associate Dean-Undergraduate
7. SC Associate Dean
8. VS CAT Editor-Graduate
9. SC CAT Editor
10. Assoc Provost-Graduate
11. Assoc Provost-Undergraduate
12. Registrar-Programs

Approval Path

1. 02/26/21 6:43 pm Johanna Riemen (jriemen): Approved for Registrar-Programs:Workflow Review
2. 04/02/21 3:14 pm Colin Reagle (creagle): Approved for ME Chair-Undergraduate
3. 04/28/21 1:13 pm Colin Reagle (creagle): Approved

for VS Undergraduate Studies Committee Chair

4. 10/25/21 2:05 pm Paul So (paso): Approved for PHYS Chair

History

1. Feb 7, 2019 by Jennifer Bazaz Gettys (jbazaz)
2. Feb 1, 2021 by Colin Reagle (creagle)

Name	Extension	Email
Chi Yang	4077	cyang

Effective Catalog: 2021-2022

Program Level: Undergraduate & Graduate (BAMs)

Program Type: Bachelor's/Accelerated Master's

Degree Type:

Title: Mechanical Engineering, BS/Applied and Engineering Physics, Accelerated MS

Banner

Is this a retitling of an existing

Existing Program

Registrar/OAPI Use Only – SCHEV

Registrar's Office Use Only – Program Start Term

Registrar/OAPI Use Only – SCHEV

Registrar/OAPI Use Only – SACSCOC Status

Concentration(s):

INTO Major(s):

Registrar/IRR Use Only –

College/School:	College of Science
Department / Academic Unit:	Physics & Astronomy
Jointly Owned Program?	Yes

Participating Colleges

	College
1	**College of Engineering and Computing** ~~Volgenau School of Engineering~~

Participating Departments

	Department
1	Mechanical Engineering

Justification Adding PHYS 613 as a suggested course for UG students to take in this accelerated pathway.

Catalog Published Information

Total Credits

Registrar's Office Use Only - Program Code:

Registrar/IRR Use Only – Program CIP

Admission Requirements:

Program-Specific Policies:

Degree Requirements:

Retroactive Requirements:

Plan of Study:

Honors Information:

Accelerated Description/Dual Degree Description:

Mechanical Engineering, BS/Applied and Engineering Physics, Accelerated MS

Overview

This program allows academically strong undergraduates with a demonstrable commitment to research to obtain the Mechanical Engineering, BS and Applied and Engineering Physics, MS degrees by successfully completing 139 credits. Upon completion, students are well-prepared for entering into the professional workforce, or a PhD program in physics or a related engineering discipline.

Admitted students take selected graduate courses during their senior year and are able to use up to 12 graduate credits in partial satisfaction of requirements for the undergraduate degree. Upon completion and conferral of the bachelor's degree and with satisfactory performance (grade of 'B' or better) in each of the graduate courses, students are given advanced standing in the master's program and complete an additional 18 credits to receive the master's degree.

For more detailed information, see AP.6.7 Bachelor's/Accelerated Master's Degrees. For policies governing all graduate degrees, see AP.6 Graduate Policies.

Application Requirements

Applicants to all graduate programs at George Mason University must meet the admission standards and application requirements for graduate study as specified in the Graduate Admission Policies section of this catalog.

Successful applicants majoring in Mechanical Engineering will have completed at least 60 credits toward their undergraduate degree with an overall GPA of at least 3.00, and the following courses with a GPA of 3.00 or better:

CS 112	Introduction to Computer Programming	4
ME 212	Solid Mechanics	3
ME 231	Dynamics	3
ME 313	Material Science	3
ME 322	Fluid Mechanics	3
ME 323	Heat Transfer	3
ME 351	Analytical Methods in Engineering	3

One or more recommendation letters from one or more research supervisors are also required. Interested applicants majoring in Mechanical Engineering, BS should submit a letter to the undergraduate Mechanical Engineering coordinator and the Physics Graduate Coordinator, respectively, requesting admission along with the aforementioned recommendation letter(s). Contact the Mechanical Engineering undergraduate and the Physics graduate coordinator for further details.

Students who are accepted into the BAM Pathway will be allowed to register for graduate level courses after successful completion of a minimum of 75 undergraduate credits and course-specific pre-requisites

Accelerated Option Requirements

At the beginning of the student's final undergraduate semester, students must submit a bachelor's/accelerated master's transition form to the College of Science's Office of Academic and Student Affairs. Students must begin their master's program in the semester immediately following conferral of the bachelor's degree.
Students must maintain an overall GPA of 3.00 or higher in graduate coursework.

Reserve Graduate Credit

While still in undergraduate status, a maximum of 6 additional graduate credits may be taken as reserve graduate credit and applied to the master's program. Reserve graduate credits do not apply to the undergraduate degree.

Graduate Course Suggestions

The following list of suggested courses is provided for general reference. To ensure an efficient route to graduation and career-readiness, students are strongly encouraged to meet with an advisor before registering for graduate-level courses.

PHYS 510	Computational Physics I	3
PHYS 613	**Computational Physics II**	**3**
PHYS 620	Continuum Mechanics	3
PHYS 690	Engineering Thermodynamics	3

INTO-Mason Requirements:

College Requirements & Policies:

Department / Academic Unit Requirements & Policies:

Program Outcomes

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if

Indicate whether students are able

What is the primary delivery format for the program?

Does any portion of this program occur off-campus?

Off-campus details:

Are you working with a vendor / other collaborators to offer your program?

Please explain:

Related Departments

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

Additional SCHEV & SACSCOC Information

Are you changing the total number of credits required for this program?

Are you changing the delivery format in any way (e.g adding an online option)?

Are you adding/removing a licensure option which was approved by SCHEV?

Will any portion of this program be offered at an off-campus location?

What off-campus location(s)? List all

What percentage of credits toward this program are offered at the off-campus location(s)? Please list percentages by site (i.e. 15% at Site A, 35% at Site B etc.)

Will this program change affect any specialized accreditation?

Is the content of the new program closely related to that of an existing approved program?

Which existing approved program(s)?

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

Which existing approved program(s)?

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

Which existing approved program(s)?

Does this change represent a repackaging of content in an existing approved degree/certificate program?

Which existing approved program(s)?

Percentage of total credits containing new course content, excluding gen ed courses for undergraduate programs. ("New content" means content that is not currently included in an existing approved degree/certificate program.) Please choose a percentage (i.e. 0%-100%)

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program?

Green Leaf Designation

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated substance equivalent to a sustainability-focused course.

Relationship to Existing Courses

Relationship to Existing Programs

List sustainability-focused courses currently required in the degree

Sustainability-related academic programs either require at least one sustainability-related course or else offer any green leaf course as an option or elective. *

List sustainability-related courses currently required in the degree

Does this program cover material which crosses into another department?

Impacted Departments

Additional Attachments PHYS_BS_ME_BS_PHAE_MS_ProgramApprovalForm_COSCC.pdf

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi_required.eschtml%

Attached Document

%attach_document.eschtml%

Key: 739