

Graduate Intent to Plan--Major or Degree

NOTE: This "Intent to Plan" form must be submitted and go through the approval process BEFORE you submit the form titled, "Request for Graduate Addition, Deletion or Change of a 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. If attachments are included, please merge into a single file.
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: Weisberg Division of Engineering _____

Contact Person: Dr. Asad Salem _____

Phone: 304-696-3207 _____

New Degree Program MS. in Electrical and Computer Engineering-MSEE _____

Effective Term/Year Fall 20 17 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 <u>Asad a. Salem</u>	Date <u>10-12-15</u>
College Curriculum Chair <u>Waelld</u>	Date <u>10-12-15</u>
College Dean <u>Waelld</u>	Date <u>10/23/2015</u>
Graduate Council Chair <u>Christofero</u>	Date <u>12-8-15</u>
Provost/VP Academic Affairs _____	Date _____
Presidential Approval _____	Date _____
Board of Governors Approval _____	Date _____

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Please provide a rationale for new degree program: (May attach separate page if needed)

Please refer to the attached Application

1. ADDITIONAL RESOURCE REQUIREMENTS: If your new program requires additional faculty, equipment or specialized materials, 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.

Please refer to the attached Application.

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.

The new MSEE degree program does not duplicate any existing graduate programs.

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

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)

Please refer to the attached Application.

Graduate Intent to Plan--Major or Degree-Page 4

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

Department:

New Major or Degree:

Credit Hours:

Rationale:

Department: The Weisberg Division of Engineering

New Major or Degree: Master of Science in Electrical and Computer Engineering- MSEE

Credit Hours: 30-33 Credit Hours

Rationale: Please refer to the attached Application

College of Information Technology and Engineering

Office of the Dean

Divisions: Weisberg Division of Engineering; Weisberg Division of Computer Science; Division of Applied Science and Technology

November 4, 2015

Dr. Tracy Christofero
Chair
Graduate Council

Dear Dr. Christofero,

The Intent to Plan for the Master of Science in Electrical and Computer Engineering degree (M.S.E.E.) submitted by the Weisberg Division of Engineering has been reviewed and approved by the Dean and Curriculum Committee of the College of Information Technology and Engineering (CITE). This proposal has the full support of the College and is recommended for approval.

Sincerely,



Dr. Wael Zatar
Dean
College of Information Technology and Engineering

WE ARE... MARSHALL.

**Graduate Intent to Plan
Master of Science in Electrical and Computer Engineering (MSEE)
Proposed Implementation Date: Fall 2017**

**College of Information Technology and Engineering
Wael Zatar, Dean
zatar@marshall.edu**

**Weisberg Division of Engineering
Asad Salem, Chair
salema@marshall.edu**

September 30, 2015

Graduate Intent to Plan
Degree: Master of Science in Electrical and Computer Engineering (MSEE)
Major: Electrical Engineering
Weisberg Division of Engineering

Brief Program Description:

This is an Intent to Plan for a Master's of Science in Electrical and Computer Engineering Program (MSEE) by the Weisberg Division of Engineering of the College of Information Technology and Engineering (CITE) to graduate electrical and computer engineers for meeting West Virginia's increasing technological demands. Graduates of this Program will contribute to West Virginia's economic development, advance its competitive edge globally and contribute to improvement in the quality of life.

A master's degree in electrical and computer engineering (MSEE) provides additional breadth and depth of knowledge, positioning graduates for technical leadership and specialization in industry. Candidates develop skills such as analysis, resourcefulness, ingenuity, responsibility and perseverance through research activities. The proposed MSEE will significantly increase graduate students enrollment at Marshall University from local, national and international sources. The INTO program recruiters in China and India have indicated that they can recruit large number of students to study MSEE at Marshall University once the program is in place. The MSEE will enable the introduction of an Accelerated Master's Degree (AMD or 4+1) program in BSEE. AMD allows outstanding undergraduate students to complete a traditional four-year Bachelor's degree in Electrical and Computer Engineering and then, with one additional year, earn a Master's degree. AMD will help attract more highly motivated undergraduate students to Marshall University. MSEE degree program is essential to attract and retain qualified faculty members in EE. Also, research is an integral part of a faculty member's career to stay abreast in a rapidly evolving field such as EE. MSEE program is critical to helping faculty members stay current and also contributes to keeping the BSEE program current and relevant.

This proposed MSEE program is to be established on the foundation of the currently under-review BSEE program. Therefore, both programs are to share same resources. The program will cost approximately \$1.12 million during its first five years, of which about \$150,000 will be used to develop needed laboratories. The program is expected to generate \$1.85-2.49 million in revenues during the first five years. Enrollment is expected to increase over this period; it is expected that, after the first five years, 35 students will have graduated with a MSEE degree and approximately 46 students will be actively pursuing a MSEE degree at MU.

1. Rationale for the New Degree Program

This is an Intent to Plan for a Master's of Science in Electrical and Computer Engineering Program MSEE by the Weisberg Division of Engineering of the College of Information Technology and Engineering (CITE) to prepare mechanical engineers for meeting the increasing technological demands for West Virginia and the surrounding region. Graduates of this Program will contribute to the region's economic development, advance its competitive edge globally and contribute to improvement in the quality of life.

Electrical engineering is a field of engineering that generally deals with the study and application of electricity, electronics, and electromagnetism. The fields of Electrical and computer engineering cover a wide range of subfields including electronics, power engineering, telecommunications, control systems, radio-frequency engineering, signal processing, instrumentation, microelectronics, digital systems including hardware, software, compilers and operating systems, coding, cryptography, network, mobile and distributed computing system, and cyber physical systems and security. As such, the MSEE program at Marshall University (MU) will prepare graduates with a MSEE with two areas of emphasis: general electrical engineering, and computer engineering. It will, also, emphasize service, systems-based knowledge, and sustainability with an eye toward the interface of traditional electrical and computer engineering with new and emerging fields.

The U.S. Department of Labor, Bureau of Statistics, reported that nationwide, the number of electrical and computer engineers and closely related jobs grew by 11 % between 2006 and 2014 (from 216,000 to 240,000); and it is expected to grow to about 290,000 in year 2022. The U.S. Census Bureau (Field of Bachelor's Degree in the US: 2009; Issued February 2012) reported that there are 4.452 million engineers of 25 years and over in the USA; with 1.410 million in the age bracket of 25-39 and 2.252 million in the age bracket of 40-64. Therefore; the overall job opportunities in engineering are expected to be good because the number of engineering graduates should be in rough balance with the number of job openings between 2010 and 2020. In addition to openings from job growth, many openings will be created by the need to replace current engineers who retire or transfer to management, sales, or other occupations; or leave engineering for other reasons. Therefore, in the next 20-25 years US academic institutions are expected to graduate, on average, about 125,000 engineers per year to keep up with demands. The American Society of Engineering Education (ASEE), in its annual report (Engineering by the Number-2011; www.asee.org/colleges) reported that in 2010-2011, all US Institutions graduated only 83, 001 engineers of which 6.7% were nonresident aliens.

Employment of engineers is expected to grow about as fast as the average for all occupations over the next decade, but growth will vary by specialty. Electrical and computer engineers are projected to have about 20 percent employment growth over the projected decade, slower than the average for all occupations. But, some new job opportunities will be created due to emerging technologies in biotechnology, smart grid, power systems, cyber systems and security, and mobile technologies. Additional opportunities outside of electrical and computer engineering will exist because the skills acquired through earning a degree in electrical/computer engineering often can be applied in other engineering specialties.

Competitive pressures and advancing technology will force companies to improve and update product designs and to optimize their manufacturing processes. Employers will rely on engineers to increase productivity and expand output of goods and services. New technologies continue to improve the design process, enabling engineers to produce and analyze various product designs much more rapidly than in the past. Unlike some other occupations, however, technological advances are not expected to substantially limit employment opportunities in engineering because engineers will continue to develop

new products and processes that increase productivity.

In West Virginia, as reported by many industrial leaders, a substantial percentage of all engineering jobs in the state are filled by graduates of out-of-state or foreign institutions. There are more than thirty large businesses in the Tri-State region that employ electrical or computer engineers. In recent years, many of these companies have had difficulty hiring qualified engineers and also had difficulty retaining them longer than five years. Local leaders assert that a substantial problem for them is the absence of a MSEE in this region of the State to support local industries. Sample letters of support are available in Appendix B.

A Master's degree is often necessary to land certain jobs or for career advancement within certain disciplines of electrical and computer engineering. Many careers that require a master's degrees are typically found in sectors such as research and product development. Electrical or computer engineers with a Master's degree often benefit from higher pay and increased job responsibilities. While the technical abilities are essential, employers value Master's holders for their organization, independence, problem solving, fast learning, commitment, flexibility, leadership, and communication skills.

A Master's degree in electrical or computer engineering provides additional breadth and depth of knowledge, positioning graduates for technical leadership and specialization in industry. Candidates develop skills such as analysis, resourcefulness, ingenuity, responsibility and perseverance through research activities. These skills make employees more successful and give them a greater opportunity to work on more interesting projects. In the longer term, these skills are more important than the specialty, and the better skills of Master's degree holders will serve them well. U.S. data (across all areas of engineering) show that the unemployment rate for Bachelor's degree holders is 4.5% and for Master's degree holders is 3.0%.

The economy of the future will be driven by innovation and knowledge. R&D to fuel innovation is largely conducted by graduate degree holders, yet USA in general and West Virginia in particular lags seriously in producing them. USA ranks 14th in the world for the fraction of its population graduating with a graduate degree (behind almost every other industrialized country a relatively smaller fraction is in engineering than is typical of peer nations). The need to take action for maintaining technological leadership of the United States is progressively becoming more urgent. Developing cutting-edge technology through cultivating innovation is critically important in the global competitive environment. Engineering education is one of the most important aspects of this innovation-cultivating process. Many states are now recognizing a shortage of engineers and are taking actions to address this urgent problem.

Enrollment in engineering related Master's degrees grew to about 113,000 in 2013, representing a 6 percent above the previous year. In the 2012-13 academic year, there were 19,452 students enrolled in MSEE programs and related fields nationwide (engineering enrollment 2012-13, www.asee.org/college) at a rate of 66 per million capita. The total enrollment in state supported MSEE programs in West Virginia was estimated to be 102 students in Fall 2013 at a rate of 53 per million capita—13 per million lower than the national average.

Given the above backdrop and especially the opportunities presented by renewable energy, distributed power systems, telecommunications, controls, and computers and cyber security, introducing a MSEE degree at Marshall University is of strategic importance for the following reasons:

- There is only one Electrical and Computer Engineering Master's Degree program in the state

of West Virginia, which is located at the West Virginia University. Given the high demand for Electrical and Computer Engineering (EE) graduate education and excellent job opportunities, there is a need for an additional master's programs to serve southern West Virginia and the Tri-State region.

- Marshall University Bachelor of Science in Engineering (BSE) recent graduates have gone to other institutions such as the Ohio State University, University of Michigan, Purdue University, and others to pursue graduate studies in engineering. Once West Virginia students leave the state to pursue graduate engineering degrees elsewhere, they are less likely to come back to the state after graduation. The MU MSEE program will help keep more West Virginia EE students in the state and potentially attract outside students to the state.
- Given the rapid advances in the electrical and computer engineering (EE) disciplines, a n MSEE degree program is essential for providing BSEE students an educational experience that reflects current advances and practices in the field. MSEE program provides a research-oriented academic environment that helps to attract more students into the BSEE program.
- MSEE will enable the introduction of an Accelerated Master's Degree (AMD or 4+1) program in BSEE. AMD allows outstanding undergraduate students to complete a traditional four-year Bachelor's degree in Electrical and Computer Engineering and then, with one additional year, earn a Master's degree. AMD will help attract more highly motivated undergraduate students to Marshall University.
- MSEE degree will significantly increase graduate student enrollment at Marshall University through both direct and INTO program channels. The INTO program recruiters in China and India have indicated that they can recruit large number of students to study MSEE at Marshall University once the program is in place. This is not surprising given the current and future EE job growth rates in the US and globally.
- MSEE degree program is essential to attract and retain qualified faculty members in EE. Research is an integral part of a faculty member's career to stay abreast in a rapidly evolving field such as EE. MSEE program is critical to helping faculty members stay current and also contributes to keeping the BSEE program current and relevant. MSEE students will be able to serve as research assistants and work on research being conducted by faculty members.
- Even at the current research activity level at Marshall University, MSEE graduate students will be able to help advance collaborative research opportunities for MU faculty by effectively utilizing advanced computational and analytical research tools. Especially faculty of School of Medicine and bio-medical fields. MSEE program will contribute to interdisciplinary research at Marshall University.
- With shrinking state financial support to Marshall University, it is critical that academic departments acquire advanced and specialized laboratory instruments to support instruction through external funding. MSEE degree program will help make proposals more competitive.

1.1 Duplication

This is a new program, it does not duplicate any other program within the university.

2. New Catalog Description

2.1 Program Description

The Master of Science in Electrical and Computer Engineering (MSEE) degree is designed to provide students with the knowledge, skill, and professional practices needed to develop and design electrical and computer engineering related systems. The program also prepares students who desire to pursue further graduate work leading to a Ph.D. degree.

2.2 Admission Requirements

Applicants should follow the admissions process as stated in the graduate catalog or the graduate admissions web site. Each applicant for admission to the MSEE degree program must have a four-year Bachelor's degree in Electrical Engineering, Computer Engineering or a closely related area and meet one of the following (A or B) admission requirement options:

- A. Have an undergraduate GPA of 3.00 or greater, or
- B. Have an undergraduate GPA of 2.50 up to 2.99, and have at least two of the following: (1) Pass the FE exam, (2) verbal GRE score at least 151, (3) quantitative GRE score at least 150, and (4) analytical writing GRE score at least 4.0. Foreign nationals must score in the IELTS Band 5.5 or iBT TOEFL score of at least of 85, and must have met all other admission criteria prior to registering for the first semester of courses.

Applicants must submit official transcripts of all college-level courses. Whether a student meets the above prerequisite course requirements will be determined by the division chair or designee based on the information provided in the admission application and transcripts.

2.3 Degree Requirements

The MSEE degree requires 30 credit hours (CR) of graduate work for thesis and design project options, and 33 CR for coursework- only option. Design project option students must complete a Design Project as one of their Graduate Electives. At least 18 CR must come from 600-level courses. The 30 or 33 CR is comprised of the following components:

2.3.1 Core Courses (12 CR):

All graduate students in the MSEE program are required to complete four required core courses:

1. EE-601 Electrical Engineering Analysis
2. EE-602 Random Signals and Noise
3. EE-603 Adv. Electrical Engineering Analysis
4. EE-604 Research Methods (another 600-level EE course approved by the advisor and department head can be substituted for the coursework-only option).

2.3.2 Focus Courses (9 CR):

All graduate students in the MSEE program must develop a graduate focus area of study, with prior approval from their adviser and the department head. The focus area should consist of at least 9 CR of graduate study in electrical and computer engineering (EE 600 or higher) and be related to the student's technical and professional development interests. Examples of focus areas include power, signal processing, control and embedded systems, communications, and integrated systems, computer architecture, computer vision and machine intelligence, and network and security

2.3.3 Elective Course (3 – 12 CR):

Graduate students pursuing the Thesis Option must complete a minimum of 3 CR of elective courses. Graduate students pursuing the Design Project Option must complete a minimum of 6 CR of elective courses. Graduate students pursuing the Coursework Only Option must complete a minimum of 12 CR of elective courses. The elective courses must be approved by the advisor.

2.3.4 Comprehensive Assessment (3-6 CR)

Thesis Option (6 CR): Prior to completing 12 semester credit hours of graduate work, students should prepare and present a formal thesis proposal to their faculty advisor. An acceptable proposal (including a statement of work, extensive literature search, and proposed timeline), signed by the student and approved by their faculty advisor and department head, is required prior to registering for thesis credits. Students must form a graduate thesis committee in coordination with their advisor and present their proposal to their committee for review and approval during the first semester in which they have registered for thesis credit. Students are required to deliver a successful written and oral presentation of their thesis

2.3.5 Design Project Option (3 CR): A design project for not more than 3 credits resulting in a written report. A project approval form must be submitted within the first semester in the program. Meeting the project requirement involves receiving a grade for the course, submitting an abstract signed by the project advisor and the department head. Each student will have an individual Program of Courses approved by the student's assigned advisor and the division's chair by the end of the first semester of in the program. Any changes made after that time must be initialed by the student's advisor and the department head. Completed coursework must match the Program of Courses form; unapproved courses or unapproved changes will not count toward graduation requirements.

2.3.6 Coursework Only Option (NC): The Master of Science degree may be completed without the preparation of a formal research thesis or report. Instead, a student may be permitted to enrol in a no thesis/no report (coursework only) program which involves additional course work. The student must complete at least thirty-three graduate credits of approved courses. During the first semester of the MS program; the student should select an advisor. Each student will have an individual Program of Courses approved by the student's assigned advisor and the division's chair by the end of the first semester of in the program. For this option only, the student must satisfactorily complete the comprehensive examination prior to graduation.

2.4 Plan of Study

Students are required to complete a **Plan of Study** form in consultation with their academic advisors by the end of first semester in the program.

Core Courses

1. EE-601 Electrical Engineering Analysis
2. EE-602 Random Signals and Noise
3. EE-603 Adv. Electrical Engineering Analysis
4. EE-604 Research Methods

500-level Focus and Elective Courses

1. EE-510 Design of Digital Systems

2. EE-529 Modern Control Theory
3. EE-530 Cyber-Physical Systems
4. EE-535 Power System Protection

600-level Focus and Elective Courses

5. EE-611 Digital Integrated Circuit Design
6. EE-615 Real-time and Embedded Systems
7. EE-618 Data and Communication Networks
8. EE-623 Digital Data Communication
9. EE-624 Wireless Communication
10. EE-630 Robust Control
11. EE-631 Optimal Control
12. EE-632 Adaptive Signal Processing
13. EE-633 Advanced Methods in Power Systems
14. EE-634 Transient Analysis Methods
15. EE-636 Power System Operations
16. EE-637 Computer Modeling of Power Systems
17. EE-638 Distribution Engineering
18. EE-639 Distributed Power Generation systems
19. EE-650-653 Special Topics
20. EE-685-688 Independent Study
21. EE-698 Design Project
22. EE-699 Thesis

The descriptions of the above listed courses in attached in Appendix A

3. Additional Resource Requirements

The proposed MSEE program is to be established on the foundation of the currently under-review BSEE program). Therefore, both program are to share the same resources. However, the MSEE degree program will require some additional resources due to the nature and scope of the proposed program. These additional resources fall into four primary categories: physical infrastructure, research support, student support, and faculty.

3.1 Physical Infrastructure

The Weisberg Division of Engineering is housed in the Arthur Weisberg Family Applied Engineering Complex. Adequate space for faculty offices, classrooms, and computer labs has been provisioned in the new building for the current and near-term Engineering division needs.

Though the MSEE program primarily targets INTO program students and local/regional full-time students, some MSEE courses will be offered in the evenings to accommodate working professionals. The schedule for evening courses will be rotated in such a way to enable working professionals to earn a MSEE degree. These courses will also help reduce contention for classrooms during peak hours. Therefore, no additional physical infrastructure is needed.

3.2 Research & Students Support

The Division has five laboratories that are associated with the existing engineering program. Most of these facilities can be utilized as associated mechanical engineering laboratories with the proper equipment complement. The needed labs for the BSEE will require approximately 6,000 sq. ft. of additional teaching laboratory space as well as additional appropriate support staff. All needed space will be accommodated in the Weisberg Family Applied Engineering Complex (WAEC), the Weisberg Engineering Lab (WL), and Gullickson Hall (GH). More specialized and research grade equipment will be needed to have state-of-the-art laboratories to support the research initiatives. The total projected, therefore, for the research labs is \$150,000. About \$75,000 of the required funds will be in form of start-up support for the new faculty (new faculty usually gets about \$30,000 as start-up fund).

During the infancy phase, the MSEE program requires financial support in terms of graduate assistantships to attract over-achieving students. These assistantships should come in the form of tuition benefits and stipends (20 hours/ Week). Therefore, it is anticipated that the program will be awarded a total of three full graduate assistantships per year for the first three years of the program. The estimated cost of such support is about \$30,000 per year.

3.3 Faculty Resources and Teaching Load mapping

As it was mentioned earlier, this proposed MSEE program is to be established on the foundation of the currently under-review BSEE program. Therefore, no additional faculty will be needed to support this program. The following table shows a typical faculty course load when the program is fully staffed.

Table 1 provides information about Core and Support faculty. An asterisk (*) indicates the individual who will have direct administrative responsibilities for the program.

Table 1. MSEE Core and Support Faculty

Name of <u>Core</u> Faculty and Faculty Rank	Highest Degree	% of time assigned to the Program
Salem, Asad * [Primary responsibility for administering the program]	PhD in Mechanical Engineering	12.5
New Faculty (1) in Year 2017-18	PhD in Electrical Engineering	25
New Faculty (2) in Year 2017-18	PhD in Electrical/ Computer Engineering	25
New Faculty (3) in Year 2017-18	PhD in Electrical Engineering	25
New Faculty (4) in Year 2018-19	PhD in Electrical Engineering	25
New Faculty (5) in Year 2018-19	PhD in Electrical/Computer Engineering	25

Table 2. Annual Course Schedule to Meet MSEE Requirements

	Fall	Spring
Year I	EE- 601 EE- 602 EE-604 Two Elective Courses	EE-603 EE-604 Three Elective Courses
Year II	EE- 601 EE-602 EE-604 Two Elective Courses EE-698** EE- 699**	EE-603 EE-604 Three Elective Courses EE- 698** EE-699**
**EE 698 (Design Project) & EE 699 (Thesis) will be offered based on need and faculty and student interests.		

3.4 Five-Year Enrollment Projection

Assuming Fall, 2017 start date, the Table 3 shows the projected MSEE program enrollment growth during the first five years. This is a very conservative estimate. Furthermore, by design, enrollment will be capped at the levels shown in the table so that the program can be offered without additional faculty resources.

Under a typical scenario, it will take four semesters to fulfill the MSEE degree requirements. Students will complete 9 hours of course work during each of the first two semesters, 6 hours of course work and initial thesis work during the third semester, and dedicate the fourth semester to completing thesis research. Students completing the Design Project option would take 9 hours of course work during each of the first three semesters, and complete the Design project during the fourth semester.

In steady state, the program requires offering 9 courses per academic year and maximum enrollment per section will be capped at 24. The lab fee generated through the courses will be used to fund graduate teaching assistants who will help the professors in grading assignments and exams.

If the US Bureau of Labor Statistics projections were to hold true, the program can easily grow to a level where 15-25 students graduate every year. Offering 9 graduate courses per academic year requires 1.25 FTE faculty. The goal is to kick-start the program with only minimal additional faculty resources and providing the university administration the option to grow the program with additional faculty resources.

Table 3. MSEE Program Five-Year Enrollment Projection

	New Students	Attrition	Graduation	Cumulative Head Count	Cumulative FTE
1 st year 2017-18	12	0	0	12	12
2 nd Year 2018-19	18	3	0	27	27
3 rd Year 2019-20	20	5	9	33	33
4 th Year 2020-21	25	5	12	40	40
5 th Year 2021-22	25	5	14	46	46

Form 1: Five-Year Projection of Program Size[^]

	First Year 2017	Second Year 2018	Third Year 2019	Fourth Year 2020	Fifth Year 2021
Number of Students Served through Course Offerings of the Program:					
Headcount	12	27	33	40	46
FTE	14	31.50	38.50	46.67	53.68
Number of student Credit hours generated by Courses within the program (entire academic year):	252	567	693	840	966
Number of Majors:					
Headcount	12	27	33	40	46
FTE majors	14	31.50	38.50	46.67	53.68
Number of student Credit hours generated by majors in the program (entire academic year):	252	567	693	840	966
Number of degrees To be granted (annual total):	0	0	9	12	14
[^] The average student load is 21 Cr/Academic Year. Graduate FTE is 18 CH/ Academic Year.					

3.5 Library Resources and Instructional Materials

MU libraries have many of the resources necessary to support a new program in Electrical and Computer Engineering. Monographic, journal and database holdings enable the libraries to provide initial support for the program. Most of the resources available are not discipline specific but are available through multidisciplinary databases and may provide the depth of breadth of material required to support such a degree. Keeping in mind, MU libraries are currently supporting the BSE, MSE, BSCS, MSCS, BSIS, MSIS, BSME and MSME programs. However, some improvements in the collections will be required to ensure that they can adequately support the Electrical and Computer Engineering program consistently over the long-term.

The College of Information Technology and Engineering (CITE) will require at least one additional full-text database, IEEE, to support existing BSCS, MSCS, MSIS, and future programs in Electrical and Computer Engineering. This shared resource will cost approximately \$20,000 for the first year, with estimated increase in costs of 10-20% per year annually (based on increases for comparable databases). Additional costs will be incurred for the purchase of electronic full-text reference resources, standards, technical manuals and guides, and monographs to support the program. Additional funding needed in the first year will be approximately \$20,000 for these resources. Maintenance costs for these resources will be recurring annually and will be established at the time of contract negotiation and signing. However, it is projected that the required additional resources will cost about \$125,000 during the first five years (please refer to the spread sheet in Appendix C).

3.6 Support Services Requirements

The approach for building this Program proposal has been to leverage MU resources and complement engineering programs of other organizations to meet the State's needs for practicing engineers. The needed facilities (teaching labs, research labs, computer labs, classrooms, and offices) for the BSEE will require approximately 6,000 square feet. All needed space will be accommodated in the Weisberg Family Applied Engineering Complex (WAEC), the Weisberg Engineering Lab (WL), and Gullickson Hall (GH).

3.7 Facilities Requirements

Adequate resources exist for laboratory and support services. No new needs are anticipated. Space for classrooms is adequate. The proposed program will not require the addition of new space or facilities or the remodeling or renovation of existing space.

3.8 Operating Resource Requirements

Normal operating expenses will be necessary for his program. Office space for three additional faculty is available. Additional office supplies would be required, along with voice and data services and devices. Other requirements may include nonrecurring expenses such as program start-up/development expenses are presented in FORM 2 and in the attached spreadsheet (Appendix C). The operational budget will come from student tuitions and fees.

8. Expenses and Revenue Projection

All operational support will come from student tuitions and program specific fees. Form 2 and a spreadsheet (Appendix C) show the operating resources requirements as well as the sources of operating resources, including personnel expenses, and nonrecurring expenses (such as program start-up/development expenses), annual operating expenses. It also, shows the total and net annual revenues and the cumulative return.

Form 2: Five-Year Projection of Total Operating Resources

	First Year 2017	Second Year 2018	Third Year 2019	Fourth Year 2020	Fifth Year 2021
A. FTE POSITIONS					
1. Administrators	0.125	0.125	0.125	0.125	0.125
2. Full-time Faculty	0.75	1.25	1.25	1.25	1.25
3. Adjunct Faculty	0	0	0	0	0
4. Graduate Assistants	0	1	2	2	0
5. Other Personnel:					
a. Clerical Workers	0.0	0.0	0.0	0.0	0.0
b. Professionals	0.0	0.0	0.0	0.0	0.0
B. OPERATING COSTS (Appropriated Funds Only)					
1. Personal Services:					
a. Administrators	\$ 19,050	\$ 19,622	\$ 20,210	\$ 20,863	\$21,441
b. Full-time Faculty	\$88,900	\$150,431	\$ 154,944	\$159,594	\$164,381
c. Adjunct Faculty	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
d. Graduate Assistants	\$0.0	\$15,000	\$30,000	\$30,000	\$0.0
e. Non-Academic Personnel:					
Clerical Workers	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Professionals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Salaries	\$107,950	\$185,053	\$205,155	\$210,409	\$185,822
2. Current Expenses (Recurring)	\$14,000	\$14,500	\$14,500	\$14,500	\$19,750
3. Repairs and Alterations	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
4. Equipment:					
Educational Equip.	\$0.0	\$25,000	\$25,000	\$25,000	\$5,000
Library Books	\$5,000	\$5,000	\$5,000	\$5,500	\$6,000
5. Nonrecurring Expenses : See the attached spreadsheet	\$12,000	\$6,000	\$6,000	\$5,500	\$5,500
Total Costs	\$138,950	\$235,553	\$255,655	\$260,909	\$222,072
C. Sources					
1. General Fund Appropriations (Based on 50% non-res. Students @ \$1042.50/C.R)	\$189,000	\$425,250	\$519,750	\$630,000	\$724,500
[1] General Fund Appropriations (Based on Pro-forma Attached in Appendix C)	\$125,429	\$290,921	\$382,118	\$478,954	\$576,497
D. Net Revenue ([1]- total Cost)	(\$13,521)	\$55,368	\$126,463	\$218,045	\$354,425

Appendix A

Course Descriptions

EE-510 Design of Digital Systems

Custom design of a CMOS digital system. Analytical and CAD based design methodologies, starting at the highest level of abstraction (RTL, front-end)), and down to the physical implementation level (back-end). In the lab students learn how to capture a design using both schematic and hardware description languages, how to synthesize a design, and how to custom layout a design. Testing, debugging, and verification strategies are formally introduced in the lecture, and practically applied in the lab projects. Students are further required to choose a research topic in the area of digital systems, perform bibliographic research, and write a research paper following a prescribed format.

EE-529 Modern Control Theory

Analysis and design of controllers to achieve desired performance. The emphasis in the course will be on continuous linear systems. Major topics are: state space representation of physical systems, similarities/differences between input-output representation (transfer function) and state space representations, conversion of one form to the other, minimal realization, solution of state equations, controllability, observability, design of control systems for desired performance, state feedback, observers and their realizations.

EE-530 Cyber Physical Systems (CPSs)

Combine cyber capabilities (computation and/or communication) with physical capabilities (motion or other physical processes). Cars, aircraft, and robots are prime examples, discrete computerized control algorithms. Designing these algorithms to control CPSs is challenging due to their tight coupling with physical behavior. At the same time, it is vital that these algorithms be correct, since we rely on CPSs for safety-critical tasks like keeping aircraft from colliding.

EE -535 Power System Protection

Real-time monitoring and protection of modern power systems. Secure and reliable operation of radial and grid systems. Protection of transmission lines, buses, generators, motors, transformers, and other equipment against disturbances.

EE-601 Electrical Engineering Analysis

An intensive review of linear and nonlinear ordinary differential equations and Laplace transforms is provided. Laplace transform methods are extended to boundary-value problems and applications to control theory are discussed. Problem solving efficiency is stressed, and to this end, the utility of various available techniques are contrasted. The frequency response of ordinary differential equations is discussed extensively. Applications of linear algebra are examined, including the use of eigenvalue analysis in the solution of linear systems and in multivariate optimization. An introduction to Fourier analysis is also provided.

EE-602 Random Signals & Noise

Random variables and stochastic processes. Probability theory, conditional probability and Bayes theorem, discrete and continuous random variables, distribution and density functions, moments and characteristic functions, functions of one and several random variables, Gaussian random variables and the central limit theorem, estimation theory, random processes, stationarity and ergodicity, auto correlation, cross-correlation and power spectrum density, response of linear prediction, Wiener filtering, elements of detection, matched filters. (Graduate Standing)

EE-603 Advanced Electrical Engineering Analysis

Advanced Engineering Mathematics provides the foundations for complex functions, vector calculus and advanced linear algebra and its applications in analyzing and solving a variety of electrical engineering problems especially in the areas of control, circuit analysis, communication, and signal/image processing. Topics include: complex functions, complex integration, special matrices, vector spaces and subspaces, the nullspace, projection and subspaces, matrix factorization, eigenvalues and eigenvectors, matrix diagonalization, singular value decomposition (SVD), functions of matrices, matrix polynomials and Cayley-Hamilton theorem, state-space modeling, optimization techniques, least squares technique, total least squares, and numerical techniques. Electrical engineering applications will be discussed throughout the course.

EE-604 Research Methods

This course introduces students to research methods in electrical or computer engineering. A primary focus of the course is on conducting critical reviews of research literature, preparing a formal thesis proposal, and initiating background research on a thesis topic. At the conclusion of the course, the students are expected to submit a formal thesis proposal, literature review, and plan of study for the completion of the MSEE degree offered through the department.

EE-611 Digital Integrated Circuit Design

Analysis and Design of Digital Integrated Circuits. Circuit analysis of piecewise linear single energy storage element networks. Rules for determining states of diodes and transistors. Bipolar junction and field effect transistors as switches. Basic digital logic gates. Integrated circuit logic and building blocks (TTL, MOS, CMOS, ECL, Integrated Injection Logic). Sweep circuits (constant current, Miller, bootstrap), Monostable, Astable, and Bistable (Schmitt Trigger) switching circuits, Applications (pulse width modulator, triangle wave generator, FM function generator design).

EE-615 Real-Time and Embedded Systems

This course covers the principles of real-time and embedded systems inherent in many hardware platforms and applications being developed for engineering and science as well as for ubiquitous systems, including robotics and manufacturing, interactive and multimedia, immersive and omnipresent applications. As part of this course, students will learn about real-time and quality of service system principles, understand real-time operating systems and the resource management and quality of service issues that arise, and construct sample applications on representative platforms. Platforms range from handheld and mobile computers to media and real-time server systems. Platforms may also include specialized systems used in application-specific contexts, such as autonomous robotics, smart sensors, and others.

EE-618 Communication Networks

Communication networks in general and the internet in particular. Topics include layers service models, circuit and packet switching, queuing, pipelining, routing, packet loss and more. A five-layer model is assumed and the top four levels are covered in a top-down approach: starting with the application layer, going down through the transport layer to the network layer and finally the data link layer. Emphasis is placed on wireless networks and network security.

EE-623 Digital Data Communications

Principles and practices of modern digital data communication systems. Topics include pulse code transmission and error probabilities, filter design, equalizers, optimal detection for channels with memory, synchronization methods, non-linear modulation, and introduction to multipath fading channels, spread spectrum and OFDM.

EE-624 Wireless Communication

Advanced topics in wireless communications for voice, data and multimedia. Topics covered are: 1) Channel modeling: Overview of current wireless systems, modeling wireless channels, path loss for different environments, log-normal shadowing, flat and frequency-selective multipath fading, LS estimation of channel parameters, and capacity limits of wireless communication channels. 2) Transmission over fading channels, 3) Techniques to improve the speed and performance of wireless links (adaptive modulation and diversity techniques such as maximum gain combining to compensate for flat-fading). 4) Techniques to combat frequency-selective fading (adaptive equalization, space time coding, multicarrier modulation (OFDM), and spread spectrum). 5) Applications for these systems, including the evolution of cell phones and PDAs, sensor networks will be discussed.

EE-630 Robust Control

Introduction to the analysis and design of robust feedback control systems. Topics covered: overview of linear algebra and linear systems, H_2 and H_∞ (spaces, modeling and paradigms for robust control; internal stability; nominal performance (asymptotic tracking); balanced model reduction; uncertainty and robustness; H_2 optimal control; H_∞ control; H_∞ loop shaping; controller reduction; and design for robust stability and performance.

EE-631 Optimal Control

Different optimization techniques, as applied to feedback control systems. The main emphasis will be on the design of optimal controllers for digital control systems. The major topics are: Different performance indices, formulation of optimization problem with equality constraints, Lagrange multipliers, Hamiltonian and solution of discrete optimization problem. Discrete Linear Quadratic Regulators (LQR), optimal and suboptimal feedback gains, Riccati equation and its solution, linear quadratic tracking problem. Dynamic Programming - Bellman's principle of optimality - Optimal controllers for discrete and continuous systems - Systems with magnitude constraints on inputs and states.

EE-632 Adaptive Signal Processing

An introduction to the fundamental concepts of adaptive systems; open and closed loop adaptive systems; adaptive linear combiner; performance function and minimization; decorrelation of error and input signal. Adaptation algorithms such as steepest descent, LMS and LMS/Newton algorithm. Noise and mis-adjustments. Applications will include system identification, deconvolution and equalization, adaptive arrays and multipath communication channels.

EE-633 Advanced Methods in Power Systems

Advanced analysis and simulation methods for load flow, symmetrical components, short circuit studies, optimal system operation, stability, and transient analysis. Application of commonly used software reinforces concepts and provides practical insights.

EE-634 Transient Analysis Methods

A study of transient behaviors and their analysis and prediction. Addresses analytical methods and their numerical implementation, switching and lightning surges, short circuits, and non-linear effects. Includes computer simulations.

EE-636 Power System Operations

Study of advanced engineering and economic algorithms and analysis techniques for the planning, operation, and control of the electric power system from generation through transmission to distribution.

EE-637 Computer Modeling of Power Systems

Topics include modeling and computer methods applied to electrical power systems, matrix formulations, network topology and sparse matrix data structures, load-flow, short-circuit and stability formulations, constrained optimization methods for load-flow and state estimation, and time-domain simulation methods for transient analysis.

EE-638 Distribution Engineering

Modeling and analysis of electrical distribution systems; load characteristics, load modeling, unbalanced three-phase overhead and underground line models, and distribution transformers. Analysis of primary system design, applications for capacitors, voltage drop, power loss, distribution system protection, and introduction to advanced distribution automation.

EE-639 Distributed Power Generation systems

Renewable distributed power generation systems are the fastest growing segment of the generator mix being added to power systems today. There is a growing need to understand the many issues caused by these additions. This course covers the theoretical background, regulations, integration experience, and modeling.

EE 650-653 Special Topics

Subject matter to be selected from topics of current interest.

EE 685-688 Independent Study

Individual study in advanced electrical or computer engineering areas. This course is used by students who plan to study a topic on an independent study basis. The student must obtain the permission of the appropriate faculty member before registering for the course. Students registering for more than four credit hours must obtain the approval of both the department head and the adviser.

EE-698 Design Project

This course is used by students in the master of engineering degree program for conducting an independent project. The student must demonstrate an acquired competence in an appropriate topic within electrical or computer engineering. The topic is chosen in conference with a faculty adviser. The work may involve an independent research and/or a design project and/or literature search with a demonstration of acquired skill. A written paper, approved by the adviser and the department, and an oral presentation of the work are required.

EE-699 Thesis

In conference with a faculty adviser, an independent engineering project or research problem is selected. The work may be of a theoretical and/or computational nature. A state-of-the-art literature search in the area is normally expected. A formal written thesis and an oral defense with a faculty thesis committee are required. Submission of bound copies of the thesis to the library and to the department and preparation of a written paper in a short format suitable for submission for publication in a refereed journal are also required. Approval of department head and faculty adviser needed to enroll.

Appendix B
Letters of Support




To Whom It May Concern:

On behalf of Marathon Petroleum Corporation I would like to express support for the development and accreditation of an Electrical and Computer Engineering program at Marshall University. Marathon maintains a strong presence in the Huntington, WV, area in the form of our Catlettsburg (KY) Refinery, and other local facilities. 85 Marshall graduates are currently employed at the Catlettsburg site but only two of those are recent engineering graduates. Having a vibrant Electrical and Computer Engineering presence locally would provide an excellent source of engineers for Marathon and a source of jobs for Marshall graduates.

Marathon employs a large number of engineers throughout our seven-refinery system and support groups. The Catlettsburg Refinery currently employs 113 degreed chemical, mechanical, electrical, and civil engineers. We utilize Electrical Engineers in a variety of roles including project engineering, project management, maintenance support, and equipment and instrument reliability in addition to supervisory positions. We also utilize a robust co-op student program that involves the employment of engineering students to fill over 80 year-round positions. Marathon would welcome a quality, local source of engineers to fill these full-time and co-op positions.

Currently we recruit at a number of universities within reasonable proximity to our refineries including several that surround Marshall (Virginia Tech, West Virginia Tech, Ohio State, Toledo, Cincinnati, Louisville, Kentucky). Marshall would make a nice fit into our recruiting network and Marathon would provide an attractive source of employment opportunities for Marshall EE graduates.

In summary, Marathon wholeheartedly supports the continued development of Marshall's Engineering Department in general and the Electrical and Computer Engineering Department in particular. A recent forecast by Kelly Services quoted in Civil Engineering magazine (September 2014) predicts an increase of almost 250,000 engineering jobs in the US economy in the next ten years of which over 16,000 of those will be electrical engineers. With the continued growth in the oil and gas sector including the Utica and Marcellus shale areas in West Virginia, Ohio, Pennsylvania, and New York, many of those jobs will be very reachable for Marshall graduates. Now is an excellent time to begin meeting the needs of the engineering market.

Sincerely,

Richard Hernandez
Division Manager
Catlettsburg Refining, LLC



September 18, 2015

Asad A. Salem, Ph.D
Professor and Chair
Weisberg Division of Engineering
College of Information Technology and Engineering
Marshall University
Huntington, WV 25755-2586

Dear Dr. Salem:

This letter is written in strong support of Marshall University adding Electrical and Computer Engineering (BSEEC and MSEEC) to the Weisberg Division of Engineering.

ZMM, Inc., Architects and Engineers, in addition to hiring architectural personnel, hires engineers in the disciplines of structural, civil, mechanical and electrical engineering. By far the most difficult position to fill is that of a Professional Electrical Engineer. It sometimes takes us years to fill a position.

Electrical and computer engineering is a diverse field with many job opportunities. ZMM looks for candidates in the building industry field primarily in power, communication, and data distribution.

I think a BSEEC and MSEEC are critical in building a comprehensive College of Engineering.

I applaud Marshall University for initiating the engineering curriculum. It is a great asset to the State of WV and our area.

ZMM will be pleased to work with the Weisberg Division of Engineering to provide summer internships at our office in Charleston.

Sincerely,

ZMM, INC.

A handwritten signature in blue ink that reads "Robert Doeffinger". The signature is written in a cursive style with a small flourish at the end.

Robert Doeffinger, PE, BSME, MSAE
President



Design/Consulting Services
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St. Albans, WV 25177
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September 17, 2015

Dr. Asad Salem, Ph.D.
Professor and Chair
Weisberg Division of Engineering
College of Information Technology and Engineering
Marshall University
Huntington, WV 25755-2586

Re: Support for Electrical and Computer Engineering Programs at Marshall University

Dear Dr. Salem:

As President of the West Virginia ASHRAE (WV ASHRAE) Chapter, I would like to thank you for working with us to bring our November 20, 2015 chapter meeting and technical session on ASHRAE Standard 189.1 – “Standard for the Design of High-Performance Green Buildings” to Marshall University. We are also looking forward to touring the new Engineering Complex as part of our visit to Marshall.

I, as both an engineer for ZDS Design and WV ASHRAE President, would also like to thank you for contacting me about the growing Engineering degree program at Marshall University. It is exciting to see the expansion of the Engineering programs being offered at Marshall, and I am fully in support of adding the Electrical and Computer Engineering degree programs to the College. This will present an excellent opportunity for students not only from West Virginia, but also the neighboring areas of Ohio and Kentucky to continue their educational pursuits of these degrees within the State of West Virginia.

Graduates from these programs will provide this area of the State and beyond a much needed Professional resource for development and enhancement of technology based services as well as contributions to our local and regional economy. These individuals will be highly sought after in the years to come, given the advancements in technology, especially in the fields of energy conservation, development of alternative energy sources and sustainability projects. These are high profile issues in our industry and major topics of ASHRAE support around the world.

On behalf of the WV ASHRAE, we would like to congratulate Marshall University for having the vision to expand the Engineering degree programs it will offer in the near and foreseeable future.

If I, or WV ASHRAE, can be of further assistance, please do not hesitate to contact me.

Sincerely,

Jennings, L. Davis II, P.E.
WVASHRAE President
c/o ZDS Design/Consulting Services
281 Smiley Drive
St. Albans, WV 25177
Ph: 304-755-0075
Email: jennings.davis@zdsdesign.com

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Branch: P.O. Box 369 • Jeff, Kentucky 41751

Branch: P.O. Box 707 • Danville, WV 25053

September 9, 2015

Asad A. Salom, Ph. D
Professor and Chair
Weisberg Division of Engineering
College of Information Technology & Engineering
Marshall University
Huntington, WV 25755-2586

Dear Dr. Salom,

Thank you for your recent communication detailing the two new electrical engineering degrees you are proposing at Marshall. As a past President of an electrical service company in West Virginia, I know first-hand how lacking we are in these areas. We could not find any applicants in the Tri-State that had this kind of educational accreditation.

I am in full support of both new degrees. I feel not only will you be able to fill current job vacancies but will create new, whereas, unseen opportunities for high paying careers. Please let me know if I can assist you in this process.

Best Regards,

Danny A. Vance

"We put service first"

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Fax: (304) 429-6736 • Watts: 1-800-480-7867

8308 Lake Bonita Road
Catlettsburg, KY 41129
T 606.653.1400
F 630.353.7777
www.enengineering.com

10 September 2015

Asad A. Salem, Ph.D
Professor and Chair
Weisberg Division of Engineering
College of Information Technology and Engineering
Marshall University
Huntington, WV 25755-2586
304-696-3207
salema@marshall.edu

SUBJECT: Letter of Support for Electrical Engineering Programs at Marshall University

Dear Asad:

I was very happy to get your note about the addition of Electrical and Computer Engineering to your existing programs at the Weisberg Division of Engineering at Marshall University. We here at EN Engineering are excited about the relationship we have developed with you, your staff, and students. We currently have nine (9) civil engineering staff members that are Marshall Graduates or current students:

- | | | |
|--------------------|---------------------|---------------------|
| 1. Adam Weible | 4. Kyle Merritt | 7. Zachary Hatfield |
| 2. Jacob Browning | 5. Morgan Ferguson | 8. Brigham Ash |
| 3. Chris Brumfield | 6. Jonathan Lambert | 9. Bryce Merritt |

We look forward to the opportunity to interview Marshall Mechanical Engineering students / graduates in the near future and Electrical and Computer Engineers as soon as they become available. We also have an extensive student intern / co-op program in which we fully expect Marshall Student's to be heavily involved and represented. This is an exciting time for the education of engineers and the profession of engineering as a whole in the Tri-State Area. EN Engineering is interested and willing to support the Weisberg Division of Engineering in any way possible to improve the education of future engineers.

EN Engineering is a national, full service engineering firm concentrated on work in the Energy Market. Here at our Catlettsburg office, we concentrate on Industrial Solutions providing engineering consulting services to industrial facilities such as refineries, bulk product terminals, chemical production, steel making, manufacturing, and the natural gas industry. We have a full complement of engineering disciplines here in Catlettsburg with civil/structural, mechanical, chemical, and electrical engineers along with specialty designers and drafters.

Our electrical work is made up of power distribution, instrumentation, PLC controls & programming, and automation. For the last several years, electrical engineers have been the most difficult discipline to attract and hire in this geographic region. We currently have unfulfilled needs for electrical engineers. The ability to have EE students and graduates at Marshall could obviously be a great benefit to a firm such as EN Engineering.

We would fully support the BS & MS in Electrical and Computer Engineering (BSEEC & MSEEC) at Marshall University. Please do not hesitate to contact us for ways to support your programs. We are willing to participate in senior design projects, provide guest speakers for classes / seminars, participate on advisory boards, or any other activity you feel beneficial to your students or staff. We hope you will allow us to assist you wherever possible to help train excellent future engineers.

Thank you for keeping EN Engineering informed of your plans and goals for the expanded engineering programs at Marshall. We look forward to our continued relationship and the interaction with your students of all engineering disciplines.

Sincerely,

A handwritten signature in black ink that reads "Jason C. Merritt". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jason C. Merritt, P.E.
Senior Project Manager
Industrial Solutions Business Unit
O: 606-653-1420
C: 304-544-5034
jmerritt@enengineering.com

Attachments:

1. EN Engineering Electrical Brochure
2. EN Engineering Automation Brochure
3. EN Engineering Industrial Solutions Brochure



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September 21, 2015

Asad A. Salem, Ph.D.
Professor and Chair
Weisberg Division of Engineering
College of Information Technology and Engineering
Marshall University
Huntington, WV 25755-2586

Re: Electrical and Computer Engineering

Dear Dr. Salem:

Please consider this as a complete endorsement of the proposal to add degrees in Electrical and Computer Engineering.

GRW employs over two hundred fifty in the fields of civil, mechanical, structural and electrical engineering in a five-state area. By far the most difficult to recruit is electrical engineers. The demand for electrical engineers is significant and academy must take bold steps if our region is to compete in the global economy.

I urge complete support from everyone connected to Marshall and the tristate region to support the addition of these two programs.

Very truly yours,

Ron D. Gilkerson, PE
President

RDG/rf



J. H. FLETCHER & CO. Box 2187 — Huntington, WV 25722-2187 — 304/525-7811 — FAX 304/525-3770

September 8, 2015

Subject; Marshall Letter of Support

To whom it may concern,

My company is J. H. Fletcher & Company, (Fletcher®). Fletcher is located in Huntington, West Virginia. Fletcher is the world's leading supplier of underground mining roof bolters. We design and manufacture roof bolters and other specialized mining equipment that keeps miners safe. We have supplied equipment for mines all around the world.

Fletcher is located in the tri-state location of Northeast Kentucky, Southeast Ohio, and Western West Virginia. Our tri-state region is in need of a university located in our community offering engineering classes and degrees.

We are in support of Marshall University establishing degree programs in both BS and MS in Electrical and Computer Engineering, (BSEEC & MSEEC). We feel our company can benefit greatly by partnering with Marshall to establish a strong and accredited engineering program in our community. Not only does Fletcher benefit but so does our tri-state community giving our children options of gaining a quality engineering education close to home.

Please let it be known J. H. Fletcher & Co fully supports Marshall University as it establishes and advances its engineering program.

Sincerely,

A handwritten signature in blue ink that reads "Tim Burgess".

Tim Burgess, PE
Vice President of Engineering
J. H. Fletcher & Co.

Cc Doug Hardman
Rod Duncan
Greg Hinshaw

Salem, Asad

From: Mary Jo Hendricks <hendri4@aol.com>
Sent: Sunday, September 20, 2015 2:57 PM
To: Salem, Asad
Subject: Re: Letter of support for Electrical and Computer Engineering

Asad,

My apologies for completing this via email versus a formal letter of support for adding the two degrees in Electrical and Computer Engineering, but due to your timing needs, this was the most expedient.

As you know, I have a Bachelor of Science in Electrical Engineering from West Virginia Institute of Technology, now WVU Tech, in Montgomery, WV. My engineering degree served me well. I was able to retire from Union Carbide/Dow with 30 years of service. During my career, I served in every facet of engineering from electrical design, operation (both electrical distribution systems and chemical operations), maintenance of our technology site, site leader of our technology site, infrastructure technology leader worldwide, electrical and mechanical technology leader worldwide, distribution (barge, rail, truck, and drums) leader for the Kanawha Valley, and the health, safety, and environmental operations leader worldwide. It was a challenging and rewarding career.

When I was asked to be on the Advisory Board for Engineering at Marshall, I was thrilled. It has been very satisfying to see the journey from defining the program, receiving the Bachelor of Engineering accreditation, expanding to include emphasis in civil and mechanical engineering, and now expanding to include electrical and computer engineering. To see the involvement and commitment from business leaders and the school to reaching this level has been remarkable.

Engineering is our future. We must have qualified engineers to compete in the world today. And we can do that through the Engineering Program at Marshall University. The new engineering building is state of the art and will serve the program for many years to come. Students will want to come to Marshall for their engineering degree and we need to be able to offer the various disciplines.

I wholeheartedly support the addition of the degrees for electrical and computer engineering.

Thank you for the opportunity to comment,

Mary Jo Hendricks

Sent from my iPad

On Sep 7, 2015, at 2:23 PM, Salem, Asad <salema@marshall.edu> wrote:

Dear All,

The Weisberg Division of Engineering is in the process of adding two degrees in Electrical and Computer Engineering to the our existing General Engineering-Civil Emphasis (BSE-CE) and Mechanical Engineering (BSME and MSME). The aim of these two degrees, BS in Electrical and Computer Engineering (BSEEC) and MS in Electrical and Computer Engineering(MSEEC), is to graduate electrical and computer engineers to meet the increasing technological demands of West Virginia's and the Tri-State region . Graduates of this Program will contribute to West Virginia's and the Tri-State economic development, advance its competitive edge globally and contribute to improvement in the quality of life.

Electrical engineering is a field of engineering that generally deals with the study and application of electricity, electronics, and electromagnetism. The fields of Electrical and computer engineering cover a

wide range of subfields including electronics, power engineering, telecommunications, control systems, radio-frequency engineering, signal processing, instrumentation, microelectronics, digital systems including hardware, software, compilers and operating systems, coding, cryptography, network, mobile and distributed computing system, and physical cyber systems and security. As such, the BSEEC program at Marshall University (MU) will prepare graduates with a BSEEC with two areas of emphasis: general electrical engineering, and computer engineering. It will, also, emphasize service, systems-based knowledge, and sustainability with an eye toward the interface of traditional electrical and computer engineering with new and emerging fields. In accordance with the standards set forth by the Accreditation Board for Engineering and Technology (ABET) and MU's mission, the specific educational objectives of this program are to graduate students who will:

1. Practice the electrical and computer engineering discipline successfully within community-accepted standards
2. Possess teamwork and communications skills to develop a successful career in electrical engineering
3. Fulfill professional and ethical responsibilities in the practice of electrical engineering, including social, environmental and economic considerations,
4. Engage in professional service, such as participation in professional society and community service
5. Engage in life-long learning activities, such as graduate studies or professional workshops, and
6. Develop a professional career in the prevailing market that meets personal goals, objectives and desires

Accordingly, graduates will have the ability to work professionally and ethically, as individuals and in multi-disciplinary teams, in both the electrical and computer areas, including the design, manufacture, and control of such systems. Moreover, they will develop a deep understanding of the impact of engineering solutions from a global, financial, environmental, societal, political, ethical, health and safety, and sustainability perspectives.

The purpose of this communication is to solicit your written support for these two programs. Your written support can be in form of a support letter addressed to me (sent as an attachment) or in form of an email. I am planning to submit the formal request of these two programs for the University approval on Monday September 21st, 2015.

Your support in this matter is valuable and highly appreciated.

Best Regards

Asad

Asad A. Salem, Ph.D
Professor and Chair
Weisberg Division of Engineering
College of Information Technology and Engineering
Marshall University
Huntington, WV 25755-2586
304-696-3207

Salem, Asad

From: Dewey Bocook <dbocook@bocook.com>
Sent: Tuesday, September 08, 2015 1:57 PM
To: Salem, Asad
Subject: Electrical and Computer Engineering Programs

Dear Asad,

I am writing to show my support for proposal to a two degrees in Electrical and Computer Engineering to the existing Engineering programs at Marshall University. As owner and President of Bocook Engineering, Inc. I see only positive results from the addition of the Electrical and Computer Engineering Degrees to Marshall's curriculum. The addition of the Electrical and Computer Engineering Degrees will not only help make Marshall's Engineering a more rounded program, it will be adding two fields of engineering that are essential in the development of our region. Our life's would be unthinkable without the use of electrical energy and its application. The growing utilization of electricity and computers is a decisive prerequisite for a rapid development of industry as well as agriculture.

A few examples will show the importance of electrical energy and the associated engineering. Electrical lighting is indispensable for working during the dark hours of the day. With increasing industrialization, a growing proportion of electrical energy is used for the lighting of shops, offices, dwellings and for outdoor lighting. Man is relieved from heavy physical labor by the use of electrical devices. The drive of machines, hoisting gear and lifts is enabled in a simple form by the electromotor which in railway transport also has the advantage over internal combustion engines. There are many buildings where an air-conditioning system including heating, cooling and ventilation is installed for the operation of which electrical energy is required. At higher ambient temperatures, foodstuffs can only be kept for a prolonged period of time in refrigerators or cold-storage rooms which usually are also operated with electrical energy.

Computer engineering can be seen in our day to day lives and has a vast impact on our lifestyles and jobs. Mobile phones, digital video cameras, audio players, microwave ovens, aircrafts, security systems, laser equipment, automobiles, virtually every aspect of our lives have computer engineering involved. Most people today rely on computer engineering to help enhance their lives. Business establishments are constantly perfecting their products and services using computer engineering to deliver and meet the demands of their fields. They have very high budgets for research and design, especially those in electronic and engineering fields. Computer engineers are expected to take their computer engineering skills to new heights in the future.

Engineers and engineering has one paramount reason: benefiting humankind. In modern society, we are constantly interacting with our environment. We harvest and extract all the resources that we need to sustain human life and culture human enterprise. It is the role of the engineer to minimize the effects of damage on the surrounding ecosystems, and design necessary infrastructures that are both efficient and safe. Both Electrical and Computer Engineering serve to enhance these efforts.

In conclusion, I strongly support adding both the Electrical and Computer Engineering Degrees to Marshall's Engineering Program. As a graduate of Marshall's Engineering Program, I know benefits of having a quality Engineering Program in the Region. I will definitely support this effort both financially and with time and effort.

If there is anything that I can do to facilitate this effort, please don't hesitate to contact me at your earliest convenience.

Dewey L. Bocook, Jr. PE, PLS

Telephone 606-789-5961 ext. 20 Office

606-789-7671 Fax

606-793-1115 Cell

Dewey L. Bocook, Jr. PE, PLS

Telephone 606-789-5961 ext. 20 Office

606-789-7671 Fax

606-793-1115 Cell

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Salem, Asad

Subject: RE: Letter of support for Electrical and Computer Engineering

From: Charlie Neighborgall [mailto:charlie3@neighborgall.com]
Sent: Saturday, September 19, 2015 8:23 PM
To: Salem, Asad <salema@marshall.edu>
Subject: RE: Letter of support for Electrical and Computer Engineering

Per your email of 9/7/15, I completely support the adding of the BSEEC and MSEEC programs to the Marshall University engineering program. They will be very beneficial to our construction industry in West Virginia and the Tri-State Area.

Charles R. Neighborgall III

Chairman

The Neighborgall Construction Company

Huntington West Virginia

Serving the construction industry for over 90 years.

From: Salem, Asad [mailto:salema@marshall.edu]
Sent: Monday, September 07, 2015 2:24 PM
To: gary@aecvis.com; dbocook@bocook.com; sgbpe@comcast.net; tburgess@jhletcher.com; sean.c.carter@usace.army.mil; curtis.martin@tema.toyota.com; mday@patriotcoal.com; rfisher@specialmetals.com; RGilkerson@grwinc.com; khainer@alphanr.com; dhardman@jhletcher.com; hendri4@aol.com; Paul.A.Mattox@wv.gov; Mia.D.Crookshanks@wv.gov; Carole.A.McCoy@dom.com; Dmeadows@triadeng.com; Charlie Neighborgall <charlie3@neighborgall.com>; jrichardson@whiteoakresoruces.com; David.S.Webb@chemours.com; jmerritt@enengineering.com; drsclaepi@marathonpetroleum.com; Jeffery.Weatherford@csx.com; joan.weisberg@arthursent.com; forresmd@middough.com; Mark W. Trimble, PE <mtrimble@huntingtonsteel.com>; Cinda Kahl <ckahl@swvainc.com>; james.ware@stateelectric.com; Sonya.Varney@servicewire.com
Subject: Letter of support for Electrical and Computer Engineering

Dear All,

The Weisberg Division of Engineering is in the process of adding two degrees in Electrical and Computer Engineering to the our existing General Engineering-Civil Emphasis (BSE-CE) and Mechanical Engineering (BSME and MSME). The aim of these two degrees, BS in Electrical and Computer Engineering (BSEEC) and MS in Electrical and Computer Engineering (MSEEC), is to graduate electrical and computer engineers to meet the increasing technological demands of West Virginia's and the Tri-State region . Graduates of this Program will contribute to West Virginia's and the Tri-State economic development, advance its competitive edge globally and contribute to improvement in the quality of life.

Electrical engineering is a field of engineering that generally deals with the study and application of electricity, electronics, and electromagnetism. The fields of Electrical and computer engineering cover a wide range of subfields including electronics, power engineering, telecommunications, control systems, radio-frequency engineering, signal processing, instrumentation, microelectronics, digital systems including hardware, software, compilers and operating systems, coding, cryptography, network, mobile and distributed computing system, and physical cyber systems and security. As such, the BSEEC program at Marshall University (MU) will prepare graduates with a BSEEC with two areas of emphasis: general electrical engineering, and computer engineering. It will, also, emphasize service, systems-based knowledge, and sustainability with an eye toward the interface of traditional electrical and computer engineering with new and emerging fields. In accordance with the standards set forth by the Accreditation Board for Engineering and Technology (ABET) and MU's mission, the specific educational objectives of this program are to graduate students who will:

1. Practice the electrical and computer engineering discipline successfully within community-accepted standards

2. Possess teamwork and communications skills to develop a successful career in electrical engineering
3. Fulfill professional and ethical responsibilities in the practice of electrical engineering, including social, environmental and economic considerations,
4. Engage in professional service, such as participation in professional society and community service
5. Engage in life-long learning activities, such as graduate studies or professional workshops, and
6. Develop a professional career in the prevailing market that meets personal goals, objectives and desires

Accordingly, graduates will have the ability to work professionally and ethically, as individuals and in multi-disciplinary teams, in both the electrical and computer areas, including the design, manufacture, and control of such systems. Moreover, they will develop a deep understanding of the impact of engineering solutions from a global, financial, environmental, societal, political, ethical, health and safety, and sustainability perspectives.

The purpose of this communication is to solicit your written support for these two programs. Your written support can be in form of a support letter addressed to me (sent as an attachment) or in form of an email. I am planning to submit the formal request of these two programs for the University approval on Monday September 21st, 2015.

Your support in this matter is valuable and highly appreciated.

Best Regards

Asad

Asad A. Salem, Ph.D
Professor and Chair
Weisberg Division of Engineering
College of Information Technology and Engineering
Marshall University
Huntington, WV 25755-2586
304-696-3207

WE ARE ... MARSHALL

DISCLAIMER: The information in this e-mail is confidential and may be legally privileged. If you are not the intended recipient or have received this e-mail by error, you must not read, use or disseminate the information and must promptly notify the sender via e-mail or over the telephone and delete this e-mail immediately. Although this email and any attachments are believed to be free of any virus or other defect that might affect any computer system into which it is received and opened, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by the sender for any loss or damage arising in any way from its use. Any personal views or opinions expressed in this e-mail are solely those of the author and do not represent those of the University.

Appendix C
MSEE-Budget Pro Forma

MSEE PROGRAM BUDGET PRO FORMA

	Base Salary		Year of Hire	Year of Prom	FISCAL YEAR EXPENSES										Year 9	Year 10		
	(Year 1)	Benefits 27%			Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8					
Annual Salary Increase:			3%															
Adim: Faculty Position 0 - Chair-1/8 time Existing	\$ 15,000	\$ 4,050	-	99	\$ -	\$ 19,050	\$ 19,622	\$ 20,210	\$ 20,816	\$ 21,441	\$ 22,084	\$ 22,747	\$ 23,429	\$ 24,132	\$ 24,856			
Faculty Position 1- Asst. Professor (1/4 time)	\$ 25,000	\$ 6,750	1	99	\$ -	\$ 31,750	\$ 32,703	\$ 33,684	\$ 34,694	\$ 35,735	\$ 36,807	\$ 37,911	\$ 39,048	\$ 40,220	\$ 41,427			
Faculty Position 2 -Asst. Professor (1/4) time	\$ 22,500	\$ 6,075	1	99	\$ -	\$ 28,575	\$ 29,432	\$ 30,315	\$ 31,225	\$ 32,161	\$ 33,126	\$ 34,120	\$ 35,144	\$ 36,198	\$ 37,284			
Faculty Position 3 -Asst. Prof 1/4 time	\$ 22,500	\$ 6,075	1	7	\$ -	\$ 28,575	\$ 29,432	\$ 30,315	\$ 31,225	\$ 32,161	\$ 33,126	\$ 34,120	\$ 35,144	\$ 36,198	\$ 37,284			
Faculty Position (1/4) Asst.	\$ 22,500	\$ 6,075	2	8	\$ -	\$ 29,432	\$ 30,315	\$ 31,225	\$ 32,161	\$ 33,126	\$ 34,120	\$ 35,144	\$ 36,198	\$ 37,284	\$ 38,400			
Faculty Position5 - Asst.Prof (1/4) time	\$ 22,500	\$ 6,075	2	8	\$ -	\$ 29,432	\$ 30,315	\$ 31,225	\$ 32,161	\$ 33,126	\$ 34,120	\$ 35,144	\$ 36,198	\$ 37,284	\$ 38,400			
Faculty Position - Assoc. Prof Exist 1/4 time	\$ -	\$ -	-	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Equivalent Faculty Position - (BSE) 1/4 time	\$ -	\$ -	-	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Faculty Position 0- Asst Prof	\$ -	\$ -	-	8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Faculty Position 0- Asst Prof	\$ -	\$ -	-	9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Classified Employee 1	\$ -	\$ -	-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Classified Employee0	\$ -	\$ -	-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Classified Employee 0	\$ -	\$ -	-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
PERSONNEL TOTAL					\$ -	\$ 107,950	\$ 170,053	\$ 175,155	\$ 180,409	\$ 185,822	\$ 191,396	\$ 200,550	\$ 213,595	\$ 220,003	\$ 226,603	\$ 819,388	\$ 471,982	Reallocated

Section Notes: Update positions, salaries, year of hire and year of promotion. Annual costs will automatically calculate. Set salary of position to zero if not needed.

PROGRAM START-UP/DEVELOPMENT																	
New Program Application				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Accreditation Fees				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Accreditation Comprehensive Visit				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Sustaining Fees				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Program Consultation Expenses				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Travel and Profession Conferences				\$ -	\$ -	\$ 2,000	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,575	\$ 2,652	\$ 2,732	\$ 2,814	\$ 2,898		
Staff Development				\$ -	\$ -	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000		
Recruiting Expenses				\$ -	\$ 10,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 10,000	\$ 10,300	\$ 10,609	\$ 10,927		
Professional Fees				\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Faculty Start-Up Allowances/Relocation				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
PROGRAM START-UP/DEVELOPMENT				\$ -	\$ 12,000	\$ 6,000	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,575	\$ 12,652	\$ 13,032	\$ 13,423	\$ 13,825	\$ 35,500	

Section Notes: Itemized lines are examples. Update lines and annual amounts as necessary.

ANNUAL OPERATING EXPENSES																	
Office Supplies				\$ -	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,750	\$ 2,000	\$ 2,250	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
Faculty Recruitment				\$ -	\$ 2,500	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
Adjunct & Part-Time Faculty Positions				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 10,000	\$ 10,000	
Equipment Maintenance				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 6,000	\$ 7,000	\$ 7,000	
Equipment Replacement Fund (Increase in Year 5)				\$ -	\$ -	\$ 25,000	\$ 25,000	\$ 25,000	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Library Resources				\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,500	\$ 6,000	\$ 6,500	\$ 7,000	\$ 7,500	\$ 8,000	\$ 8,500	\$ 8,500		
Contingency				\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000		
Employee-based expenses																	
Number of Employees						1	4	5	5	5	5	5	5	5	5	5	
Desk Cost (Phone/Network, Internet, Software, Computer Replacement)	\$ 900			\$ 2,700	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	
ANNUAL OPERATING EXPENSES TOTAL				\$ -	\$ 19,000	\$ 44,500	\$ 44,500	\$ 45,000	\$ 30,750	\$ 39,500	\$ 40,250	\$ 41,000	\$ 44,500	\$ 46,000	\$ 183,750		

Section Notes: Itemized lines are examples. Update lines and annual amounts as necessary. Employee count is automatic for any employee line with a salary.

PROGRAM OPERATING EXPENSE TOTAL	\$ -	\$ 31,000	\$ 50,500	\$ 51,000	\$ 50,500	\$ 36,250	\$ 45,075	\$ 52,902	\$ 54,032	\$ 57,923	\$ 59,825		
TOTAL EXPENDITURE ESTIMATES	\$ -	\$ 138,950	\$ 220,553	\$ 226,155	\$ 230,909	\$ 222,072	\$ 236,471	\$ 253,452	\$ 267,627	\$ 277,926	\$ 286,429	\$ 1,038,638	

REVENUE ESTIMATES																
Total students - Resident				-	6	14	16	20	23	25	25	25	25	25	25	25
Total students - Nonresident				-	6	13	17	20	23	25	25	25	25	25	25	25
Total E&G Fees Resident				\$ -	\$ 33,207	\$ 81,358	\$ 97,629	\$ 128,139	\$ 154,727	\$ 176,591	\$ 185,421	\$ 194,692	\$ 204,426	\$ 214,648	\$ 214,648	
Total E&G Fees Nonresident				\$ -	\$ 82,621	\$ 187,964	\$ 258,088	\$ 318,815	\$ 384,969	\$ 439,367	\$ 461,335	\$ 484,402	\$ 508,622	\$ 534,053	\$ 534,053	
Total Program/College Fees Resident				\$ -	\$ 4,800	\$ 11,200	\$ 12,800	\$ 16,000	\$ 18,400	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	
Total Program/College Fees Nonresident				\$ -	\$ 4,800	\$ 10,400	\$ 13,600	\$ 16,000	\$ 18,400	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	

Section Notes: Amounts above are all driven by formulae. Adjust fee and students counts below to set expected/goal amounts

TOTAL REVENUE ESTIMATES	\$ 125,429	\$ 290,921	\$ 382,118	\$ 478,954	\$ 576,497	\$ 655,958	\$ 686,756	\$ 719,094	\$ 753,049	\$ 788,701	\$ 818,919	
ANNUAL NET REVENUE	\$ (13,521)	\$ 70,368	\$ 155,963	\$ 248,045	\$ 354,425	\$ 419,487	\$ 433,304	\$ 451,467	\$ 475,123	\$ 502,272	\$ 527,395	
CUMULATIVE RETURN	\$ (13,521)	\$ 56,847	\$ 226,332	\$ 404,008	\$ 602,470	\$ 773,912	\$ 852,791	\$ 884,771	\$ 926,590	\$ 977,395	\$ 1,038,638	

Request for Graduate Course Addition

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
2. E-mail one identical PDF copy to the Graduate Council Chair. If attachments included, please merge into a single file.
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: Engineering Alpha Designator/Number: ENGR 670 Graded CR/NC

Contact Person: Gregory K. Michaelson, Ph.D. Phone: (304) 696-5606

NEW COURSE DATA:

New Course Title: Advanced Stress Analysis

Alpha Designator/Number:

E	N	G	R			6	7	0		
---	---	---	---	--	--	---	---	---	--	--

Title Abbreviation:

A	d	v	a	n	c	e	d		S	t	r	e	s	s		A	n	a	l	y	s	i	s
---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	--	---	---	---	---	---	---	---	---

(Limit of 25 characters and spaces)

Course Catalog Description: Three-dimensional stress and strain, failure criteria, advanced topics in structural mechanics, energy methods, introduction to the theory of elasticity, fundamentals of fracture mechanics.
(Limit of 30 words)

Co-requisite(s): None First Term to be Offered: Spring 2017

Prerequisite(s): None Credit Hours: 3

Course(s) being deleted in place of this addition (must submit course deletion form): None

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

Dept. Chair/Division Head <u><i>Asunta see</i></u>	Date <u>10-23-15</u>
Registrar <u><i>Roberta Ferguson</i></u> <u>140101</u>	Date <u>10/26/15</u>
College Curriculum Chair <u><i>Tiata</i></u>	Date <u>11/2/15</u>
Graduate Council Chair <u><i>J Christofero</i></u>	Date <u>12-8-15</u>

Request for Graduate Course Addition - Page 2

College: CITE

Department/Division: Engineering

Alpha Designator/Number: ENGR 670

Provide complete information regarding the new course addition for each topic listed below. Before routing this form, a complete syllabus also must be attached addressing the items listed on the first page of this form.

1. FACULTY: Identify by name the faculty in your department/division who may teach this course.

Gregory K. Michaelson, Ph.D.

Iyad Hijazi, Ph.D.

Gang S. Chen, Ph.D.

Asad A. Salem, Ph.D.

2. DUPLICATION: If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the proposal. Enter "**Not Applicable**" if not applicable.

Not Applicable.

3. REQUIRED COURSE: If this course will be required by another department(s), identify it/them by name. Enter "**Not Applicable**" if not applicable.

Not Applicable.

4. AGREEMENTS: If there are any agreements required to provide clinical experiences, attach the details and the signed agreement. Enter "**Not Applicable**" if not applicable.

Not Applicable.

5. ADDITIONAL RESOURCE REQUIREMENTS: If your department requires additional faculty, equipment, or specialized materials to teach this course, 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 "**Not Applicable**" if not applicable.

Not applicable.

6. COURSE OBJECTIVES: (May be submitted as a separate document)

See attached sample course syllabus.

Request for Graduate Course Addition - Page 3

7. COURSE OUTLINE (May be submitted as a separate document)

See attached sample course syllabus.

8. SAMPLE TEXT(S) WITH AUTHOR(S) AND PUBLICATION DATES (May be submitted as a separate document)

See attached sample course syllabus.

9. EXAMPLE OF INSTRUCTIONAL METHODS (Lecture, lab, internship)

See attached sample course syllabus.

Request for Graduate Course Addition - Page 4

10. EXAMPLE EVALUATION METHODS (CHAPTER, MIDTERM, FINAL, PROJECTS, ETC.)

See attached sample course syllabus.

11. ADDITIONAL GRADUATE REQUIREMENTS IF LISTED AS AN UNDERGRADUATE/GRADUATE COURSE

See attached sample course syllabus.

12. PROVIDE COMPLETE BIBLIOGRAPHY (May be submitted as a separate document)

Anderson, T.L. 2004. Fracture Mechanics: Fundamentals and Applications (3rd Edition). CRC Press.

Boresi, A.P. & Schmidt, R.J. 2003. Advanced Mechanics of Materials (6th Edition). Wiley.

Chen, W.F. & Han, D.J. 2007. Plasticity for Structural Engineers. J. Ross Publishing.

Chen, W.F. & Lui, E.M. 1987. Structural Stability: Theory and Implementation. Prentice Hall.

Reddy, J.N. 2013. An Introduction to Continuum Mechanics (2nd Edition). Cambridge University Press.

Timoshenko, S.P. & Gere, J.M. 2009. Theory of Elastic Stability. Dover Civil and Mechanical Engineering.

Timoshenko, S.P. & Woinowsky-Krieger, S.. 2010. Theory of Plates & Shells. Tata McGraw-Hill.

Young, W.C., Budynas, R.G. & Sadegh, A.M. 2011. Roark's Formulas for Stress and Strain (8th Edition). McGraw-Hill Education.

Request for Graduate Course Addition - Page 5

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

Department:

Course Number and Title:

Catalog Description:

Prerequisites:

First Term Offered:

Credit Hours:

Department: Weisberg Division of Engineering

Course Number and Title: ENGR 670 (Advanced Stress Analysis)

Catalog Description:

Three-dimensional stress and strain, failure criteria, advanced topics in structural mechanics, energy methods, introduction to the theory of elasticity, fundamentals of fracture mechanics.

Prerequisites: None

First Term Offered: Spring 2017

Credit Hours: 3 hours (3 lecture)

Course Title/Number	ENGR 670 / Advanced Stress Analysis
Semester/Year	Spring / 2017
Days/Time	
Location	
Instructor	Gregory K. Michaelson, Ph.D.
Office	WAEC 2227
Phone	(304) 696-5606
E-Mail	michaelson@marshall.edu
Office Hours	
University Policies	<p>By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/.</p> <p>Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment</p>

Course Description: From Catalog

Three-dimensional stress and strain, failure criteria, advanced topics in structural mechanics, energy methods, introduction to the theory of elasticity, fundamentals of fracture mechanics.

Prerequisite / Concurrent Courses

None.

Required Texts, Additional Reading, and Other Materials

Boresi, A.P. & Schmidt, R.J. 2003. *Advanced Mechanics of Materials* (6th Edition). Wiley.
ISBN: 0471438812

Grading Policy

Grading Basis		Grading Scale	
Homework:	40%	A:	90 ≤ Grade ≤ 100
Midterm Exam:	30%	B:	80 ≤ Grade ≤ 90
Final Exam:	30%	C:	70 ≤ Grade ≤ 80
Total:	100%	D:	60 ≤ Grade ≤ 70
		F:	Grade < 60

Course Student Learning Outcomes

Outcome	Implementation	Evaluation Method
Students will demonstrate an understanding of three-dimensional stress/strain analysis.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will demonstrate an understanding of failure criteria for ductile and brittle materials.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will demonstrate an understanding of advanced material behavior (creep, fatigue, etc.)	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to determine the response of noncircular cross-sections subjected to torsion.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to compute the shear center of thin-walled cross-sections.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to determine the response of beams supported by elastic foundations.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to analyze curved beams.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to analyze thin- and thick-walled cylinders for mechanical and thermal loads.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to solve fundamental problems involving plate bending.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to utilize energy approaches to assess structural mechanics problems.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to utilize elasticity approaches to assess structural mechanics problems.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to assess stress concentrations in due to fabrication singularities (cracks, holes, etc.).	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.
Students will be able to compute stress intensity factors for cracks in structural mechanics problems.	In-class discussions, in-class exercises, homework, exams.	In-class questions, the evaluations of homework and exam problems.

Topics Covered

<p>Part I: Stress/Strain Theory</p>	<ul style="list-style-type: none"> • Tensor Definition of Stress <ul style="list-style-type: none"> ○ Transformation of Stress ○ Principal Stresses (Eigenvalue Approach) ○ Stress Invariants ○ Mohr's Circle in Three Dimensions • Tensor Definition of Strain <ul style="list-style-type: none"> ○ Strain of Line Elements ○ Strain-Compatibility Relationships
<p>Part II: Failure Criteria</p>	<ul style="list-style-type: none"> • Yield Criteria <ul style="list-style-type: none"> ○ General Criteria (Maximum Principal Stress) ○ Ductile Materials: Tresca & von Mises Criteria ○ Brittle Materials: Mohr-Coulomb and D.P. Criteria • Inelastic Material Behavior <ul style="list-style-type: none"> ○ Nonlinear Behavior ○ Creep / Relaxation Effects
<p>Part III: Advanced Topics in Structural Mechanics</p>	<ul style="list-style-type: none"> • Torsion of Noncircular Cross-Sections <ul style="list-style-type: none"> ○ Stress-Function Approach ○ Approximate Computation of Warping Constants • Shear Centers of Thin-Walled Cross-Sections • Beams on Elastic Foundations • Curved Beams • Cylinder Applications <ul style="list-style-type: none"> ○ Thin-Walled Cylinders ○ Thick-Walled Cylinders • Plate Bending <ul style="list-style-type: none"> ○ Derivation of Governing Differential Equation ○ Series Solutions for Plate Deflections
<p>Part IV: Energy Methods</p>	<ul style="list-style-type: none"> • Introduction to Variational Calculus • Rayleigh-Ritz Methods • Ritz Approaches
<p>Part V: Theory of Elasticity</p>	<ul style="list-style-type: none"> • Linear-Elastic Constitutive Relationships • Stress Function Approach to 2D Problems • Topics in Experimental Stress Analysis
<p>Part VI: Fracture Mechanics</p>	<ul style="list-style-type: none"> • Introduction to Stress Concentrations <ul style="list-style-type: none"> ○ Fracture Mechanics & Calculation of Stress Intensity Factors • Fatigue Analysis: <ul style="list-style-type: none"> ○ S-N Curves ○ Paris Law

Request for Graduate Course Addition

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
2. E-mail one identical PDF copy to the Graduate Council Chair. If attachments included, please merge into a single file.
3. **The Graduate Council cannot process this application until it has received both the PDF copy and the signed hard copy.**

College: COLA

Dept/Division: Political Science

Alpha Designator/Number: PSC 502

 Graded CR/NC

Contact Person: Dr. Jess Morrissette

Phone: 304-696-2760

NEW COURSE DATA:

New Course Title: Politics of the Undead

Alpha Designator/Number:

P S C 5 0 2

Title Abbreviation:

P O L I T I C S O F T H E U N D E A D

(Limit of 25 characters and spaces)

Course Catalog Description:
(Limit of 30 words)

A graduate survey of political thought, international relations theory, and political economy through the pop cultural lens of vampires, zombies, and other undead creatures.

Co-requisite(s): N/A

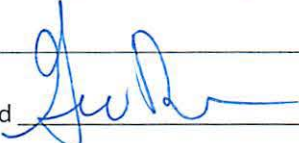


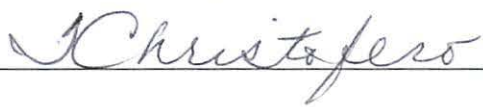
First Term to be Offered: Spring 2017

Prerequisite(s): N/A

Credit Hours: 3

Course(s) being deleted in place of this addition (must submit course deletion form): N/A

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

Dept. Chair/Division Head		Date	9/21/15
Registrar	 451001	Date	9/23/15
College Curriculum Chair		Date	10/14/15
Graduate Council Chair		Date	12-8-15

Request for Graduate Course Addition - Page 2

College: COLA

Department/Division: Political Science

Alpha Designator/Number: PSC 502

Provide complete information regarding the new course addition for each topic listed below. Before routing this form, a complete syllabus also must be attached addressing the items listed on the first page of this form.

1. FACULTY: Identify by name the faculty in your department/division who may teach this course.

Dr. Jess Morrissette

2. DUPLICATION: If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the proposal. Enter "**Not Applicable**" if not applicable.

Not applicable

3. REQUIRED COURSE: If this course will be required by another department(s), identify it/them by name. Enter "**Not Applicable**" if not applicable.

Not applicable

4. AGREEMENTS: If there are any agreements required to provide clinical experiences, attach the details and the signed agreement. Enter "**Not Applicable**" if not applicable.

Not applicable

5. ADDITIONAL RESOURCE REQUIREMENTS: If your department requires additional faculty, equipment, or specialized materials to teach this course, 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 "**Not Applicable**" if not applicable.

Not applicable

6. COURSE OBJECTIVES: (May be submitted as a separate document)

Demonstrate how popular culture can contribute to the study of political science.

Compare depictions of power and powerlessness in fictional portrayals of the undead.

Deconstruct works of undead fiction in order to analyze depictions of class, gender, race, and sexuality.

Produce an original analytical work utilizing the undead metaphor to explore a political question.

Request for Graduate Course Addition - Page 3

7. COURSE OUTLINE (May be submitted as a separate document)

Week 1: Introduction

Week 2: Open graves, open minds—the scholarly study of pop culture and the undead

Week 3: The undead, truth, and social science

Week 4: The political economy of the living dead

Week 5: Vampire capitalists and zombie consumers

Week 6: "A war of all against all"—zombies and the social contract

Week 7: Dracula, "the Other," and Orientalism

Week 8: The Zombie as the Ultimate "Other"

Week 9: Race, ethnicity, and the undead

Week 10: Gender politics and the undead

Week 11: Zombies and international relations

Week 12: Zombies in a globalized world

Week 13: Crisis management and the undead threat

Weeks 14/15: Research Presentations

(See attached syllabus for additional details.)

8. SAMPLE TEXT(S) WITH AUTHOR(S) AND PUBLICATION DATES (May be submitted as a separate document)

Brooks, *World War Z: An Oral History of the Zombie War* (ISBN: 9780307346612), 2006

Drezner, *Theories of International Politics and Zombies* (ISBN: 9780691147833), 2011

Kirkman et al., *The Walking Dead: Compendium One* (ISBN: 9781607060765), 2009

Grant, *The Dread of Difference: Gender and the Horror Film* (ISBN: 978-0292727946), 1996

McNally, *Monsters of the Market: Zombies, Vampires, & Global Capitalism* (ISBN: 9781608462339), 2012

9. EXAMPLE OF INSTRUCTIONAL METHODS (Lecture, lab, internship)

Lectures, discussions, informal classroom debates, group problem-solving exercises, paper workshops.

Request for Graduate Course Addition - Page 4

10. EXAMPLE EVALUATION METHODS (CHAPTER, MIDTERM, FINAL, PROJECTS, ETC.)

Midterm and final exam (essay-based, each approximately 25 pages long), one short paper (5 pages), a term paper (20 pages), and class participation.

11. ADDITIONAL GRADUATE REQUIREMENTS IF LISTED AS AN UNDERGRADUATE/GRADUATE COURSE

The graduate students read four additional books (*Dread of Difference*, *Pretend We're Dead*, *Zombies in the Academy*, and *Monsters of the Market*), and write four additional essays (approximately 5 pages each) based on these books on their midterm and final exams. In addition, the graduate students write a longer, more sophisticated graduate-level term paper.

12. PROVIDE COMPLETE BIBLIOGRAPHY (May be submitted as a separate document)

- Barrows, A. 2006. Heidegger the Vampire Slayer: The undead and fundamental ontology. In R. Greene and K. Mohammad (Eds.), *The undead and philosophy: Chicken soup for the soulless* (pp. 69-79). Chicago: Open Court Press.
- Bishop, ed., *American Zombie Gothic: The Rise and Fall (and Rise) of the Walking Dead in Popular Culture* (McFarland, 2010)
- Boluk and Lenz, *Generation Zombie: Essays on the Living Dead in Modern Culture* (McFarland, 2011)
- Brummett, *Rhetoric in Popular Culture* (Sage, 2011)
- Christie and Lauro, *Better Off Dead: The Evolution of the Zombie as Post-Human* (Fordham University, 2011)
- Danesi, *Introductory Perspectives: Popular Culture* (Rowman and Littlefield, 2012)
- Drezner, *Theories of International Politics and Zombies* (Princeton, 2011)
- Dunn and Housel, eds., *True Blood and Philosophy: We Wanna Think Bad Things with You* (Wiley, 2010)
- Forry, J. G. (2006). "Powerful, beautiful, and without regret": Femininity, masculinity, and the vampire aesthetic. In R. Greene and K. Mohammad (Eds.), *The undead and philosophy: Chicken soup for the soulless* (pp. 237-247). Chicago: Open Court Press.
- Giroux, *Zombie Politics and Culture in the Age of Casino Capitalism* (Peter Lang, 2011)
- Godfrey, R., Jack, G., & Jones, C. (2004). Sucking, bleeding, breaking: On the dialectics of vampirism, capital, and time. *Culture and Organization* 10(1), 25-36.
- Grant, *The Dread of Difference: Gender and the Horror Film* (University of Texas, 1996)
- Hamako, Eric. "Zombie Orientals Ate My Brain! Orientalism in Contemporary Zombie Stories." *Race, Oppression and the Zombie: Essays on Cross-cultural Appropriations of the Caribbean Tradition*. Ed. Christopher M. Moreman and Cory James Rushton. Jefferson, NC: McFarland & Company, 2011. 107-123.
- Hatlen, B. (1988). The return of the repressed/oppressed in Bram Stoker's *Dracula*. In M. Carter (Ed.), *Dracula: The vampire and the critics* (pp. 109-116). Ann Arbor, MI: UMI Research Press.
- Housel and Wisniewski, *Twilight and Philosophy* (Wiley, 2009)
- Jowett, *Sex and the Slayer: A Gender Studies Primer for the Buffy Fan* (Wesleyan, 2005)
- McNally, *Monsters of the Market: Zombies, Vampires, and Global Capitalism* (Haymarket, 2012)
- Moreman and Rushton, *Race, Oppression and the Zombie: Essays on Cross-cultural Appropriations of the Caribbean Tradition* (McFarland, 2011)
- Moreman and Rushton, *Zombies Are Us: Essays on the Humanity of the Walking Dead* (McFarland, 2011)
- Moretti, F. (1999). *Dracula and capitalism*. In G. Byron (Ed.), *Dracula: Contemporary critical essays* (pp. 43-54). New York: St. Martin's Press.
- Morrisette, "Zombies, International Relations, and the Production of Danger: Critical Security Studies versus the Living Dead." *Studies in Popular Culture* 36, no. 2 (Spring 2014): 1-27.
- Morrisette, "Marxferatu: The Vampire Metaphor as a Tool for Teaching Marx's Critique of Capitalism." *PS: Political Science & Politics* 46, no. 3 (July 2013): 637-642.
- Neocleous, M. (2003). The political economy of the dead: Marx's vampires. *History of Political Thought*, 24(4), 668-684.
- Nevarez, *The Vampire Goes to College: Essays on Teaching with the Undead* (McFarland, 2013)
- Newitz, A. (2006). *Pretend we're dead: Capitalist monsters in American Pop Culture*. Durham, NC: Duke University Press.
- Paffenroth, *Gospel of the Living Dead* (Baylor University, 2006)
- Yuen, ed., *The Walking Dead and Philosophy: Zombie Apocalypse Now* (Open Court, 2012)
- Sellnow, *The Rhetorical Power of Popular Culture: Considering Mediated Texts* (Sage, 2010)
- Smith, ed., *Braaaaaiinnnsss! From Academics to Zombies* (University of Ottawa, 2011)
- South, *Buffy the Vampire Slayer and Philosophy: Fear and Trembling in Sunnydale* (Open Court, 2003)
- Story, *Cultural Theory and Popular Culture: An Introduction*, 6th ed. (Pearson, 2012)
- Strinati, *An Introduction to Theories of Popular Culture* (Routledge, 2004)
- Whitman and Dow, eds. *Economics of the Undead: Zombies, Vampires, and the Dismal Science* (Rowman and Littlefield, 2014)

Request for Graduate Course Addition - Page 5

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

Department:

Course Number and Title:

Catalog Description:

Prerequisites:

First Term Offered:

Credit Hours:

Department: Political Science

Course Number and Title: PSC 502, Politics of the Undead

Catalog Description: A graduate survey of political thought, international relations theory, and political economy through the pop cultural lens of vampires, zombies, and other undead creatures.

Prerequisites: None

First Term Offered: Fall ~~2015~~ 2017

Credit Hours: 3

Course Title/Number	Politics of the Undead, PSC 502
Semester/Year	Spring 2017
Days/Time	Tu 4:00-6:20
Location	Smith Hall 433
Instructor	Dr. Jess Morrissette
Office	739 Smith Hall
Phone	(304) 696-2760
E-Mail	morrissette@marshall.edu
Office Hours	M/W 9-12, or by appointment
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/ . Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

Course Description: From Catalog

A graduate survey of political thought, international relations theory, and political economy through the pop cultural lens of vampires, zombies, and other undead creatures.

The table below shows the following relationships: How each student learning outcome will be practiced and assessed in the course.

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
<i>Students will demonstrate how popular culture can contribute to the study of political science.</i>	Lectures, discussions, in-class activities	Exams, essays, term paper
Students will analyze depictions of power and powerlessness in fictional portrayals of the undead.	Lectures, discussions, in-class activities	Exams, essays, term paper
Students will assess key theories, concepts, and debates in the field of political science (including feminist thought, the Marxist critique of capitalism, social contract theory, international relations theory, etc.) using the undead metaphor.	Lectures, discussions, in-class activities	Exams, essays, term paper
<i>Students will produce an original analytical work utilizing the undead metaphor to explore a political question.</i>	Discussions, research presentations, in-class activities	Term paper

Required Texts, Additional Reading, and Other Materials

Required Texts (Undergraduates and Graduates):

- Brooks, Max. *World War Z: An Oral History of the Zombie War*. New York: Crown, 2006.
- Drezner, Daniel W. *Theories of International Politics and Zombies*. Princeton, N.J.: Princeton University Press, 2011.
- Kirkman, Robert, and Charles Adlard. *The Walking Dead Compendium*. Berkeley, Calif.: Image Comics, 2009.

Required Texts (Graduate Students Only):

- Grant, Barry Keith. *The Dread of Difference: Gender and the Horror Film*. Austin: University of Texas Press, 1996.
- McNally, David. *Monsters of the Market: Zombies, Vampires, and Global Capitalism*. Leiden: Brill, 2011.
- Newitz, Annalee. *Pretend We're Dead: Capitalist Monsters in American Pop Culture*. Durham: Duke University Press, 2006.
- Whelan, Andrew. *Zombies in the Academy: Living Death in Higher Education*. University of Chicago Press, 2013.

Films and Television Episodes:

- *Night of the Living Dead* (1968)
- *Dawn of the Dead* (1978)
- *28 Days Later* (2002)
- *Dracula* (1931)
- *The Walking Dead* (Season 1, Episode 1: "Days Gone By")

Weekly readings will also be posted on MUOnline (see course schedule for more details).

Course Requirements/Due Dates

Essay of the Living Dead: Students will watch the 1968 film *Night of the Living Dead* and write an essay (approximately 5 pages long) analyzing political themes in the film. The essay should, at a minimum, define "politics" (in your own words) and discuss how *Night of the Living Dead* is "political," citing specific examples from the film where appropriate. How does the film represent the era in which it was made? How do you think the film would differ if it were remade today? The essay is due during the second week of class.

Exams: You will complete two take-home exams this semester. Approximately one week prior to the respective due-dates, I will distribute a set of 5-6 essay questions. In turn, students will return the completed exams on the dates specified in the course schedule. Please note that while these are take-home exams, they are still exams. In other words, students are not allowed to collaborate with one another in the completion of the exams.

As graduate students, your exams will include additional questions covering your graduate readings. Specifically, the midterm will include questions from McNally's *Monsters of the Markey* and Newitz's *Pretend We're Dead*; the final will include questions from Grant's *The Dread of Difference* and Whelan's *Zombies in the Academy*.

I expect the essay questions will require approximately 5 pages each to answer thoroughly (for a total length of 25-30 pages for the midterm and 25-30 pages for the final).

Graduate Term Paper: Graduate students will propose, research, and write a *graduate-level* term paper integrating pop culture and political science. While I encourage you to consider writing about the undead, you are welcome to explore the politics of some other aspect of pop culture instead. Use the articles we've read this semester as a model for your own analysis, utilizing political science to illuminate a work of popular culture (or vice versa). For example, you might examine the politics of gender as presented in zombie films or apply Weber's theories of political legitimacy to competing claims to the crown in *Game of Thrones*. As always, the goal is *analysis*—not mere summary. Aspire to write a term paper appropriate for presentation at a professional conference or even submission to a scholarly journal! Please consider the following guidelines as you work on your paper:

- **LENGTH:** Your term paper should be approximately 20 pages, not counting cover pages and works cited pages.
- **SOURCES:** Your term paper must cite, at a minimum, fifteen academic sources. In this context, "academic" refers to scholarly journals (online or print) and university-press books.
- **CITATIONS:** As always, you must cite your sources! That includes not only citing direct quotations, but also any paraphrased material or statistics. Also, be certain to include a bibliography or "works cited" page at the end of your essay. For the purposes of this class, I request that you use the APSA style guidelines

Papers are due following the final week of the class. We will devote the last two weeks of the semester to research presentations. I will provide more details as the presentations approach.

Grading Policy

5% Participation	A = 90-100%
10% Essay of the Living Dead	B = 80-89%
25% First Exam	C = 70-79%
25% Second Exam	D = 60-69%
10% Research Presentation	F ≤ 59%
25% Term Paper	

Attendance Policy

Attendance is required in this class, and students are expected to have read and be ready to discuss all assigned readings prior to class. Students will also be graded based on their class participation—engaging in discussion of the readings and current events, asking questions, and so forth. Once again, attendance is clearly important; if you aren't in class, you can't participate.

Course Schedule

⇒ Week 1: Introduction

- Film: *Night of the Living Dead* (1968)

ESSAY OF THE LIVING DEAD DUE

⇒ Week 2: Open graves, open minds—the scholarly study of pop culture and the undead

- Sellnow, “What Is Popular Culture and Why Study It?” (PDF)
- Danesi, “Explaining Pop Culture” (PDF)
- Mio, “Metaphor and Politics” (PDF)
- Vargas, “Dead Serious: Evil and the Ontology of the Undead” (PDF)

⇒ Week 3: The undead, truth, and social science

- *Visum et Repertum* (PDF)
- Tucker, “The Great New England Vampire Panic”
- “2012 Zombie Apocalypse” (PDF)
- Popper, “Science as Falsification” (PDF)
- Newitz, “War May Lead to Increase in Zombie Movie Production” (PDF)
- Kirkman et al., *The Walking Dead Compendium*

⇒ Week 4: The political economy of the living dead

- Film: *Dawn of the Dead* (1978)
- Walker, “When There’s No More Room in Hell, the Dead Will Shop the Earth” (PDF)
- Kirkman et al., *The Walking Dead Compendium*

⇒ Week 5: Vampire capitalists and zombie consumers

- Marx and Engels, *The Communist Manifesto* (PDF)
- Sellnow, “A Marxist Perspective” (PDF)
- Moretti, “A Capital *Dracula*” (PDF)
- Neocleous, “The Political Economy of the Dead: Marx’s Vampires” (PDF)
- Whitman, “The Political Economy of Non-Coercive Vampire Lifestyles” (PDF)
- Kirkman et al., *The Walking Dead Compendium*

⇒ Week 6: “A war of all against all”—zombies and the social contract

- Hobbes, “Excerpt from *Leviathan*” (PDF)
- Locke, “Excerpt from *Second Treatise on Government*” (PDF)
- Sheppard, “Realistically, Nice Guys Finish Last” (PDF)
- Murray, “When They Aren’t Eating Us, They Bring Us Together...”
- Barkman, “I Don’t Think Those Rules Apply Anymore” (PDF)
- Kirkman et al., *The Walking Dead Compendium*

FIRST EXAM DUE

⇒ Week 7: *Dracula*, “the other,” and Orientalism

- Said, “*Orientalism*: Introduction” (PDF)
- Arata, “The Occidental Tourist: *Dracula* and the Anxiety of Reverse Colonization” (PDF)
- Senf, “Traveling to Transylvania: Race, Space, and the British Empire” (PDF)
- Film: *Dracula*

⇒ **Week 8: The Zombie as the Ultimate Other**

- Mikdadi, "Orientalism and the Representation of 'Others' in *The Mummy*" (PDF)
- Hamako, "Zombie Orientals Ate My Brain! Orientalism in Contemporary Zombie Stories" (PDF)

TERM PAPER TOPIC DUE

⇒ **Week 9: Race, ethnicity, and the undead**

- Storey, "'Race', racism and representation" (PDF)
- Saunders, "Zombies in the Colonies: Imperialism and Contestation of Ethno-Political Space..." (PDF)
- Bishop, "The Sub-Subaltern Monster: Imperialist Hegemony and the Cinematic Voodoo Zombie"
- Ahmad, "Gray is the New Black: Race, Class, and Zombies" (PDF)

⇒ **Week 10: Gender politics and the undead**

- Sellnow, "Feminist Perspectives"
- Patterson, "Cannibalizing Gender & Genre: A Feminist Re-Vision of Romero's Zombie Films"
- Barkman, "Women in a Zombie Apocalypse" (PDF)
- Pye and O'Sullivan, "Dead Man's Party" (PDF)
- Jenson and Sarkeesian, "Buffy vs. Bella: The Re-Emergence of the Archetypal Feminine..."

⇒ **Week 11: Zombies and international relations**

- Drezner, "Preface" through "Neoconservatism and the Axis of Evil Dead"
- Brooks, "Introduction" through "Turning the Tide"

⇒ **Week 12: Zombies in a globalized world**

- Drezner, "The Social Construction of Zombies" through "Conclusion"
- Brooks, "Home Front USA" through "Good-Byes"
- Beck, "The Terrorist Threat: World Risk Society Revisited" (PDF)
- Film: *28 Days Later*

SECOND EXAM DUE

⇒ **Week 13: Crisis management and the undead threat**

- CDC, "Zombie Preparedness"

⇒ **Weeks 14-15: Research Presentations**

- Sellnow, "Writing a Popular Culture Rhetorical Essay"

TERM PAPER DUE

Please note that assignments are tentative. Readings may be removed, added, or moved to a different day based on our progress in the semester.

Request for Graduate Course Addition

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
2. E-mail one identical PDF copy to the Graduate Council Chair. If attachments included, please merge into a single file.
3. **The Graduate Council cannot process this application until it has received both the PDF copy and the signed hard copy.**

College: COLA

Dept/Division: Political Science

Alpha Designator/Number: PSC 503

 Graded CR/NC

Contact Person: Jess Morrissette

Phone: (304) 696-2760

NEW COURSE DATA:

New Course Title: War and Popular Culture

Alpha Designator/Number:

P S C 5 0 3

Title Abbreviation:

W A R A N D P O P U L A R C U L T U R E

(Limit of 25 characters and spaces)

Course Catalog Description:
(Limit of 30 words)

A graduate survey of evolving depictions of political violence in film, television, graphic novels, video games, and popular music.

Co-requisite(s): N/A

First Term to be Offered: Spring 2017

Prerequisite(s): N/A

Credit Hours: 3

Course(s) being deleted in place of this addition (must submit course deletion form): N/A

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

Dept. Chair/Division Head

Date

9/21/15

Registrar

451001

Date

9/23/15

College Curriculum Chair

Date

10/14/15

Graduate Council Chair

Date

12-8-15

Request for Graduate Course Addition - Page 2

College: COLA

Department/Division: Political Science

Alpha Designator/Number: PSC 403

Provide complete information regarding the new course addition for each topic listed below. Before routing this form, a complete syllabus also must be attached addressing the items listed on the first page of this form.

1. FACULTY: Identify by name the faculty in your department/division who may teach this course.

Dr. Jess Morrissette

2. DUPLICATION: If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the proposal. Enter "**Not Applicable**" if not applicable.

Not applicable.

3. REQUIRED COURSE: If this course will be required by another department(s), identify it/them by name. Enter "**Not Applicable**" if not applicable.

Not applicable.

4. AGREEMENTS: If there are any agreements required to provide clinical experiences, attach the details and the signed agreement. Enter "**Not Applicable**" if not applicable.

Not applicable.

5. ADDITIONAL RESOURCE REQUIREMENTS: If your department requires additional faculty, equipment, or specialized materials to teach this course, 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 "**Not Applicable**" if not applicable.

Not applicable.

6. COURSE OBJECTIVES: (May be submitted as a separate document)

1. Students will analyze works of pop culture with regards to how they depict war and other forms of political violence.
2. Students will critically appraise how depictions of war in pop culture and news media influence target audiences.
3. Students will construct an original argument about the political messages embedded in pop culture and communicate that argument fluently in written form.
4. Students will generalize about how popular culture can offer valuable insights into "real world" political questions.

Please see attached syllabus for details on how these objectives will be practiced and assessed.

Request for Graduate Course Addition - Page 3

7. COURSE OUTLINE (May be submitted as a separate document)

Week 1: Studying Popular Culture

Week 2: Pop Culture During the Cold War (First movie analysis due)

Week 3: Pop Culture During the Cold War (Second movie analysis due)

Weeks 4-5: Fantasy, Science Fiction, and War (Third movie analysis due)

Week 6: Popular Music and War

Week 7: Persepolis (Midterm exam due)

Weeks 8-9: The Military-Entertainment Complex (Fourth movie analysis due)

Weeks 10-11: Militarism in American Popular Culture

Week 12: Video Games and War (Term paper due)

Weeks 13-14: Media Depictions of War

Week 15: World War Z (Final exam due)

8. SAMPLE TEXT(S) WITH AUTHOR(S) AND PUBLICATION DATES (May be submitted as a separate document)

Alford, M. (2010). *Reel power Hollywood cinema and American supremacy*. London: Pluto Press.

Donald, R., & MacDonald, K. (2011). *Reel men at war: Masculinity and the American war film*. Lanham: Scarecrow Press.

Jaramillo, D. (2009). *Ugly war, pretty package how CNN and Fox News made the invasion of Iraq high concept*. Bloomington, IN: Indiana University Press.

Lipschutz, R. (2001). *Cold War fantasies: Film, fiction, and foreign policy*. Lanham, Md.: Rowman & Littlefield.

Martin, G., & Steuter, E. (2010). *Pop culture goes to war enlisting and resisting militarism in the war on terror*. Lanham, Md.: Rowman & Littlefield.

Takacs, S. (2012). *Terrorism TV: Popular entertainment in post-9/11 America*. Lawrence: University Press of Kansas.

Engelhardt, T. (1995). *The end of victory culture: Cold war America and the disillusioning of a generation*. New York, NY: BasicBooks.

9. EXAMPLE OF INSTRUCTIONAL METHODS (Lecture, lab, internship)

Lectures, discussions, informal classroom activities, low-stakes pop culture reaction essays, term paper workshops.

Request for Graduate Course Addition - Page 4

10. EXAMPLE EVALUATION METHODS (CHAPTER, MIDTERM, FINAL, PROJECTS, ETC.)

Midterm and final exams (essay-based), four movie analyses (4 pages each), a term paper (20 pages), and class participation.

Please refer to the assignment descriptions in the attached syllabus for additional details.

11. ADDITIONAL GRADUATE REQUIREMENTS IF LISTED AS AN UNDERGRADUATE/GRADUATE COURSE

Graduate students read three additional books (*Terrorism TV*, *The End of Victory Culture*, and *Reel Men at War*) and write additional essays based on these books as part of their midterm and final exams. In addition, graduate students are expected to write longer, more carefully researched term papers and develop appropriately sophisticated arguments in these papers. Please refer to the assignment descriptions in the attached syllabus for additional details.

12. PROVIDE COMPLETE BIBLIOGRAPHY (May be submitted as a separate document)

Alford, M. (2010). *Reel power Hollywood cinema and American supremacy*. London: Pluto Press.

Belle, D., & Mash, K. (2010). *A novel approach to politics: Introducing political science through books, movies, and popular culture* (2nd ed.). Washington, D.C.: CQ Press.

Boggs, C., & Pollard, T. (2007). *The Hollywood war machine: U.S. militarism and popular culture*. Boulder: Paradigm Pub.

Brummett, B. (2006). *Rhetoric in popular culture* (2nd ed.). Thousand Oaks, Calif.: Sage Publications.

Dittmer, J. (2013). *Captain America and the nationalist superhero: Metaphors, narratives, and geopolitics*. Philadelphia: Temple University Press.

Donald, R., & MacDonald, K. (2011). *Reel men at war: Masculinity and the American war film*. Lanham: Scarecrow Press.

Engelhardt, T. (1995). *The end of victory culture: Cold war America and the disillusioning of a generation*. New York, NY: BasicBooks.

Halter, E. (2006). *From Sun Tzu to Xbox: War and video games*. New York, N.Y.: Thunder's Mouth Press.

Jaramillo, D. (2009). *Ugly war, pretty package how CNN and Fox News made the invasion of Iraq high concept*. Bloomington, IN: Indiana University Press.

Jeansonne, G., & Lührssen, D. (2014). *War on the silver screen: Shaping America's perception of history*. Potomac Books.

Kellner, D. (2010). *Cinema wars: Hollywood film and politics in the Bush-Cheney era*. Chichester, West Sussex, U.K.: Wiley-Blackwell.

Martin, G., & Steuter, E. (2010). *Pop culture goes to war enlisting and resisting militarism in the war on terror*. Lanham, Md.: Rowman & Littlefield.

Mead, C. (2013). *War play: Video games and the future of armed conflict*. Eamon Dolan/Houghton Mifflin Harcourt.

Pollard, T. (2011). *Hollywood 9/11: Superheroes, supervillains, and super disasters*. Boulder, CO: Paradigm.

Robb, D. (2004). *Operation Hollywood: How the Pentagon shapes and censors the movies*. Amherst, N.Y.: Prometheus Books.

Sellnow, D. (2010). *The rhetorical power of popular culture: Considering mediated texts*. Los Angeles: SAGE.

Shapiro, J. (2002). *Atomic bomb cinema: The apocalyptic imagination on film*. New York: Routledge.

Strinati, D. (1995). *An introduction to theories of popular culture*. London: Routledge.

Takacs, S. (2012). *Terrorism TV: Popular entertainment in post-9/11 America*. Lawrence: University Press of Kansas.

Weber, C. (2006). *Imagining America at war: Morality, politics and film*. London: Routledge.

Request for Graduate Course Addition - Page 5

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

Department:
Course Number and Title:
Catalog Description:
Prerequisites:
First Term Offered:
Credit Hours:

Department: Political Science
Course Number and Title: PSC 503, War and Popular Culture
Catalog Description: A graduate survey of evolving depictions of political violence in film, television, graphic novels, video games, and popular music.
Prerequisites: Not applicable.
First Term Offered: Spring 2017
Credit Hours: 3

Course Title/Number	War and Popular Culture (PSC 503)
Semester/Year	Spring 2017
Days/Time	Tu/Th 2:00-3:15
Location	Smith Hall 433
Instructor	Dr. Jess Morrisette
Office	Smith Hall 739
Phone	(304) 696-2760
E-Mail	morrisette@marshall.edu
Office Hours	M/W 9-12 or by appointment
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/ . Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

Course Description: From Catalog

A graduate survey of evolving depictions of political violence in film, television, graphic novels, video games, and popular music.

The table below shows the following relationships: How each student learning outcome will be practiced and assessed in the course.

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will analyze works of pop culture with regards to how they depict war and other forms of political violence.	Lectures, discussions, in-class activities	Movie essays, midterm and final essay exams
Students will critically appraise how depictions of war in pop culture and news media influence target audiences.	Lectures, discussions, in-class activities	Midterm and final essay exams
Students will construct an original argument about the political messages embedded in pop culture and communicate that argument fluently in written form.	Lectures, discussions, in-class activities, movie essays	Term paper
Students will generalize about how popular culture can offer valuable insights into "real world" political questions.	Lectures, discussions, in-class activities, movie essays	Term paper

Required Texts, Additional Reading, and Other Materials

Required texts:

- Alford, M. (2010). *Reel power Hollywood cinema and American supremacy*. London: Pluto Press.
- Brooks, M. (2006). *World War Z: An oral history of the zombie war*. New York: Crown.
- Donald, R., & MacDonald, K. (2011). *Reel men at war: Masculinity and the American war film*. Lanham: Scarecrow Press.
- Engelhardt, T. (1995). *The end of victory culture: Cold war America and the disillusioning of a generation*. New York, NY: BasicBooks.
- Goldman, D. (2008). *Shooting war*. New York: Grand Central Pub.
- Heinlein, R. (1959). *Starship troopers*. New York: Putnam.
- Jaramillo, D. (2009). *Ugly war, pretty package how CNN and Fox News made the invasion of Iraq high concept*. Bloomington, IN: Indiana University Press.
- Lipschutz, R. (2001). *Cold War fantasies: Film, fiction, and foreign policy*. Lanham, Md.: Rowman & Littlefield.
- Martin, G., & Steuter, E. (2010). *Pop culture goes to war enlisting and resisting militarism in the war on terror*. Lanham, Md.: Rowman & Littlefield.
- Satrapi, M. (2003). *Persepolis*. New York, NY: Pantheon Books.
- Takacs, S. (2012). *Terrorism TV: Popular entertainment in post-9/11 America*. Lawrence: University Press of Kansas.

Films:

- *All Quiet on the Western Front* (1930)
- *Starship Troopers* (1997)
- *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* (1964)
- *Wag the Dog* (1997)

Additional readings will be posted on MUOnline throughout the semester.

Course Requirements/Due Dates

Midterm and Final Exams: The midterm and final exams are take-home tests. Approximately one week prior to the due-dates, I will distribute a set of essay questions. Students will then return the completed exams on the dates specified in the course schedule. Please note that while these are take-home exams, they are still exams. In other words, students are not allowed to collaborate with one another in the completion of the exams.

Graduate students will answer two additional questions on each exam related to their additional assigned readings. Each of these answers should be approximately 5 pages long. The midterm will include questions drawn from Engelhardt's *The End of Victory Culture* and Takacs' *Terrorism TV*. The final will include questions drawn from Donald and MacDonald's *Reel Men at War*. Due dates are listed in the course schedule.

Movie Essays: Graduate students will write a series of essays in response to four movies: *All Quiet on the Western Front*, *Dr. Strangelove*, *Starship Troopers*, and *Wag the Dog*. These essays should be approximately 4 pages long (compared to the 2-page essays written by undergraduates enrolled in the course). In each essay, you should analyze how the film under consideration depicts war. In other words, what message does it communicate about war, its purpose, and its effects? Be sure to cite specific examples (scenes, characters, dialogue) that support your arguments! In addition, you might consider such questions as how the film reflects the period during which it was made and how certain creative choices film help convey the film's political message. Due dates are listed in the course schedule.

Term Paper: A grad-level term paper will replace the “War & Pop Culture” paper described in the undergrad syllabus. This paper should be approximately 20 pages long, and offer a more in-depth comparison of two works of popular culture. Ideally, grad students should choose works of pop culture that explore similar subject matter (e.g. terrorism, nuclear anxieties, the impact of war on civilians, etc.) and then compare their treatments of that subject, highlighting both similarities and differences in the political themes conveyed.

Some questions I encourage you to consider when engaging in this analysis: What message does the work send about war? How does it convey that message? How does it reflect its time and place of origin? How might other cultural communities interpret its message differently? What kinds of political, economic, or culture themes are present in the work? Be sure to support your claims with specific examples from the work of pop culture under consideration (scenes, dialogue, characters, et cetera).

Use the articles we read over the course of the semester as a model for your own analysis, utilizing political science to illuminate your works of pop culture (and vice versa). As always, the goal is *analysis* — not mere summary. Aspire to write a term paper appropriate for presentation at a professional conference or even submission to a scholarly journal!

Your paper should cite at least ten scholarly sources. The due date is listed in the course schedule.

Grading Policy

Movie Essays	10%	Grading scale: 90-100 (A), 80-89 (B), 70-79 (C), 60-69 (D), ≤ 59 (F).
Midterm Exam	20%	
Term Paper	40%	
Final Exam	20%	
Participation	10%	

Failure to submit any assignment will result in a failing grade for the course, regardless of its point value.

Attendance Policy

Attendance is required in this class, and students are expected to have read and be ready to discuss all assigned readings prior to class. Students will also be graded based on their class participation—engaging in discussion of the readings and current events, asking questions, and so forth. Once again, attendance is clearly important; if you aren't in class, you can't participate.

Course Schedule

Week 1: Studying Popular Culture

- Sellnow, “What is Pop Culture and Why Study It?”
- Hedges, “War is a Force That Gives Us Meaning”
- University of Colorado, “How to Write About Film”
- Hunter College, “Writing About Film”

Week 2: Pop Culture During the Cold War

- Lipschutz, *Cold War Fantasies* (Chapters 1-5)
- Dodds, “Screening Geopolitics: James Bond and the Early Cold War Films”
- Sandbrook, “How Pop Culture Helped Win the Cold War”

All Quiet on the Western Front Essay Due

Week 3: Pop Culture During the Cold War

- Lipschutz, *Cold War Fantasies* (Chapters 6-10)
- Franklin, "Star Trek in the Vietnam Era"
- Maland, "*Dr. Strangelove*: Nightmare Comedy and the Ideology of Liberal Consensus."

Dr. Strangelove Essay Due

Week 4: Fantasy, Science Fiction, and War

- Noriega, "Godzilla and the Japanese Nightmare"
- Berents, "Hermione Granger Goes to War"
- Genter, "'With Great Power Comes Great Responsibility': Cold War Culture and the Birth of Marvel Comics"

Week 5: Fantasy, Science Fiction, and War

- Norlund, "Imagining Terrorists Before 9/11: Marvel's GI Joe"
- Corrigan, "The War in Westeros and Just War Theory"
- Westmyer, "*Game of Thrones*: The Dragons and Nuclear Weapons Nexus"
- Heinlein, *Starship Troopers* (start)

Week 6: Popular Music and War

- Heinlein, *Starship Troopers* (finish)
- Rodnitzky, "The Sixties between the Microgrooves"
- Garofalo, "U.S. Popular Music after 9/11"
- Wolf, "Katy Perry & the Military-Pop-Cultural Complex"
- Associated Press, "US Co-opted Cuba's Hip-hop Scene to Spark Change"

Starship Troopers Essay Due

Week 7: *Persepolis*

- Satrapi, *Persepolis: The Story of a Childhood* (all)

Midterm Exam Due

Week 8: The Military-Entertainment Complex

- Alford, *Reel Power* (Chapters 1-5)
- Kang, "Tales Of The Military-Entertainment Complex: Why The U.S. Navy Produced *Battleship*"
- Turse, "Hollywood Is Becoming the Pentagon's Mouthpiece for Propaganda"

Week 9: The Military-Entertainment Complex

- Alford, *Reel Power* (Chapters 6-9)
- Hornaday, "Act of Valor: New Breed of War Movie or Propaganda?"

Wag the Dog Essay Due

Week 10: Militarism in American Popular Culture

- Martin and Steuter, *Pop Culture Goes to War* (Intro and Chapters 1-4)
- Giroux, "War on Terror: The Militarising of Public Space and Culture in the United States"
- Lipsyte, "Sports Metaphors Trivialize War"
- Stahl, "Sports and the Militarized Body Politic"

Week 11: Militarism in American Popular Culture

- Martin and Steuter, *Pop Culture Goes to War* (Chapters 5-8 and Conclusion)
- Spigel, "Entertainment Wars: Television Culture after 9/11"
- Kuipers, "'Where Was King Kong When We Needed Him?' Public Discourse, Digital Disaster Jokes, and the Functions of Laughter after 9/11"

Week 12: Video Games and War

- Goldstein, "Immortal Kombat: War Toys and Violent Video Games"
- Nieborg, "Training Recruits and Conditioning Youth: The Soft Power of Military Games"
- Thomson, "From Underdog to Overmatch: Computer Games and Military Transformation"
- Kang, "ISIS's Call of Duty"

Term Paper Due

Week 13: Media Depictions of War

- Jaramillo, *Ugly War, Pretty Package* (Intro, Chapters 1-3)
- Lappé and Goldman, *Shooting War* (start)
- Mason, "The Hillbilly Defense"

Week 14: Media Depictions of War

- Jaramillo, *Ugly War, Pretty Package* (Chapters 4-6, Conclusion)
- Lappé and Goldman, *Shooting War* (finish)
- Lindsey, "What Does the Arab Spring Tell Us about the Future of Social Media in Revolutionary Movements?"

Week 15: *World War Z*

- Brooks, *World War Z* (all)
- Morrissette, "Zombies, International Relations, and the Production of Danger"

Final Exam Essay Due