

Minutes
The West Virginia University Faculty Senate
Monday, April 8, 2013

1. Michael Mays, Faculty Senate Chair, called the meeting to order at 3:16 p.m. in Assembly Rooms A&B, NRCCE.

Members Present:

Abraham, R.	Curtis, R.	Hostuttler, L.	Meckstroth, R.	Ruscello, D.
Ameri, S.	Davis, S.	Huffman, V.	Merrifield, J.	Sand-Jecklin, K.
Anderson, J.	DiBartolomeo, L.	Iskander, W.	Moritz, J.	Schreurs, B.
Anderson, K.	Dino, G.	Johnston, A.	Munasinghe, R.	Scott, H.
Atkins, C.	Elmore, S.	Kale, U.	Nutter, R.	Sherlock, L.
Baldwin, C.	Etzel, E.	Kershner, R.	Oberhauser, A.	Sperow, M.
Bastress, R.	Famouri, P.	Kirby, B.	Orlikoff, J.	Stolzenberg, A.
Bergner, G.	Finkel, M.	Kite, S.	Peace, G.	Turton, R.
Bilgesu, I.	Funk, A.	Kuhlman, J.	Perna, N.	Valenti, M.
Blake, L.	Graber, S.	Lieving, G.	Petronis, J.	Veselicky, K.
Boone, D.	Harner, J.	Livengood, R.	Polak, J.	Watson, J.
Brazaitis, M.	Harris, T.	Lofaso, A.	Prudhomme, J.	Weihman, L.
Campbell, L.	Hileman, S.	Mandich, M.	Reddy, R.	Woloshuk, J.
Cassels, A.	Holmes, M.	Matak, K.	Reymond, R.	Wood, A.
Cottrell, L.	Hornsby, G.	Mays, M.	Rose, T.	Yang, H.
Cronin, A.				

Members Excused:

Barretto, G.	Ferrara, L.	Kopriva, N.	Paternostro, M.	Sherwin, M.
Britten, R.	Fint-Clark, R.	Lastinger, V.	Perone, M.	Stack, S.
Brooks, R.	Graves, C.	Lorimer, D.	Petty, T.	Tuninetti, A.
Bryner, R.	Hartley, D.	Miltenberger, M.	Putman, H.	Vona-Davis, L.
Cohen, S.	Kleist, V.	Osborne, E.	Ryan, K.	Wenger, S.

Members Absent:

Abate, M.	Connors, J.	Huber, J.	Nelson, C.	Tower, L.
Anfinson, J.	Fisher, M.	Knight, J.	Nichols, A.	Watson, D.
Bowen, E.	Fuller, E.	Kromar, R.	Rockett, I.	Whiteman, C.
Brock, R.	Griffith, R.	Miller, M.	Tallaksen, R.	Wilcox, G.
Carpenter, R.	Hashmi, M.			

Faculty Senate Officers Present:

Cottrell, L.	DiBartolomeo, L.	Lee, P.	Mays, M.
--------------	------------------	---------	----------

2. Chair Mays moved for approval of the minutes from the Monday, March 11, 2013 meeting.
Motion carried.
3. President Clements reported on the following issues:
- We may still be looking at a \$13.5 million budget reduction; we will know more later in the week as the legislative session comes to an end.

- An ENEWS announcement went out today about a cost-savings web site. Last year, we documented about \$12.4 million in savings. Any input with respect to ideas for revenue generation or for ways to save money is appreciated.
- He recently met with the Strategic Planning Council. A number of great things are taking shape around the five strategic goals. He thanked Nigel Clark for his leadership.
- A publication out of WVU Tech titled “Bear Tracks” highlighted some recent developments in Montgomery: renovations to the new Student Success Center that will provide advising, tutoring, and other student services aimed at supporting student retention and success; completion of a renovation to Old Main; expansion of Wi-Fi; and repaved roads. Other efforts underway include a new Alumni Recruitment Network, exploration of new academic offerings, and work on a comprehensive student retention plan.
- At Potomac State, more than 40 presenters from industry, academia, and education groups offered hands-on activities to over 100 children and their families at the first Mineral County STEM Festival. The purpose was to inspire interest in science, technology, engineering, and mathematics fields. The event was coordinated by the new Mineral County STEM Network.
- In terms of achieving our diversity goals, last month we announced that we joined the Hispanic Association of Colleges and Universities (HACU) as a partner institution. HACU, established in 1986, represents more than 400 colleges and universities committed to Hispanic higher education success in the U.S., Puerto Rico, Latin America, Spain, and Portugal.
- Three WVU faculty members have been chosen to receive the James and Arthur Gabriel/Gabriel Brothers, Inc. Faculty Award. Those selected include two English Department faculty members, Brian Ballentine, associate professor and coordinator of the professional writing and editing program, and Mark Brazaitis, professor and coordinator of creative writing. The third recipient is Rebecca Chory, professor of communication studies. The award was created to promote and support faculty members in their projects associated with American culture and society.
- The WVU Sport and Exercise Psychology program in CPASS was recognized for Distinguished Contributions to Education and Training in Exercise and Sport Psychology. The award was given by the American Psychological Association (APA). Every three years, the APA awards a sport psychologist or training program that over time has consistently provided significant contributions to education and training in exercise and sport psychology. This is the first time the APA has given the award to a group rather than a single individual. The Sport and Exercise Psychology program is also a WVU Board of Governors Program of Excellence based on its national reputation of distinction, strength in the area of curriculum and assessment, success of our graduates, and the quality of the faculty.
- The online master’s program in Integrated Marketing Communications (IMC) in the Reed School of Journalism recently celebrated its tenth anniversary. The program launched in 2003 with 17 students. Today, the program has 426 students enrolled from 41 states and 5 foreign countries, as well as almost 500 graduates representing 46 states and countries on 5 of the 7 continents.

- The West Virginia Campus Compact, a coalition of 28 college and universities that encourages and supports community engagement in higher education, honored a number of people from WVU at its annual statewide conference. Kristi Wood-Turner and Gina Baugh were honored with Engaged Educator Awards, which honor individuals who promote service learning on their campuses. WVU student Allyson Parris won the Photos of Engagement contest with her photo entry “Soldiers of the Coalfield.” Jenny Boulware was honored with the LINK Promising Newcomer Award for her work with community members in Ritchie County.
- Ken Fones-Wolf received a fellowship from the American Council of Learned Societies. The fellowship program is dedicated to furthering research in all disciplines of the humanities and related social sciences.
- Nigel Clark has been named to a National Academies study panel, an ad-hoc committee formed to continue the work done in 2010 by the National Research Council for the U.S. Department of Transportation’s National Highway Traffic Safety Administration.
- Larry Rhodes has been selected as a National Rural Health Association’s Rural Health Practitioner of the Year.
- Chris Schimmel received the 2012 School Counselor Educator of the Year award at the annual spring conference of the West Virginia School Counselor Association.
- Katherine Bomkamp, a political science junior who invented a prosthetic device aimed at eliminating phantom pain in amputees, was selected from Glamour magazine’s 2013 Top 10 College Women to receive the L’Oreal Paris Giving Award.
- Two WVU students, Stephanie Khoo and Jared Leggett, have received the prestigious Critical Language Scholarship.
- Our 4-H student organization earned the national club of the year at the 2013 National Collegiate 4-H Conference.

4. Provost Michele Wheatly reported on the following issues:

- Several events will take place during the Week of Honors, April 8 through April 12, to recognize outstanding students, faculty, and staff. The Celebration of Student Honors will recognize Order of Augusta scholars, Outstanding Seniors, and students who have received national awards; the student honorary societies will also welcome inductees. An event for the newest Bucklew Scholars will take place on April 9 and faculty will be honored at an event on April 11.
- The HLC reaccreditation site visit will take place in one year. Elizabeth Dooley, Sue Day-Perroots, and several others are currently attending the HLC Annual Conference in Chicago. The Educational Responsibility Roundtable is beginning to wrap up its work and will be preparing recommendations for the Strategic Planning Council.

5. Chair Mays reported on the following issues:

- He thanked Cindy Hart for coordinating a presentation from Extended Learning prior to today’s meeting.

- The Faculty Welfare Committee is working especially hard this year on issues involving PEIA, and will provide a presentation at the May Faculty Senate meeting.
 - He read a statement from Michael Szul, Associate Athletic Director for Business Operations. Oliver Luck is scheduled to address the Senate in May.
 - There will be a sustainability town hall meeting on April 18 from 2:30-5:00 in the Shenandoah Room of the Mountainlair. The Sustainability Committee will be presenting the strategic plan they have been compiling. Contact Senator Jim Anderson for more information.
 - A meeting of recent Faculty Senate chairs was held last week to consider the Faculty Senate's role in the planning process and the HLC review. The Educational Responsibility Roundtable has substantial Senate representation.
 - A trip is being planned to WVU Tech on May 1 to include representatives of the Faculty Senate, Staff Council, and the new student body administration.
6. The two candidates for Faculty Senate Chair-elect, Jennifer Orlikoff and Joseph Prudhomme, presented statements. Election ballots were mailed today from the Faculty Senate Office. Results of the election will be presented at the May meeting.
 7. Dennis Ruscello, Chair, Senate Curriculum Committee, moved for approval of the following reports:
 - Annex I, New Courses and Course Changes. Motion carried.
 - Annex II, Monthly Alterations Report, was submitted for information.
 - Annex III, Proposal for Biomedical Engineering Degree Program. Motion carried.
 8. Ilkin Bilgesu, Chair, Chair, General Education Committee, moved for approval of the following:
 - Annex IV, GEC Actions. Motion carried.
 - Annex V, GEC Audits, was submitted for information.
 9. Lisa DiBartolomeo, on behalf of the General Education Curriculum Oversight Committee and Senate Curriculum Committee, introduced guidelines regarding prescribed GEC courses. The report is a clarification of existing policy and was requested by the Senate during its November 12, 2012 meeting. A Faculty/Advisor Version and a Student Catalog Version were presented.
 10. Associate Vice President Nigel Clark provided a progress report on implementing WVU's 2020 Strategic Plan for the Future.
 11. Nigel Clark presented Annex VI, Academic Calendar for 2014-2015, for approval. Steve Kite commented that we have long semesters compared to some of our peer institutions, making field work and other scholarly pursuits difficult; he asked that we consider alternative schedules. Dr. Clark will take those comments to administration and report back. Motion carried.
 12. Robert Bastress moved for approval of the following resolution: the WVU Faculty Senate hereby resolves that it supports enactment by the West Virginia Legislature of now pending H.B. 2856 and any subsequent attempts to amend the West Virginia Human Rights Act to prohibit

discrimination in employment and public accommodations on the basis of sexual orientation.
Motion carried unanimously.

13. Roy Nutter, ACF representative, reported that:
 - The current legislative session is ending, and bills will be resolved within the next few days.
 - ACF will be on campus April 26, 2013.
14. Lesley Cottrell, BOG representative, reported that the Board of Governors will meet on April 11-12, 2013. Their meeting will begin on Thursday with a tour of Eberly College of Arts and Sciences.
15. Chair Mays presented Annex VII, 2013 Faculty Senate Election Results.
16. Meeting adjourned at 4:48 p.m. to reconvene on Monday, May 13, 2013.

Judy Hamilton
Office Administrator

To: Faculty Senate Executive Committee
From: Dennis Ruscello, Chair, Faculty Senate Curriculum Committee
Date: March 18, 2013
Re: New Courses and Course Changes

Davis College of Agriculture, Natural Resources and Design

New Courses:

Design

DSGN 220. Design Thinking. 3-Hr. This course establishes the value of design thinking, identifies the components of the design thinking process, and helps students develop proficiency by using the process in multiple contexts. (Effective Term: Spring 2014) (CIP 500401)

Rationale: Design thinking establishes a foundation for upper level coursework in all areas of design, and material covered in this course gives students the support they need to proceed with future Design Studies coursework. This required course will extend students' understanding of design as a thinking process and provide an organized way to approach design methodology. Creative and critical thinking are instrumental in design, and this course will give students tools and hands-on experiences to enhance their skills in these areas. This course will replace the current required DSGN 293: Intro to Design Thinking, which is referenced in our Design Studies materials.

Recreation, Parks and Tourism

RPTR 351. Sustainable Tourism. 3-Hr. Co-Req: RPTR 352. The purpose of this course is to provide students of all majors with an understanding of both theory and practical applications of concepts surrounding sustainable tourism development in the South Pacific. (Effective Term: Summer 1, 2013) (CIP 310301)

Rationale: This class will be offered as part of the international study abroad program, and has been run successfully as a special topic course, supporting the RPTR curriculum. It meets one of the requirements of the RPTR's emphasis in Sustainable Tourism, and also meets the requirements for students in the International Ecotourism Society's University Consortium Certificate. This course is being run concurrently with RPTR 352 (Marine Ecotourism), for a total of 6 credit hours; students must take both courses.

RPTR 352. Marine Ecotourism. 3-Hr. CoReq: RPTR 351. This course will focus on developing interpretation and information strategies in tourism to protect and conserve marine ecosystems. (Effective Term: Summer 1, 2013) (CIP 310301)

Rationale: The class will be offered as part of the international study abroad program, and has been run successfully as a special topic course, supporting the RPTR curriculum. It meets one of the requirements of the RPTR's emphasis in Sustainable Tourism, and also meets the requirements for students in the International Ecotourism Society's University Consortium Certificate. This course is being run concurrently with RPTR 351 (Sustainable Tourism), for a total of 6 credit hours; students must take both courses.

Landscape Architecture

LARC 652. Land Development Princ. & Pract. 5-Hr. (2-Hr lec., two 3-Hr studios). PR: LARC 650 and LARC 651. Brief history of land development. Design studio involving large scale design; projects with extensive time implementation sequence. (Effective Term: Fall, 2013) (CIP 040601)

Rationale: The course is a studio design course for students enrolled in the Master of Landscape Architecture (MLA) Program at West Virginia University. The course will build on the current research of the Natural Resource Analysis Center as a significant outreach mechanism. The course engages students in a significant component of contemporary landscape architectural practice: large scale master-planning and design.

Eberly College of Arts and Science

New Courses:

Geology

GEOL 302. Geology of the National Parks. 3-Hr. PR: GEOL 103 and GEOL 104. Explore the geology of selected National Parks with emphasis on the plate tectonic setting and in-depth analysis of surface features. One overnight field trip is required as part of this course. (Effective Term: Spring, 2014) (CIP 400601)

Rationale: This course will offer geology and environmental geoscience majors an additional 300 level elective and the opportunity to apply the knowledge and skills from the program's existing courses to a series of examples from the National Park System. This course will also provide an option for geology minors to take a 300-level course that not only builds on the basic geologic concepts introduced in GEOL 101-104, but also incorporates more detailed material normally restricted to the core 300 level courses in our program.

Philosophy

PHIL 212. Philosophy of Sport. 3-Hr. Compare and evaluate issues, ideas and arguments on the Nature of Sport, Aesthetic value in Sport, and Ethics of Sport. The course also explores the history and language of sport as it relates to understanding Sport. (Effective Term: Summer II, 2013) (CIP 380101)

Rationale: This course supports all the learning outcome objectives of the Philosophy curriculum. Upon successful completion of the course students will be able to (1) clearly articulate philosophical problems and general theories related to the Philosophy of Sport. (2) Students will be able to demonstrate a deep understanding of major ideas and issues discussed in contemporary Philosophy of Sport journal literature. (3) Students will read complex philosophical texts and arguments in the field presented by professional philosophers. (4) Students will be able to write clearly and logically comparing various perspectives discussed in the literature. (5) Students will have to carefully analyze arguments presented in classroom discussion and the text. (6 and 7) Students will be able to think and speak carefully, logically, and creatively about Philosophy of Sport issues. (8) Students will be able to think, write, and speak carefully, logically, and creatively about complex ideas and issues in Philosophy of Sport. All reading assignments, writing assignments, and classroom discussion will contribute to students' abilities to master these learning outcome objectives in meaningful ways. The Philosophy Departments service function is to serve all of WVU and to prepare all of our students to make rational and ethically informed decisions in their lives. Approving philosophy of Sport for inclusion in the Philosophy curriculum strongly supports this obligation.

Statistics

STAT 423. Bioinformatics Computing. 3-Hr. PR: STAT 312. Introduction to R computing within a bioinformatics context. Topics include: R packages, data structures, objects, and data input/output; R data visualization; R/Perl text processing; accessing bioinformatics databases; R interfaces to Perl, Java, and SQL databases. (Effective Term: Fall, 2013) (CIP 270501)

Rationale: This is a required course for the odd-year cohort in the forthcoming Computational Biology Interdepartmental Studies B.S. This course will provide students the computing skills required in bioinformatics, including the ability to develop functions and packages in R and Bioconductor.

STAT 443. Computational Genomics. 3-Hr. PR: STAT 312. Introduction to computational genomics and bioinformatics based on probabilistic and statistical models. DNA sequence analysis, multiple sequence alignment, signaling in DNA, gene expression analysis, phylogenetic trees, and linkage disequilibrium. The use of R/Bioconductor computational tools. (Effective Term: Fall, 2013) (CIP 270501)

Rationale: Computational Genomics is a required course for the even-year cohort in the forthcoming Computational Biology Interdepartmental Studies B.S. This course will provide students the probabilistic and statistical models needed in genomics, including the use of R and Bioconductor as computing tools.

Honors College

HONR 189. Career Exploration Internship. 1-3 Hr. Maybe repeated up to two times. Guided career exploration through introductory experiential learning by shadowing professionals at one or more placement sites. (Effective Term: Fall, 2013) (CIP 240199)

Rationale: Early in their academic career many honors students engage in career exploration activities that are simultaneously important features of their degree and career-choice processes. However, these students are not yet able to rise to the level of performance required to earn the upper-division credit implied by the 491 (Professional Field Experience) designation because of a lack of experience, preparation, and expertise this early in their university experience. This course would provide a curricular home for a career track exploration program that has early career students shadowing and (where appropriate) working with partners in various fields, in one or more internship placements over the course of the semester, accompanied by the academic guidance of the Honors College, either via individual mentoring or through regular classroom meetings. We imagine that this program can provide an earlier starting point in a sequence that offers the kind of career preparation initiatives that are happening across the University as part of the 2020 Strategic Plan.

The attached syllabus indicates the accrual of credits up to a total 120 onsite hours for three credits at the rate of 40 onsite hours per credit. However, some variations may include an element of classroom instruction to replace the oversight of individual mentoring/supervision by a faculty member. Classroom hours would account for the equivalent of one credit hour (fifteen total hours), while placement hours would be added on top of this up to 80 hours for a maximum of three credits.

College of Business and Economics

New Courses:

Finance

FIN 737. Corporate Finance Theory. 3-Hr. A comprehensive examination of the foundational theories in corporate finance. Topics will include: finance theory under certainty and uncertainty, utility theory, capital structure, issuance, dividend policy, corporate governance, M&A theory, and financial distress. (Effective Term: Fall, 2014) (CIP 520801)

Rationale: This course is designed to introduce PhD students to the theoretical and methodological procedures most commonly used in corporate finance. This course is the prerequisite for the Corporate Finance Seminar, and, as such, will provide graduate students with the introduction to corporate finance topics and research with a primary focus on the theoretical models which underpin modern corporate finance research. This course will also serve to enhance graduate student's understanding of the extant literature through detailed analysis and critique of scholarly research. This course will provide students with foundational skills in research design, data analysis, and academic writing, which will enable them to further hone and refine their basic research skills. These skills are required to successfully develop and execute a dissertation, and will largely determine their success in the academic job market.

FIN 741. Corporate Finance Seminar. 3-Hr. PR: FIN 737. This course acquaints students with theoretical and empirical research in corporate finance. Topics include capital structure, dividend policy, stockholder-manager and bondholder-stockholder agency conflicts, governance

mechanisms, market for corporate control, bankruptcy and corporate restructuring. (Effective Term: Fall, 2013) (CIP 520801)

Rationale: The objective of the seminar is to prepare doctoral students for empirical research in corporate finance. The aim is to help students to develop a scientific research method and an integrated framework for understanding corporate finance, with the purpose of producing research that is publishable in high quality refereed academic journals. The seminar is the second in a two-course sequence of corporate finance courses: it will build on the theoretical knowledge acquired in the Corporate Finance course, and will be primarily focus on state-of-the-art empirical research in corporate finance.

Hospitality and Tourism

HTOR 473. Hospitality Social CRM. 3-Hr. PR: BCOR 330 and BCOR 370. This course focuses on identifying hospitality industry best practices in building and managing a customer base through social media channels. Students will develop innovative engagement strategies to achieve the goals of social customer relationship management. (Effective Term: Fall, 2013) (CIP 520701)

Rationale: In the current social media world, most hospitality businesses are using some kind of Social CRM models to build and manage their customers. This course will focus on identifying best practices to manage customer relationships and apply various Social CRM models to develop innovative social engagement strategies. To be an effective manager in the hospitality industry, students must be able to learn and apply CRM skills and strategies to reach organizational goals and objectives.

HTOR 480. Event Planning Practicum. 3-Hr. PR: HTOR 376 and HTOR 471 and HTOR 472. This course will utilize experiential learning to prepare students to plan and execute special events in the hospitality industry. (Effective Term: Fall, 2013) (CIP 520701)

Rationale: This course is a practicum for students to learn the skills to plan, execute, and lead a special event in the hospitality industry. The students will apply their knowledge by planning two events during the semester. The hands-on experience this course will provide will help the students become more effective leaders for the hospitality and tourism industry which is the second largest economic driver in the State of West Virginia.

Industrial Relations

ILR 511. Human Capital Management. 3-Hr. Overview of many issues related to managing human capital in organizations, examined from both a strategic and tactical level relevant to all practicing managers and future leaders. (Effective Term: Fall, 2013) (CIP 521002)

Rationale: This course is being added as a permanent requirement of the two year MSIR program course of study. The new course number reflects its permanency.

ILR 581. Collective Bargaining Pract. 3-Hr. Examination of the development of the Collective Bargaining process from its legal and historical foundation through and including a simulated full contract negotiation similar to what students will experience in Labor Relations when actually employed. (Effective Term: Spring, 2014) (CIP 521002)

Rationale: This course is being added as a permanent requirement of the two year MSIR program course of study. The new course number reflects its permanency.

College of Creative Arts

New Courses:

Theatre

THET 426. Automation. 3-Hr. PR: THET 329. Automation is the exploration of motorized equipment used in the arts and how it can be utilized for production purposes. Topics from electricity to mechanical design will be discussed. (Effective Term: Fall, 2013) (CIP 500501)

Rationale: A new advanced course for design tech students that keeps the School of Theatre and Dance competitive with peer institutions and with industry trends. This course will instruct students on automation used in the arts and how to design their own system. Students are introduced to all of the components in a system and how to approach mechanical problem solving. Projects will be developed to work with the production season to give hands on learning.

THET 636. Advanced Stagecraft. 3-Hr. Study and research into advanced technical procedures including welding, materials, wood joinery, and practical construction problem solving. Emphasis on the practices and development of skills through projects. (Effective Term: Fall, 2013) (CIP 500501)

Rationale: After offering this course material as an independent study for multiple years we have found that it is an important elective for our lighting and scenic graduate students in the MFA Theatre degree program.

College of Physical Activity and Sport Sciences

New Course:

Sport and Exercise Psychology

SEP 415. Physical Activity Promotion. 3-Hr. Focuses on the health effects of physical activity and exercise. Prepares students to promote, initiate, and evaluate physical activity programs in community settings. (Effective Term: Fall, 2013) (310501)

Rationale: This course will serve as an option course within the SEP curriculum to allow students who major in Sport and Exercise Psychology to take a course that focuses on community-based approaches to promote physical activity and exercise. Currently, students

interested in applied aspects of sport and exercise psychology only have the option of taking SEP 420 (performance enhancement) which focuses exclusively on sport performance enhancement. Adding the option for students to take SEP 420 or 415 expands the major in a direction that allows students to gain applied experiences in sport or exercise related areas to more fully prepare them the path that they may want to pursue in graduate school.

School of Journalism

New Course:

Strategic Communication

STCM 452. Strategic Comm Strategy & Mgt. PR: JRL 101 and JRL 215 and STCM 215. This course covers strategic communications from a client's perspective and includes campaign planning and management of various marketing communication agencies. (Effective Term: Fall, 2013) (CIP 090401)

Rationale: This course is part of a new major program that will combine the School of Journalism's old Advertising and Public Relations majors into one major called Strategic Communication. The new curriculum will allow students a greater range of options of study within the persuasive communication fields.

School of Nursing

New Courses:

NSG 708. DNP Role Seminar. 2-Hr. PR: Admission to the DNP Program. Provides an understanding of the Doctor of Nursing Practice role at the highest level of nursing practice. (Effective Term: Summer 1, 2013) (CIP 511601)

Rationale: This course is the first course in the revised Doctor of Nursing Practice curriculum. The program is designed to prepare students who will perform at the highest level of nursing practice. This course will examine the evidence base for the advanced practice role at the doctoral level. The course will explore the evolution of the doctor of nursing practice role and the contributions of expert advanced practice nurses to health care. Students will analyze collaboration, team leadership, systems-level communications, and other advanced practice role competencies. Ample opportunity for application of concepts to complex practice situations will be provided. The course sets the stage for future analysis of the DNP role throughout the curriculum and for development of knowledge, skills and competencies to enact the DNP role in practice.

NSG 760.DNP Clinical Project. 3-Hr. PR: NSG 711. Develop a scholarly initiative to improve practice, system, or patient outcomes. (Effective Term: Summer 1, 2013) (CIP 511601)

Rationale: This course is designed to provide DNP students the opportunity and skills to develop a scholarly initiative to improve practice, system, or patient outcomes. Students develop a

proposal to address a practice problem using current evidence, national benchmarks, theoretical frameworks, appropriate methods of inquiry, and scientific principles. Students are guided by faculty and a practice mentor in the development of these initiatives. The project is implemented, evaluated, and disseminated in NSG 763, DNP Capstone.

School of Dentistry

Course Change:

From:

DENT 727. Oral Roentgenology. 1-Hr. The physical and biological phenomena associated with x-radiation. Intraoral and extraoral techniques presented and instruction in interpretation of radiographs, with special emphasis relative to oral diagnosis.

To:

DENT 727. Dental/Maxillofacial Radiology. 2-Hr. Radiographic modalities to make diagnostic images of the dentition and oromaxillofacial region, principles of x-ray generation, x-ray machine function, quality assurance, radiation safety and biology, and radiographic interpretation. (Effective Term: Fall, 2013) (CIP 510401)

Rationale: Radiography for health care has transitioned from being film-based to computer-based (digital). The current course does not provide experience with computer-based radiographic assessment or software utilization to enhance and otherwise manipulate radiographic images. Changes and additions to this course will include computer-based activities viewing, manipulating, and interpreting digital radiographs. In addition, the new course will provide additional didactic information about radiographic presentations of systemic diseases as they affect the oromaxillofacial region, along with computer-based assessment of these entities in preclinical laboratory activities. The new course will prepare students to use computer-based assessment tools to more effectively evaluate radiographic findings, formulate diagnoses, and provide optimal patient care.

New Course:

Orthodontics

ORTH 633. Ortho-Perio Seminar. 1-Hr. PR: Consent. A series of seminars on the diagnosis and treatment of oral conditions requiring interdisciplinary care by the specialties of periodontics and orthodontics. (Effective Term: Fall, 2013) (CIP 510401)

Rationale: This course is necessary for orthodontic graduate students to become proficient in the diagnosis, prevention and management of periodontal conditions associated with or the result of orthodontic treatment. Students will learn the pathophysiology of periodontal disease and how orthodontic treatment can affect a patient's periodontal status. Accreditation Standards for Graduate Orthodontic Programs states: Orthodontic graduates should have familiarity with

Periodontics. The Orthodontic/Periodontic seminars are designed to enable our graduates to be familiar with treatment of orthodontic patients with periodontal problems. This course is required for all orthodontic and periodontic residents. The implementation of Ortho 633 will increase the program requirements by one credit hour.

School of Medicine

New Course:

Exercise Physiology

EXPH 682. Research Design and Methods. 4-Hr. An advanced level of important concepts involved in the design of experimental studies in Exercise Physiology. The main focus will be on understanding the essential techniques for study design, data collection, its critical evaluation, and research reporting. (Effective Term: Fall, 2013) (CIP 260908)

Rationale: This course provides graduate students with essential information needed to understand, design, assess, and evaluate the research process. This information is needed as the student develops a critical knowledge base from which to conduct his/her individual independent research projects.

To: Faculty Senate Executive Committee

From: Nicholas Perna, Chair-Elect Senate Curriculum Committee

Date: 03/18/2013

RE: Monthly Alterations Report

Action: Re-name Department. The following departmental re-naming has received administrative approval:

OLD: Department of Physics

New: Department of Physics and Astronomy

Rationale: Name change will allow for recruitment of more high quality graduate and undergraduate students. In the department there are four very active astronomy faculty, a minor in astronomy, and an emphasis area in astrophysics. At the graduate level, prospective students will not consider the program without astronomy in the department name. At the undergraduate level the name change will make it clear to students that there is a path to a career in astronomy through a physics degree.

Action: New Subject Code. The following subject code creation has received administrative approval:

Sub Code	CIP	Action	Rationale	Effect Date
ARSC	240101	Create new subject code.	Create a new subject code for Eberly College that will serve college wide, cross-disciplinary courses such as orientation and capstone experiences.	201305

Action: Alterations (Minor Changes)

Sub Code	Course Number	CIP	Action	Old	New	Rationale	Effect Date
HPML	626	512201	Change fixed credits to variable.	HPML 626. Internship. 6 Hr. The internship provides students the opportunity to develop their practical skills	HPML 626. Internship. 1-6 Hr. (May be repeated for a maximum of 6 credit hours.) The internship provides	Change of fixed to variable credit will provide more flexibility in	201308

				and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.	students the opportunity to develop their practical skills and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.	allowing students to complete their internship over two semesters.	
MUSC	304	500901	Reduce variable credits.	MUSC 304. Introduction To Opera Theatre. 0-4 Hr. PR: Consent (May be repeated for a maximum of 16 credit hours.) Practical work in all aspects of lyric theatre production. Development of lyric theatre stage technique through movement studies, performance in major and minor roles and operatic scenes, and advanced production techniques.	MUSC 304. Introduction To Opera Theatre. 0-2 Hr. PR: Consent (May be repeated for a maximum of 16 credit hours.) Practical work in all aspects of lyric theatre production. Development of lyric theatre stage technique through movement studies, performance in major and minor roles and operatic scenes, and advanced production techniques.	Reduction of credits aligns with other ensemble courses within the School of Music.	201308
MUSC	704	500901	Reduce variable credits.	MUSC 704. Opera Theatre. 0-4 Hr. PR: MUSC 104 or Consent. Continuation of MUSC 104. Performance of major roles and advanced production techniques. Qualified students will undertake production-direction projects under supervision.	MUSC 704. Opera Theatre. 0-2 Hr. PR: MUSC 104 or Consent. Continuation of MUSC 104. Performance of major roles and advanced production techniques. Qualified students will undertake production-direction projects under supervision.	Reduction of credits aligns with other ensemble courses within the School of Music.	201308
NSG	702	513808	Change course number, title, and PR.	NSG 718. Population Health. 3 Hr. PR: NSG 716. Provides a foundation for analysis of clinical prevention and population health programs for individuals, aggregates, and populations.	NSG 702. Population Health Promotion. 3 Hr. PR: NSG 707. Provides a foundation for analysis of clinical prevention and population health programs for individuals, aggregates, and populations.	Change of course title and number to be consistent with national accrediting standards. Change of PR reflects other re-numbering.	201308

NSG	703	513808	Change course number and title.	NSG 715. Scientific Underpinnings. 3 Hr. Provides an understanding of the scientific underpinnings of the application of theory to health care at the highest level of advanced nursing practice.	NSG 703. Theory of Practice. 3 Hr. Provides an understanding of the scientific underpinnings of the application of theory to health care at the highest level of advanced nursing practice.	Change of course title and number to be consistent with national accrediting standards.	201308
NSG	707	513808	Change course number, title, PR, and credit hours.	NSG 716. Analytical Methods. 4 Hr. PR or CONC: NSG 715. Prepares the DNP student to translate research into practice, evaluate practice guidelines to improve health care practices and outcomes, and to participate in collaborative research.	NSG 707. Evidence Based Practice. 3 Hr. PR or CONC: NSG 703. Prepares the DNP student to translate research into practice, evaluate practice guidelines to improve health care practices and outcomes, and to participate in collaborative research.	Change of course title and number to be consistent with national accrediting standards. Change of credits more accurately reflects course work. Change of PR reflects other re-numbering.	201308
NSG	711	513808	Change course number, title, and credit hours.	NSG 741. Clinical Focus. 2 Hr. Provides for the development of knowledge and skills relative to the state of the science in a particular area of clinical practice.	NSG 711. Health Care Focus. 3 Hr. Provides for the development of knowledge and skills relative to the state of the science in a particular area of clinical practice.	Change of course title and number to be consistent with national accrediting standards. Change of credits more accurately reflects course work.	201308
NSG	745	513808	Change course number, title, and PR.	NSG 742. Clinical Application. 1-8 Hr. PR: NSG 741. Provides for the mastery of clinical skills relative to the state of the science in a particular area of clinical practice.	NSG 745. Clinical Immersion. 1-8 Hr. PR: NSG 711. Provides for the mastery of clinical skills relative to the state of the science in a particular area of clinical practice.	Change of course title and number to be consistent with national accrediting standards. Change of PR reflects other re-numbering.	201308

OEHS	626	512201	Change fixed credits to variable.	OEHS 626. Internship. 6 Hr. PR: Consent. The internship provides students the opportunity to develop their practical skills and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.	OEHS 626. Internship. 1-6 Hr. (May be repeated for a maximum of 6 credit hours.) PR: Consent. The internship provides students the opportunity to develop their practical skills and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.	Change of fixed to variable credit will provide more flexibility in allowing students to complete their internship over two semesters.	201308
SBHS	626	512201	Change fixed credits to variable.	SBHS 626. Internship. 5 Hr. The internship provides students the opportunity to develop their practical skills and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.	SBHS 626. Internship. 1-5 Hr. (May be repeated for a maximum of 5 credit hours.) The internship provides students the opportunity to develop their practical skills and enhance professional competencies by applying the knowledge and techniques gained from their MPH coursework to public health practice.	Change of fixed to variable credit will provide more flexibility in allowing students to complete their internship over two semesters.	201308

Course Drops

ART 199	Orientation to Art
ARHS 305	Pop Art
ARHS 306	Research in Mexico
ARHS 378	American Decorative Arts
ARHS 447	Romantic Painting
NSG 715	Scientific Underpinnings
NSG 716	Analytic Methods
NSG 718	Population Health
NSG 741	Clinical Focus
NSG 742	Clinical Application

**Proposal for Biomedical Engineering Degree Program
in the Benjamin M. Statler College of Engineering and
Mineral Resources**

Table of Contents

1.	Executive Summary	1
2.	Alignment with University Mission	1
3.	Rationale.....	2
4.	Program Content.....	3
	4.1 Admission Requirements.....	3
	4.2 Advising Plan	3
	4.3 Curriculum.....	3
	4.3.1 Freshman Year	4
	4.3.2 Sophomore Year	5
	4.3.3 Junior Year	6
	4.3.4 Senior Year	7
	4.4 Qualified Faculty	8
5.	Administration and Governance.....	9
6.	Plans for Roll-Out	10
7.	Assessment Plan	10
A.	Appendix A - Letters of Support - Internal to WVU	A-1
A-1	From Dr. Brian Woerner – Chair of the Lane Department of Electrical and Computer Engineering.....	A-2
A-2	From Dr. Jacki Prucz – Chair of the Department of Mechanical and Aerospace Engineering.....	A-4
A-3	From Dr. Joan Gorham – Associate Dean, Eberly College of Arts and Science	A-5
A-4	From Dr. Eugene V. Cilento – Dean, Statler College of Engineering and Mineral Resources	A-6
A-5	Permission to plan Documents from Provost Elizabeth Dooley to Robin Hissam.....	A-7
A-6	Approval from the Department of Mechanical and Aerospace Engineering’s curriculum committee	A-7
A-7	Letter of support for increased enrollment in STAT 215 from Dr. James Harner, Chair of the Department of Statistics.....	A-8
A-8	Letter of support from Dr. Robin Hensel, Assistant Dean for Freshman Experience, Statler College of Engineering and Mineral Resources	A-9
B.	Appendix B - Letters of support - External to WVU.....	B-1

B-1	School of Pharmacy, Robert C. Byrd Health Sciences Center - Signed by Rae Matsumoto, Associate Dean for Research and Graduate Programs	B-2
B-2	Bioscience Association of West Virginia (BioWV) - Signed by Bryan Brown, Executive Director.....	B-4
B-3	Mylan, Inc., - Signed by Kenneth Miller, Sr. Director, Film and Transdermal Product Development.....	B-6
C.	Appendix C - Syllabi for established courses that will be included in the Biomedical Engineering Curriculum.....	C-1
	EE 221 - Introduction to Electrical Engineering.....	C-2
	EE 222 - Introduction to Electrical Engineering Laboratory	C-5
	CHE 381 - Introduction to Biomedical Engineering.....	C-3
	BIOL 236 - Human Physiology: Quantitative Laboratory.....	C-15
	CHE 320 - Chemical Engineering Thermodynamics.....	C-18
	CHE 366 - Materials Science and Engineering.....	C-26
	CHE 382- Biomaterials.....	C-29
	MAE 473 - Bioengineering/Biomechanics.....	C-33
	STAT 215 - Introduction to Probability and Statistics.....	C-35
D.	Appendix D - Syllabi for courses being developed for the Biomedical Engineering Curriculum.....	D-1
	BMEG 3XX - Biomedical Imaging.....	D-2
	BMEG 3XX - Transport Phenomena in Biological Systems I.....	D-5
	BMEG 3XX - Transport Phenomena in Biological Systems II.....	D-8
	BMEG 4XX – Biomedical Engineering Design I/II.....	D-11
	BMEG 4XX - Biomedical Engineering Seminar and Journal Club.....	D-13
	BMEG 4XX - Biomedical Instrumentation.....	D-14
E.	Appendix E - Electives for Biomedical Engineering	E-1
F.	Appendix F - A Complete List of Technical Electives	F-1
G.	Appendix G - Complete Biomedical Engineering Curriculum	G-1

1. Executive Summary

This proposal focuses on the establishment of a degree in Biomedical Engineering (BMEG). This degree will be administered by the Chemical Engineering department; however, other departments within the Benjamin M. Statler College of Engineering and Mineral Resources (Statler College) and in other colleges will be heavily involved in the execution of this program. The BMEG program will focus on developing engineering skills and applying them to materials, processes, and procedures used in medicine and biology. Biomedical engineering is a rapidly growing field, and West Virginia University has an opportunity to create a unique program that will highlight the technical strengths of the University and garner interest in the development of biomedical industry in the state.

2. Alignment with University Mission

This program will enable our university to *seek out, challenge, educate and graduate, and provide new opportunities to the citizens of West Virginia*. The best high school students have shown interest in taking on the challenges that cross the fields of engineering, the physical sciences, and health sciences. This convergence is being promoted more actively nationally and will be a major contributor to new technology that will increase US global competitiveness in the field of health care in the coming decades.

This program will *attract and retain high quality faculty and students*. We already have a core faculty that participate in the Biomedical Engineering certificate program (developed and administered by the Chemical Engineering department since 2008) and are developing active, collaborative research programs that cross disciplines. These faculty members bring industrial experience, as well as graduate degrees and postdoctoral fellowships from top institutions. The research areas and faculty interests will attract the interest of top students in the state of West Virginia.

A Biomedical Engineering degree program will *create exciting and productive new paths for investigation and development*, and will increase graduate education opportunities and research collaborations with Health Sciences and several other departments across the campus. This program will give undergraduate and graduate students the opportunity to learn and implement advanced technologies and to perform leading edge research in biomedical engineering. The Biomedical certificate introduced in 2008 has given new options for students and by expanding it to a degree program will provide students excellent opportunities through undergraduate research experiences.

Currently, the Statler College is below the national average in female student enrollment (~16%) at 13%. This Biomedical Engineering degree program will increase *diversity at the University*, and certainly in the Statler College since this field is attractive to female students and boasts the highest percentage of female graduates among all of the engineering disciplines (40% nationally, ASEE 2007).

3. Rationale

The biomedical engineering discipline is among the fastest growing engineering disciplines due to the rapid advancement of medical technologies and treatment and diagnosis strategies; in fact, many are touting this century as the one that will revolutionize the biological sciences. These advancements will likely provide immense benefits for society globally. The Bureau of Labor Statistics predicts (May 2010) an employment growth potential of 72% between 2008 and 2018 in this area.

In West Virginia, statistics indicate that over 50% of the deaths in 2006 were a result of heart disease, cancer, or respiratory diseases. Development of a Biomedical Engineering program will produce in-state graduates well-poised to address these ailments and others, making progress to cure or to stabilize these diseases a reality. Additionally, West Virginia has a rapidly aging population with 23% of the population predicted to be over the age of 65 by 2030. This increase will be a major driving force in the expansion of the biomedical engineering discipline, and an increased workforce in this discipline will be needed to solve and predict the complex problems associated with medical care.

There is no comprehensive BMEG program in West Virginia, although the College of Health Professions at Marshall University offers programs that focus on specific medical professions. By contrast, the proposed program will be more general, teaching the basics of life and engineering sciences and including design and innovation to advance biomedical technologies and applications. Fifteen of the 73 ABET accredited Biomedical Engineering programs are in the neighboring states of Ohio, Pennsylvania, Maryland and Virginia. This degree ranks among the most frequently desired undergraduate majors by health sciences students that are not offered in the Statler College; therefore, it is an important program to establish in West Virginia to help retain talented West Virginia residents with an interest in biomedical engineering. Establishing this program at West Virginia University will also develop new opportunities for West Virginia students to remain in their home state and will promote the image of the University nationally.

In West Virginia, there are a number of companies that manufacture biomedical and pharmaceutical products, as well as a few analytical start-up companies. West Virginia is committed to increasing the bioscience industry, as demonstrated by the incorporation of the Bioscience Association of West Virginia (BioWV). Statistics show bioscience employment and companies in West Virginia comprise less than 0.4% of the national industry; however, the potential for growth in this area is great, not only in West Virginia, but also on a global level. West Virginia University needs to become more active in this developing field and has an opportunity to lead economic development in biomedical engineering and biotechnology in the state. Thus, establishment of a Biomedical Engineering degree program will enable the Statler College to promote student recruitment opportunities with health care companies that currently do not recruit at West Virginia University or that are located out of the State and thus will provide more national visibility for the College and the University.

In addition to a strong biomedical engineering presence in the Statler College, this program will lead to a much stronger educational and research relationship with the Robert C. Byrd Health Sciences Center, the Eberly and Davis Colleges, and the National Institute for Occupational Safety and Health. It will lead to additional strengths and new resources for specialized courses and/or modules in science and engineering.

4. Program Content

4.1 Admission Requirements

As the Biomedical Engineering program begins, there will be an enrollment cap placed on the first three years to ensure that the current faculty, who will establish the program, can cover the proposed courses and advising of enrolled students. The maximum number of students entering the BMEG program will not exceed 40 per year. These students will be chosen based on their grades in key courses required for success in the Biomedical Engineering program. These courses will include MATH 155, MATH 156, CHEM 115, CHEM 116, BIOL 115, PHYS 111, ENGR 101, and ENGR 102. As courses from the second semester of the freshman year are required for admission determination, students will not be able to enroll in the Introduction to Biomedical Engineering course in the sophomore year until after grades are released in May. Additionally, there will be no avenue for students to declare their major early if they chose to go into the Biomedical Engineering program.

4.2 Advising Plan

Currently, the Chemical Engineering department strives to maintain an average of 30 advisees per faculty advisor. This number has allowed the department to maintain strong interactions with our students and to obtain consistently high ratings for advising from internal student evaluations. To duplicate the success of the Chemical Engineering program, the advising plan for the Biomedical Engineering program will utilize 3 faculty advisors for the first 5 years of the program, resulting in a maximum number of 40 advisees after 3 years. However, after 3 years, the advising plan will be revisited to ensure that the students are getting quality advising and to address the possible need for additional advisors.

4.3 Curriculum

The proposed curriculum has been developed by the members of the Biomedical Engineering Program Development Committee and has been approved by the Chair of the Chemical Engineering department, the Freshman Engineering department, and the Dean of the Statler College. Support letters from these constituents along with other

4.3.2 Sophomore Year

In the Statler College, students enter their program of choice in their second year. The curriculum for the sophomore year (shown in Table 4.2) will include multiple classes in the BMEG program as well as required core courses. Syllabi for Introduction to Biomedical Engineering (CHE 381), Human Physiology Lab (BIOL 236) and Materials Science (CHE 366) can be found in Appendix C. Because CHE 381 is currently offered during the junior year for the Biomedical Engineering certificate program, the course content and prerequisites will be modified slightly to accommodate sophomore level students in the degree program as well as changing the number to a 200-level course. Similarly, CHE 366 will be modified slightly to accommodate sophomore level students in the degree program and the course will also be changed to a 200-level course. The EE 221 and 222 courses will provide an introduction to electrical circuits that will be helpful for the Human Physiology Lab (BIOL 236); all syllabi for existing courses for the BMEG program can be found in Appendix C.

Table 4.2: Second year schedule of courses

Sophomore Year			
<i>Fall Semester</i>			<i>Spring Semester</i>
MATH 251 Multivariable Calculus	4		MATH 261 Differential Equations
EE 221,222 Introduction to Electrical Eng	4		BIOL 235 Human Physiology
PHYS 112 General Physics	4		BIOL 236 Human Physiology Lab
CHE 381 Introduction to BME	3		Chem 233/Chem 235 Organic Chemistry w/ Lab
ENGL 102	3		CHE 366 Materials Science
			GEC
	18		18

4.3.3 Junior Year

The curriculum for junior year (shown in Table 4.3) utilizes a combination of courses offered by the Department of Chemical Engineering as well as other departments in the Statler College and Eberly College. Specifically, students will take Thermodynamics and Biomaterials from the Chemical Engineering department and Biomechanics from the Mechanical and Aerospace Engineering department. The Thermodynamics course in Chemical Engineering focuses on phase equilibria and non-ideal systems, which directly apply to biological systems, and will enhance the BMEG program. It is pertinent for a student to have a strong understanding of theory and applicability of statistical methods in evaluating biomedical data and this is the reason for including STAT 215, Introduction to Probability and Statistics. Likewise, the 2-course sequence in Transport for Living Systems will provide the theoretical basis for much of the mathematical description and modeling of biomedical systems developed throughout the junior and senior years. The new Biomedical Imaging course will provide students with a comprehensive overview of the different techniques used to diagnose and evaluate data from medical imaging. The Biomechanics course (MAE 473) will provide an overview of the cardiovascular, musculoskeletal, pulmonary and cellular mechanics. The 300-level BMEG Biomedical Imaging course will be taught by a qualified faculty member of the Lane Department of Electrical and Computer Engineering, a letter of support on this matter is included in Appendix A. Syllabi for the four new courses in Biomedical Engineering can be found in Appendix D. Because MAE 473 is currently offered during the senior year in the Mechanical and Aerospace Engineering department, the course content and prerequisites will need to be modified slightly to accommodate junior level students in the degree program and thus the course will be changed to a 300 level number; a syllabus can be found in Appendix C and letters of support from the Mechanical and Aerospace department may be found in Appendix A. The first of four technical electives is also required in the spring of the third year. A compilation of the syllabi for the currently offered technical electives is given in Appendix E for courses closely allied to the Biomedical Engineering area. However, this does not preclude students taking other science-based or technology-based electives; a full list of suggested electives is given in Appendix F.

Table 4.3: Third year schedule of courses

Junior Year			
Fall Semester		Spring Semester	
BMEG 3XX Biomedical Imaging	3	MAE 473 Biomechanics	3
CHE 320 Thermodynamics	3	STAT 215 Introd. to probability and	3
BMEG 3XX Transport for Living Systems I	3	BMEG 3XX Transport for Living Systems	3
CHE 382 Biomaterials	3	Technical Elective 1	3
GEC	3	GEC	3
	15		15

4.3.4 Senior Year

The final year schedule of courses is shown in Table 4.4. The course load will include three newly developed Biomedical Engineering courses (plus a 2-semester seminar sequence); syllabi are included in Appendix D. The Biomedical Instrumentation course will be a new course developed by faculty in the Department of Mechanical and Aerospace Engineering. Two new courses in Biomedical Engineering Design will be also added, to satisfy the University's capstone requirement and the requirement for a writing course. The BMEG 4xx Design sequence will be team taught with faculty members in Chemical Engineering guiding groups of students through capstone projects. A 2-semester seminar course, in which students and outside speakers will discuss current topics in the biomedical engineering field, will also be scheduled. Likewise, this 400-level BMEG seminar series will be taught by the BMEG faculty, probably on a rotation basis. The syllabi for these courses are included in Appendix D. Three technical electives are required in the final year (chosen from courses listed in Appendices E and F), giving students an area of focus for their studies. These technical electives can be also fulfilled by Honors Senior Thesis.

Table 4.4: Fourth year schedule of courses

Senior Year			
Fall Semester		Spring Semester	
BMEG 4XX Design I	3	BMEG 4XX BME Design II	3
BMEG 4XX Biomedical Instrumentation	3	BMEG 4XX Seminar/Journal Club	1
BMEG 4XX Seminar/Journal Club	1	Technical Elective 3	3
Technical Elective 2	3	Technical Elective 4	3
GEC	3	GEC	3
GEC	3	GEC	3
16		16	

A complete curriculum chart is given in Appendix G. The total number of credits that will be required for students to complete the BMEG program is 131 hours. The curriculum allows students to include the requisite courses for pre-medical qualification. The proposed curriculum will require eight new courses, three of which will be offered for two semesters: Transport for Living Systems, BMEG Design and Seminar/Journal Club.

4.4 Qualified Faculty

There are faculty members directly involved with the Biomedical Engineering program, as listed in Table 4.5. These professors are not only willing to give their time to the proposed program, but have also been instrumental in the organization and planning of the curriculum.

Table 4.5: Faculty involved in teaching courses in the Biomedical Engineering program

Professor	Dept.	Current BMEG Courses
Brian Anderson	CHE	Thermodynamics (CHE 320) Bio-molecular Modeling (Technical Elective)
Cerasela Zoica Dinu	CHE	Introduction to Biomedical Engineering (BMEG 2XX) Cellular Machinery (Technical Elective)
Robin Hissam	CHE	Materials Science (CHE 366) Tissue Engineering (Technical Elective)
David Klinke	CHE	Human Physiology Lab (BIOL 236) Transport for Living Systems I, II (BMEG 3XX)
Bingyun Li	Orthopedics	Biomaterials (CHE 382)
Yuxin Liu	CSEE	Biomedical Microdevices (Technical Elective)
Sam Mukdadi	MAE	Biomechanics (MAE 473) Biomedical Instrumentation (BMEG 4XX)
Ray Yang	CHE	Biochemical Engineering (Technical Elective)
Yong Yang	CHE	Biomedical Nanotechnology (Technical Elective)

Although the faculty members come from a variety of departments, the goal of the program is to introduce all aspects of biomedical engineering, which can only be achieved through a University-wide, collaborative and interdisciplinary effort.

5. Administration and Governance

The Biomedical Engineering program will be housed in the Chemical Engineering department, and the administration of the new degree program will rely heavily on the current faculty and staff. However, because this program is highly interdisciplinary, the administrations of multiple departments must work together for this program to succeed. The availability of faculty members to teach courses within the program must be balanced with the courses they need to cover in their home department, a task that must be taken on by the Chairs of the respective contributing departments. Based on the letters of commitment from the other participating departments in the Statler College (Appendix A) it is believed that the proposed curriculum is both feasible and realistic. The proposed fees and the enrollment procedures will be similar to the ones currently implemented in

the Statler College. The BMEG fee will be separated from the ChE fee and will be used to support the implementation and the development of the proposed BMEG program.

6. Plans for Roll-Out

The plan is to introduce this program to the freshman Cohort in Fall semester 2013.

7. Assessment Plan

The effectiveness of the program will be assessed using the following four methods. These methods have been developed by the Chemical Engineering department, and, since BMEG will be housed in this department, a common assessment plan will be utilized to ensure high quality standards as well as program improvement.

- 1) Starting in the sophomore year, oral and written presentations will be evaluated using established rubrics to assess the development of skills pertaining to the discipline and the outlined objectives.
- 2) Interviews of students by members of the Department Academy and Visiting Committee will give students the opportunity to voice suggestions, concerns and opinions; contents will be summarized for a report to the Chair. Additional annual interviews of the students by the Department Chair will be reported to the faculty. This is typically done at a faculty retreat held before the beginning of each academic year.
- 3) Surveys will be given to students at the end of each year. Surveys will also be mailed to alumni to evaluate fulfillment of the program's educational objectives.
- 4) Employers will be surveyed and information regarding job placement or post-graduate training will be requested to assess the attractiveness of our graduates to companies and other institutions.

Memorandum

Date: March 18, 2013
To: Faculty Senate Executive Committee
From: Ilkin Bilgesu, Chair
General Education Curriculum Oversight Committee
Re: GEC Actions

The General Education Curriculum Oversight Committee met on March 4th and recommends the following courses for Faculty Senate approval:

Approved New GEC Courses:

DSGN 140, Sustainable Living (Obj. 6 & 7)
PSLC 140, Sustainable Living (Obj. 6 & 7)
RESM 140, Sustainable Living (Obj. 6 & 7)

Approved New GEC Writing Courses:

GEOG 454W, Environmental GIS

GEC Objectives (for information only)

1. Communication (ENGL 101 & 102, or ENGL 103 only; W courses evaluated separately)
 2. Basic Math & Scientific Inquiry (Total: 13+ hr, including 1 Lab) [Note 2A = Math & Stats (3+ hr required); 2B = Natural & Physical Sciences (7+ hr required); 2C = Natural Resources & Environment (may be used toward Total)]
 3. The Past and Its Traditions (3+ hr)
 4. Contemporary Society (UNIV 101 & 3+ hr)
 5. Artistic Expression (3+ hr)
 6. The Individual in Society (3+ hr)
 7. American Culture (3+ hr)
 8. Western Culture (3+ hr)
 9. Non-Western Culture (3+ hr)
- W. Writing (1 course, audit/application requires separate “W” form)

Memorandum

Date: March 18, 2013

To: Faculty Senate Executive Committee

From: Ilkin Bilgesu, Chair
General Education Curriculum Oversight Committee

Re: GEC Audits – For Information Only

The GEC Oversight Committee met on March 4th and passed the following courses for GEC Audit:

GEC Successful Audits:

HUM 102, Introduction to Western Civilization II (Obj. 5 & 8)

GEOG 150, Digital Earth (Obj. 2B)

GEC Objectives:

1. Communication (ENGL 101 & 102, or ENGL 103 only; W courses evaluated separately)
2. Basic Math & Scientific Inquiry (Total: 13+ hr, including 1 Lab) [Note 2A = Math & Stats (3+ hr required); 2B = Natural & Physical Sciences (7+ hr required); 2C = Natural Resources & Environment (may be used toward Total)]
3. The Past and Its Traditions (3+ hr)
4. Contemporary Society (UNIV 101 & 3+ hr)
5. Artistic Expression (3+ hr)
6. The Individual in Society (3+ hr)
7. American Culture (3+ hr)
8. Western Culture (3+ hr)
9. Non-Western Culture (3+ hr)
- W. Writing (1 course, audit/application requires separate “W” form)

THE PURPOSE OF THE GENERAL EDUCATION CURRICULUM

WVU aims to provide students with a foundation of skills and knowledge necessary to reason clearly, communicate effectively, and contribute substantively to society. The General Education Curriculum (GEC) is designed to ensure that students meet these goals through inquiry-based learning across the disciplines. In conjunction with a major field, and in consultation with their advisors, students will design programs of study that satisfy the GEC Objectives. The learning objectives reflect the fact that, in an increasingly global, interdependent world, it is crucial that students can:

- Demonstrate mastery of skills so that they are able to evaluate contexts, effectively communicate with others, and work effectively as an individual and team member to solve problems in today's society;
- Synthesize what they have learned in order to effectively and efficiently apply their knowledge to new contexts;
- Recognize and respond to the need for participation in one's community through civic engagement;
- Understand and acknowledge cultural differences and learn to interact constructively with people from different cultures;
- Identify and evaluate a range of viewpoints on social and cultural topics, so that they may resolve issues of personal and professional ethics.

The GEC strives to help students to become thoughtful participants in a democratic society, and to achieve the intellectual integration and awareness they will need to meet changes and challenges in their personal, social, and professional lives.

POLICIES GOVERNING THIS CURRICULUM

1. Students will take between 41 and 43 credits in this curriculum.
2. Most courses fulfill two GEC objectives. In consultation with the advisor, students will choose which one of those objectives a particular course will fulfill.
3. GEC objectives must be met by all students following the guidelines on the Office of the University Registrar web site (http://registrar.wvu.edu/current_students/general_education_curriculum). Students may fulfill GEC objectives with any courses that are approved as meeting a GEC objective during the semester in which they take the course (as designated in BANNER), following the guidelines approved by the Faculty Senate.

GEC Statement: Faculty/Advisor Version

4. Although programs may *recommend* particular courses for their majors to meet GEC objectives, they may not specify that *only* these courses may be used to meet GEC objectives. Thus, program requirements may not state that a particular course is a “required GEC course” for a major. If the program wants to require a course that also can meet a GEC objective, that program must state that the course is required for the major.

5. Students may fulfill up to three of the GEC objectives 2 through 9 (including 2A, 2B lab, 2B other, and 2C) with courses in one subject area (as defined by a common prefix, such as POLS or SOCA) for a total of nine (9) credit hours. Students may fulfill up to two GEC objectives 2 through 9 with courses in each of any other subject areas.

6. Catalog copy and web sites should clearly state the above requirements. Revision may be necessary to remove any wording specifying that particular courses are “required GEC courses” or that students in a major must take specific courses to meet GEC objectives. All required courses for a major, regardless of whether these courses can meet GEC objectives, must be clearly indicated and the credit hours clearly reflected by the total number of hours required for the major program. Program descriptions may include recommendations to students regarding their selection of GEC courses, but programs may not prescribe or require specific courses for particular GEC objectives. Catalog copy, web sites, and program descriptions may include statements to the effect that particular courses required for the major may simultaneously meet GEC requirements, within the limits outlined above.

7. DegreeWorks audits should be modified in line with these guidelines. Terms such as “Required GEC courses” or “Shared Major & GEC Courses” should be removed as a heading (and replaced with a section such as “Other required courses” if appropriate). The GEC requirements section in the DegreeWorks audit for all majors should be the same.

General Education Curricular Objectives

1. COMMUNICATION

2. BASIC MATHEMATICAL SKILLS AND SCIENTIFIC INQUIRY

3. THE PAST AND ITS TRADITIONS

4. ISSUES OF CONTEMPORARY SOCIETY

5. ARTISTIC EXPRESSION

GEC Statement: Faculty/Advisor Version

6. THE INDIVIDUAL IN SOCIETY

7. AMERICAN CULTURE

8. WESTERN CULTURE

9. NON-WESTERN CULTURE

THE PURPOSE OF THE GENERAL EDUCATION CURRICULUM

WVU aims to provide students with a foundation of skills and knowledge necessary to reason clearly, communicate effectively, and contribute substantively to society. The General Education Curriculum (GEC) is designed to ensure that students meet these goals through inquiry-based learning across the disciplines. In conjunction with a major field, and in consultation with their advisors, students will design programs of study that satisfy the GEC Objectives. The learning objectives reflect the fact that, in an increasingly global, interdependent world, it is crucial that students can:

- Demonstrate mastery of skills so that they are able to evaluate contexts, effectively communicate with others, and work effectively as an individual and team member to solve problems in today's society;
- Synthesize what they have learned in order to effectively and efficiently apply their knowledge to new contexts;
- Recognize and respond to the need for participation in one's community through civic engagement;
- Understand and acknowledge cultural differences and learn to interact constructively with people from different cultures;
- Identify and evaluate a range of viewpoints on social and cultural topics, so that they may resolve issues of personal and professional ethics.

The GEC strives to help students to become thoughtful participants in a democratic society, and to achieve the intellectual integration and awareness they will need to meet changes and challenges in their personal, social, and professional lives.

POLICIES GOVERNING THIS CURRICULUM

1. Students will take between 41 and 43 credits in this curriculum.
2. Most courses fulfill two GEC objectives. In consultation with the advisor, students will choose which one of those objectives a particular course will fulfill.
3. GEC objectives must be met by all students following the guidelines on the Office of the University Registrar web site:
http://registrar.wvu.edu/current_students/general_education_curriculum.

GEC Statement: Student Catalog Version

Students may fulfill GEC objectives with any courses that are approved as meeting a GEC objective during the semester in which they take the course (as designated in BANNER), following the guidelines approved by the Faculty Senate.

4. Although programs may recommend particular courses for their majors to meet GEC objectives, they may not specify that only these courses may be used to meet GEC objectives.

5. Students may fulfill up to three of the GEC objectives 2 through 9 (including 2A, 2B lab, 2B other, and 2C) with courses in one subject area (as defined by a common prefix, such as POLS or SOCA) for a total of nine (9) credit hours. Students may fulfill up to two GEC objectives 2 through 9 with courses in each of any other subject areas.

General Education Curricular Objectives (For Information)

1. COMMUNICATION

2. BASIC MATHEMATICAL SKILLS AND SCIENTIFIC INQUIRY

3. THE PAST AND ITS TRADITIONS

4. ISSUES OF CONTEMPORARY SOCIETY

5. ARTISTIC EXPRESSION

6. THE INDIVIDUAL IN SOCIETY

7. AMERICAN CULTURE

8. WESTERN CULTURE

9. NON-WESTERN CULTURE

Friday, April 3.....Friday Before Easter Recess: University Closed
Saturday, April 4.....Passover (Day of Special Concern)
Tuesday, April 21.....Feast of Rivdan (Day of Special Concern)
Thursday, April 30.....Last Day to Withdraw from the University
Friday, May 1.....Last day of Classes
Monday, May 4 thru Saturday, May 9Final Examination Week
Friday, Saturday and Sunday, May 15, May 16 and 17.....Commencement
Saturday, May16.....Alumni Day

PROPOSED TERM ACADEMIC CALENDAR

West Virginia University Summer 2015 Academic Calendar

12-Week Summer Session

Monday, May 18.....Registration
Monday, May 18.....On-Campus First Day of Classes
Monday, May 25.....Memorial Day Recess: University Closed
Friday, June 26..... Final Exam for First Six-Week Session
Friday, July 3.....Independence Day Recess: University Closed
Friday, August 7.....Final Exam for Second Six-Week Session and 12-Week Session
Friday, August 14.....Degree Conferring Date (No Ceremonies)

- LATE REGISTRATION FEE IN EFFECT ON THE SECOND DAY OF CLASS FOR ALL CLASSES

2013 Faculty Senate Election Results
Senate Term Ends June 30, 2016
(Unless Otherwise Noted)

Davis College of Agriculture, Natural
Resources and Design
Mark Sperow
Jacek Jaczynski

Eberly College of Arts and Sciences
Gwen Bergner
Mark Brazaitis
Victoria Garrett
Michael Mays
Hawley Montgomery-Downs
Jennifer Orlikoff
Kenneth Ryan
Matt Vester

College of Business and Economics
Gary Insch
Abhishek Srivastava

College of Creative Arts
Laura Hitt
Mikylah McTeer

School of Dentistry
No election held

Statler College of Engineering and
Mineral Resources
Elaine Eschen
Victor Mucino
Roy Nutter

University Extension
Elaine Bowen
Zona Hutson
Chad Proudfoot

College of Education and Human Services
Reagan Curtis (June 30, 2014)
Karen Haines
Robert Waterson

College of Physical Activity & Sport Sciences
Peter Giacobbi

College of Law
Anne Lofaso

University Librarians
No election held

School of Medicine
Heather Billings (June 30, 2015)
Dan Bonner
Anne Cronin
Greg Dick
Diana Gilleland
Stan Hileman
Robert Johnstone
Matthew Lively
Joseph Prudhomme
Brian Riedel
Adrienne Salm
Kevin Tveter (June 30, 2015)
Ralph Utzman (June 30, 2014)
Linda Vona-Davis

School of Nursing
Suzy Walter

School of Pharmacy
Lena Maynor

Potomac State
No election held

WVU-Tech
Sandra Elmore

Reed School of Journalism
April Johnston

School of Public Health
Ruth Kershner (June 30, 2015)
Michael Regier