

## Request for Graduate Addition, Deletion, or Change of a Major or Degree

**NOTE:** Before you submit a request for a new Major or Degree, you must submit an INTENT TO PLAN form. Only after the INTENT TO PLAN goes through the approval process are you ready to submit this request for a new Major or Degree. For detailed information on new programs please see: <http://wvhepcdoc.wvnet.edu/resources/133-11.pdf>.

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
2. E-mail one PDF copy without signatures to the Graduate Council Chair.
3. **The Graduate Council cannot process this application until it has received both the PDF copy and the signed hard copy.**

College: CITE

Dept/Division: WDoE

ENGINEERING

Contact Person: Dr. Asad Salem

Phone: x-63207

Degree Program Master of Science in Mechanical Engineering

Check action requested:  Addition  Deletion  Change

Effective Term/Year

Fall 20

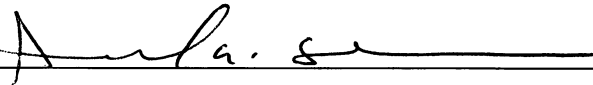

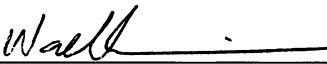
18

Spring 20

Summer 20

**Information on the following pages must be completed before signatures are obtained.**

Signatures: if disapproved at any level, do not sign. Return to previous signer with recommendation attached.

Dept. Chair/Division Head		Date	9-22-17
College Curriculum Chair		Date	10/3/17
College Dean		Date	11/13/2017
Graduate Council Chair		Date	
Provost/VP Academic Affairs		Date	
Presidential Approval		Date	
Board of Governors Approval		Date	

## Request for Graduate Addition, Deletion, or Change of a Major or Degree-Page 2

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Please provide a rationale for addition, deletion, change: (May attach separate page if needed)

This is to eliminate the Project option from degree completion requirements. The project option is not a research based option. This proposed change limits degree seeking students to two options: Thesis option or Coursework option. Eliminating "project option" will encourage students to choose the Thesis option" and prompt research. It will strengthen the Thesis option by increasing the faculty participation in student advising and research. Stronger thesis options and increasing graduate students participation in research may enhance faculty and graduate students recruitment and retention. The Thesis option will, also, encourage students to get involved in scholarly activities which will enhance more publications in good peer reviewed journals and proceedings. It will, also, enhance their chances in attracting research grants from external sources.

Please describe any changes in curriculum:

List course number, title, credit hours. Note whether each course is required or optional. Enter NONE if no change. (May attach separate page if needed)

Eliminate Project option from degree requirement. Students may choose to complete either the "thesis option," or the "coursework only option" after consultation with their academic advisor.

**1. ADDITIONAL RESOURCE REQUIREMENTS:** If your program requires additional faculty, equipment or specialized materials to ADD or CHANGE this major or degree, attach an estimate of the time and money required to secure these items.

NOTE: Approval of this form does not imply approval for additional resources. Enter NONE if not applicable.

None

**2. NON-DUPLICATION:** If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the request and any response received from them. Enter NONE if not applicable.

None

***For catalog changes as a result of the above actions, please fill in the following pages.***

## Request for Graduate Addition, Deletion, or Change of a Major or Degree-Page 3

### 3. *Current* Catalog Description

Insert the *Current* Catalog Description and page number from the latest catalog for entries you would like to change.  
(May attach separate page if needed)

See the attached.

### 4. *Edits* to the *Current* Description

Attach a PDF copy of the current catalog description prepared in MS WORD with strikethroughs to mark proposed deletions and use the highlight function to indicate proposed new text.

## Request for Graduate Addition, Deletion, or Change of a Major or Degree-Page 4

### 5. New Catalog Description

Insert a 'clean' copy of your proposed description, i.e., no strikethroughs or highlighting included. This should be what you are proposing for the new description. (May attach separate page if needed)

See the attached

## Request for Graduate Addition, Deletion, or Change of a Major or Degree-Page 5

Please insert in the text box below your change summary information for the Graduate Council agenda. Please enter the information exactly in this way (including headings):

Department:

Major or Degree:

Type of Change: (*addition, deletion, change*)

Rationale:

Department: The Weisberg Division of Engineering

Major or Degree: Ms. ME

Type of Change: Change

Rationale: This is to eliminate the Project option from degree completion requirements. The project option is not a research based option. This proposed change limits degree seeking students to two options: Thesis option or Coursework option. Eliminating "project option" will encourage students to choose the Thesis option" and prompt research. It will strengthen the Thesis option by increasing the faculty participation in student advising and research. Stronger thesis options and increasing graduate students participation in research may enhance faculty and graduate students recruitment and retention. The Thesis option will, also, encourage students to get involved in scholarly activities which will enhance more publications in good peer reviewed journals and proceedings. It will, also, enhance their chances in attracting research grants from external sources.

### 3. Current Catalog Description

#### Degree Requirements

Each degree candidate is required to complete at least **30-33** graduate credit hours, depending on the “option” chosen below (project, thesis, or coursework only), with a cumulative Grade Point Average of 3.0 for the courses included in the student’s Plan of Study. At least one-half of the minimum required hours for the degree must be earned in classes numbered 600 or above.

Each degree-seeking student must file an approved “Plan of Study,” developed with a faculty advisor, before the student registers for the 12th credit hour. The M.S. degree in Mechanical Engineering requires a student to take a sequence of courses that shows a “clearly discernible specialty or concentration.” In consultation with his/her advisor, an M.S. student can develop a concentration specifically tailored to his/her interests and objectives, Focus areas include sustainability, materials and manufacturing, bio-mechanical engineering, thermal science, mechanics, design, robotics, and vibrations, controls, and power generation/energy systems. At least three of the Elective Courses (9 CR) must be within the student’s Focus Area at the 600-level.

**Students may choose to complete either the “project option,” the “thesis option,” or the “coursework only option” after consultation with their academic advisor.**

**Project Option (30 hours). The comprehensive project involves the application of coursework completed as part of the degree to a practical problem. Students will work with their advisor to identify an appropriate project and scope. Students must prepare a formal written report and deliver an oral presentation to a committee. Students register for ENGR 699 Comprehensive Project (3 HR) during the semester in which their project will be completed and presented, but preliminary work on the project may commence before that semester.**

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs

ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

ME 604 Research Methods 3 hrs

Five (5) Elective Courses 15 hrs

ENGR 699 Comprehensive Project 3 hrs

**Thesis Option (30 hours). The thesis option involves the completion of 6 HR of research (ENGR 681) under the direction of an advisor on an approved project. The student must prepare a formal thesis proposal (including a statement of work, extensive literature search, and proposed timeline) in consultation with their advisor and present the proposal to their graduate thesis committee, which is formed in consultation with their advisor. The thesis proposal must be defended and approved by the thesis committee prior to the final semester of study (typically completed during first semester of ENGR**

682). Students must then summarize their research work in the form of a formal, written thesis and successfully defend it before their thesis committee in order to fulfill the requirements for the degree (typically completed during second semester of ENGR 682). Thesis work is typically conducted over two semesters.

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs

ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

ME 604 Research Methods 3 hrs

Four (4) Elective Course 12 hrs

ENGR 682 Research 6 hrs

Coursework Only Option (**33** hours). Students can complete **33** hours of coursework and then complete a comprehensive examination within the last two semesters of graduation to fulfill the requirements of their degree. Examinations will be administered once per semester for all students.

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs

ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

Eight (8) Elective Courses 24 hrs

#### **4. Edits of the Current Description**

##### **Degree Requirements**

Each degree candidate is required to complete at least ~~30-33~~ graduate credit hours, depending on the "option" chosen below (project, thesis, or coursework only), with a cumulative Grade Point Average of 3.0 for the courses included in the student's Plan of Study. At least one-half of the minimum required hours for the degree must be earned in classes numbered 600 or above.

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~~Project Option (30 hours). The comprehensive project involves the application of coursework completed as part of the degree to a practical problem. Students will work with their advisor to identify an appropriate project and scope. Students must prepare a formal written report and deliver an oral presentation to a committee. Students register for ENGR 699 Comprehensive Project (3 HR) during the semester in which their project will be completed and presented, but preliminary work on the project may commence before that semester.~~

~~ENGR 570 Finite Element Analysis 3 hrs~~

~~ME 601 Advanced Engineering Analysis I 3 hrs~~

~~ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs~~

~~ME 604 Research Methods 3 hrs~~

~~Five (5) Elective Courses 15 hrs~~

~~ENGR 699 Comprehensive Project 3 hrs~~

Thesis Option (30 hours). The thesis option involves the completion of 6 HR of research (ENGR 681) under the direction of an advisor on an approved project. The student must prepare a formal thesis proposal (including a statement of work, extensive literature search, and proposed timeline) in consultation with their advisor and present the proposal to their graduate thesis committee, which is formed in consultation with their advisor. The thesis proposal must be defended and approved by the thesis committee prior to the final semester of study (typically completed during first semester of ENGR 682). Students must then summarize their research work in the form of a formal, written thesis and successfully defend it before their thesis committee in order to fulfill the requirements for the degree (typically completed during second semester of ENGR 682). Thesis work is typically conducted over two semesters.

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs

ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

ME 604 Research Methods 3 hrs

Four (4) Elective Course 12 hrs

ENGR 682 Research 6 hrs

Coursework Only Option (~~33~~ 30 hours). Students can complete ~~33~~ 30 hours of coursework and then complete a comprehensive examination within the last two semesters of graduation to fulfill the requirements of their degree. Examinations will be administered once per semester for all students.

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs



ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

~~Eight (8)~~ Seven (7) Elective Courses 24 21 hrs

## 5. New catalog Description

### Degree Requirements

Each degree candidate is required to complete at least **30** graduate credit hours, with a cumulative Grade Point Average of 3.0 for the courses included in the student's Plan of Study. At least one-half of the minimum required hours for the degree must be earned in classes numbered 600 or above.

Each degree-seeking student must file an approved "Plan of Study," developed with a faculty advisor, before the student registers for the 12th credit hour. The M.S. degree in Mechanical Engineering requires a student to take a sequence of courses that shows a "clearly discernible specialty or concentration." In consultation with his/her advisor, an M.S. student can develop a concentration specifically tailored to his/her interests and objectives, Focus areas include sustainability, materials and manufacturing, bio-mechanical engineering, thermal science, mechanics, design, robotics, and vibrations, controls, and power generation/energy systems. At least three of the Elective Courses (9 CR) must be within the student's Focus Area at the 600-level.

Students may choose to complete either the "thesis option," or the "coursework only option" after consultation with their academic advisor.

Thesis Option (30 hours). The thesis option involves the completion of 6 HR of research (ENGR 681) under the direction of an advisor on an approved project. The student must prepare a formal thesis proposal (including a statement of work, extensive literature search, and proposed timeline) in consultation with their advisor and present the proposal to their graduate thesis committee, which is formed in consultation with their advisor. The thesis proposal must be defended and approved by the thesis committee prior to the final semester of study (typically completed during first semester of ENGR 682). Students must then summarize their research work in the form of a formal, written thesis and successfully defend it before their thesis committee in order to fulfill the requirements for the degree (typically completed during second semester of ENGR 682). Thesis work is typically conducted over two semesters.

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs

ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

ME 604 Research Methods 3 hrs

Four (4) Elective Course 12 hrs

ENGR 682 Research 6 hrs

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Coursework Only Option (30 hours). Students can complete 30 hours of coursework and then complete a comprehensive examination within the last two semesters of graduation to fulfill the requirements of their degree. Examinations will be administered once per semester for all students.

ENGR 570 Finite Element Analysis 3 hrs

ME 601 Advanced Engineering Analysis I 3 hrs

ME 602 Advanced Engineering Analysis II (or ENGR 610 with advisor approval) 3 hrs

Seven (7) Elective Courses 21 hrs