CHAPTER SEVEN
Acquisition, Discovery, and Application of Knowledge
Criterion Four: The Acquisition, Discovery, and Application of Knowledge

The organization promotes a life of learning for its faculty, administration, staff, and students by fostering and supporting inquiry, creativity, practice, and social responsibility in ways consistent with its mission.

Marshall University is committed to a life of learning for all of its constituents – students, faculty and staff. Planning documents such as Owning the Opportunity: MU-2010 – the Strategic Plan for Marshall University 2001 – focus on a commitment to supporting life goals as well as academic goals, and the integration of in- and out-of-classroom learning environments. Co-curricular and service activities and creation of an institutional environment that facilitates research and creative activities are also discussed in this document as part of the institutional mandate. Pervasively, critical thinking skills lay the foundation for the life of learning that students will experience while at Marshall University and after they graduate.

Core Component 4a

The organization demonstrates, through the actions of its board, administration, students, faculty, and staff, that it values a life of learning.

Marshall University’s Board of Governors has approved and disseminated statements supporting freedom of inquiry for the organization’s students, faculty, and staff, and it honors those statements in its practices. The University’s Mission Statement says the university “actively facilitates learning through the preservation, discovery, synthesis, dissemination of knowledge.” Other statements include the Marshall University Creed, which avers that the university is “an Open Community uncompromisingly protecting freedom of thought, belief and expression,” and Marshall University Board of Governor’s Policy No. 14—Student Rights and Responsibilities, which details procedures protecting students’ freedom of expression and assembly. The policy is printed in both the graduate and undergraduate catalogs and is also available electronically.
Procedures for the protection of academic freedom for faculty are set forth in the Faculty Handbook (known as *The Greenbook*), Chapter 3. Procedures for protection of academic freedom in regard to such actions as hiring, evaluation, promotion and filing of grievances are established and overseen by the Faculty Senate Faculty Personnel Committee.

The Marshall University catalog describes the process by which students can appeal dismissal, sanctions, grades and other actions by faculty or the institution, including those which may reflect a challenge to academic freedom. As state employees, all university faculty and staff have the right to grieve actions by the university through state employment regulations.

Marshall University has devoted significant resources to providing opportunities for a life of learning and for life-long learning. One example of serving students as life-long learners is the university’s national leadership in providing continuing education programs to working adult students through online course delivery. The university has developed and delivers online courses to support master’s, doctoral and certification-level programs through WebCT Vista course delivery software. Over the past six years, $227,000 has been awarded to faculty for the creation of online courses and instructional multimedia projects through the Faculty Development Committee for Online and Multimedia Instruction. In fall 2004, 70 graduate classes were offered online to working adult students from the state and region. The average age of students taking online classes through the Graduate School of Education and Professional Development is 37.5 and more than 90% are employed full time. Responses from students participating in online courses indicate they would be unable to continue their education if they were required to attend live class meetings every week because of their distance from campus and work and family responsibilities.

Marshall University also supports professional development opportunities and makes them available to its administrators, faculty and staff. Marshall University made grants of more than $170,000 in 2004-2005 to faculty for research, travel and participation in professional conferences through awards such as the INCO Faculty Award, Quinlan Endowment Fund, the Hedrick Outstanding Faculty Award, and Reynolds Outstanding Teacher Awards. In addition to these monies, as an example of departmental commitment to faculty development,
the College of Education and Human Services also spent almost $70,000 for faculty development in 2003-2004.

Marshall University is committed to research and the pursuit and application of knowledge for both faculty and students. To further this goal, the institution strives to publicly acknowledge the achievements of faculty and students in their research. Examples of the institution’s commitment include the Sigma Xi student research organization, the medical school’s student research day, the nursing school’s student research day, and WV Undergraduate Research Day at the Capitol during the legislative session, where undergraduate students show their research to legislators. Also, the Marshall University College of Liberal Arts holds an annual conference called the Undergraduate Research and Creativity Conference, which highlights work done by their students over the past year.

Faculty research is acknowledged publicly by the university in many ways. One of the primary methods for this is the campus newsletter, We Are… Marshall, which devotes a significant portion of space to the current research that faculty are publishing and presenting at conferences. The Marshall University Research Corporation presents a quarterly publication titled Achieving Excellence, which lists all current research grants and proposals being worked on by faculty.

The Faculty Senate also maintains a faculty achievement database, which allows faculty to enter any of their research achievements for display to the public through the Internet. Marshall Advances is a publication that highlights research accomplishments by faculty. Moreover, MU recognizes faculty research through awards and honors, in that every year outstanding faculty are recognized for their work on behalf of the university. Two of the most prestigious awards, the Distinguished Artists and Scholars Award and the Hedrick Award, all consider the acquisition and application of research as a major component in making their awards. Additional budget priorities at the university level are reflected in the university match for grants with external funding.

Because Marshall University faculty and students are committed to the production of basic and applied research on a wide array of topics, they have produced a significant body of
research and promoted the continued efforts at acquiring and using knowledge, including the publishing of many books, articles, and research papers as part of their duties. Faculty are expected to do research and publish their findings to increase knowledge in their fields, and their promotion and tenure process involves research as a major criterion.

Students also produce scholarship and create knowledge through basic and applied research. Marshall’s doctorate-seeking students are required to perform research as part of their programs of study and most master’s level programs also include student research components. Even undergraduate students often perform research as part of the university’s capstone experience. The capstone course is a required component to all degree programs that allows students to bring together their knowledge from their major classes. Many majors’ capstone experiences are research projects, such as the students in the teacher education program performing research on teaching effectiveness in the classroom. As another example, students majoring in chemistry work on publishable research projects with faculty to complete their capstone experience.

Marshall University is concomitantly committed to improving itself organizationally and in its educational delivery through research. As part of its promotion and expansion of the biomedical sciences, Marshall University will shortly open a $48 million Biotechnology Science Center, which will improve both research opportunities as well as science instruction at the university. Moreover, faculty are encouraged to attend research conferences to stay abreast of current research and methods of instruction. The university supports these efforts financially by allocating funds to help defray travel expenses and conference fees. Individual academic colleges and departments are evaluated periodically by their accrediting boards and this process encourages the units to continually evolve and improve as the body of the knowledge increases in their field.

Information literacy is an essential tool for a life of learning and Marshall University is committed to promoting this tool through a collaboration of the university libraries and the UNI 101 experience. As an example of the use of research to stimulate organizational and educational improvement, Marshall University libraries participated in a national survey of information literacy skills in undergraduate students. Project SAILS (Standardized
Assessment of Information Literacy Skills, developed by Kent State University, was completed by Marshall University in 2004. Information from this survey allows the university to identify weaknesses in information literacy skills, to target instruction and to prepare students to succeed through the ability to locate, evaluate and use information effectively.

**Core Component 4b**

*The organization demonstrates that acquisition of a breadth of knowledge and skills and the exercise of intellectual inquiry are integral to its educational programs.*

Marshall University “demonstrates that acquisition of a breadth of knowledge and skills and the exercise of intellectual inquiry are integral to its educational programs” in several ways: 1) in its Mission Statement and the Mission Statements of its colleges; 2) in the general education requirements of the colleges; 3) in the Marshall Plan; 4) in the experiential components of majors; 5) in syllabus guidelines and course syllabi; 6) in providing research forums and conferences to share research findings and foster interest in the process of inquiry; 7) in the efforts to share intellectual inquiry and promote a life of learning with others, especially the community through programming and community interactions; and 8) the efforts to promote research and the application of knowledge.

The **Marshall Mission Statement** was revised and approved by the Marshall University Board of Governors on May 12, 2004. The university has identified as one of its major goals: an emphasis on facilitating learning “through the preservation, discovery, synthesis, and dissemination of knowledge.” The university has set objectives for this mission by charging the university, faculty, staff, students and administration with taking specific steps to achieve this mission. The objectives are much more clearly stated than in previous Mission Statements, and include emphasizing service activities; research and collaboration; mentoring students in “research, scholarly and creative activities,” preparing students and graduates to be capable of “living and working effectively in a global economy” and navigating “through a rapidly changing society,” and preparing students by having them become active in “the learning process” and developing the “critical thinking skills necessary for life-long
learning.” The colleges and schools also each have their own Mission Statements which support Marshall’s Mission Statement and further define the areas which allow students to obtain the necessary knowledge which is appropriate for their majors. When the last revisions of college and school Mission Statements were made, they were primarily done by the input of the faculty and students of each college and school.

The second area where Marshall has demonstrated its commitment to both a breadth of knowledge and the exercise of intellectual inquiry is in the General Education Requirements (GER). Each college sets its own GER, and most colleges separate their GER from program requirements (one college has its GER included in its major requirements for accreditation/licensure purposes). They have the following requirements in common: Communication Studies, English, Computer Competence and Literacy, Mathematics, and Natural Sciences. Other areas which several of the colleges require are Fine Arts, Humanities, Literature, Classics, Philosophy or Religious Studies, Foreign Language, Multicultural Studies, and International Studies.

The courses required in the GER stress critical thinking skills and a breadth of knowledge. Most of the courses required for the GER of the colleges are taught by the College of Liberal Arts, thus ensuring a Liberal Arts Education base for every student at Marshall.

These General Education Requirements are periodically reviewed and changes are made. A task force began meeting at the beginning of the spring 2006 semester to consider ways of strengthening the GER, the Marshall Plan and a core curriculum.

In line with, and generally a part of, the General Education Requirements of the colleges is the Marshall Plan. The Marshall Plan requires all students to complete Math 121 or higher, a four-hour Integrated Science Course, at least one three-hour Multicultural course, two three-hour International courses, a three-hour Writing Intensive Course, a Computer Literacy and Competency requirement, and a Capstone Experience. These courses are designed to foster in students a breadth of knowledge and critical thinking skills to prepare them to function in a global, ever changing world and to promote a life of learning by developing the skills necessary to do so.
Courses which are included in the International and Multicultural Courses areas are approved by faculty committees. The Writing Intensive courses and instructors are approved by the Writing Across the Curriculum Committee. The training, certification and recertification of the professors who teach these courses also is made by the committee, which provides ongoing training, presentations and WAC instructor get-togethers to exchange ideas and strategies to improve student writing.

Contained in the requirements for the Marshall Plan is the Capstone Experience, which promotes acquisition of a breadth of knowledge and intellectual inquiry. Students may apply to the university’s Research Committee for a grant to help underwrite their capstone experience. Each department determines its capstone course. The courses include both oral and written presentations. Many of the courses also include research and experiential components as well. These requirements help students draw together the skills learned in their major and general education requirements to “synthesize and demonstrate competent learning in their fields” (2004-2005 Marshall University Undergraduate Catalog, pg.140).

The major requirements may be built into a course or combination of courses. The courses are varied in their approach to best fit the needs of the department, the students, the curriculum, and where appropriate, licensing or accreditation requirements. The projects in which students participate, or which they develop, allow faculty to mentor students and foster cooperation with agencies and the community. A good example of this is the Exploring Huntington website constructed as a capstone project by students in the Political Science Department. The site is updated by each capstone class of the Political Science department.

The fourth area where the breadth and depth of student learning are displayed and the students engage in community action, community service, skills sharing, research, and other mission driven learning objectives are the experiential courses. These courses allow students to learn from professionals in their chosen fields. They also allow students to impart new techniques and knowledge to the agencies for which they intern. The courses include practica, internships, and experiential courses where students are actually allowed to participate in the functioning of the agency and practice what they have learned in their majors.
Syllabi represent the fifth area that supports the University Mission Statement and helps specify the learning objectives that support the acquisition, discovery and application of knowledge. The learner outcomes set by professors are specified so that the knowledge to be obtained is clear and the level of student knowledge in the areas covered by the course is stated. These syllabi are sent each semester to Dr. Robert Edmunds, Coordinator of the University Assessment Committee, to be used in evaluation and assessment.

The sixth area in which Marshall University provides opportunities for students and faculty to share the knowledge they have acquired through research and creative activities, is the research forums and conferences held by the colleges. The School of Medicine conducted its 18th Annual Research Day in March 2005. Each year, between 40 and 60 medical and graduate students and residents display posters and give oral and display presentations. This year the College of Science held its 15th Annual Sigma Xi Research Day where 46 undergraduate and graduate students gave oral and poster presentations. The School of Nursing has a Research Day each year; in the last five years they have had 410 students present their research. Another good example of these research conferences is the Annual College of Liberal Arts Undergraduate Research and Creativity Conference with a keynote speaker who presents his or her research and student panels with faculty and student coordinators and student presenters. The conference was started in 2001 and originally allowed only Liberal Arts students and College of Education students with a content area in the liberal arts to present. However, now all students from the College of Liberal Arts, the College of Education and the College of Fine Arts can present their research. Students who present have a faculty mentor to help them prepare their research and presentation. In the last four years there have been 393 student presenters.

Additionally, students are active in attending professional meetings and presenting their research at these meetings and other events such as the Undergraduate Research Day at the Capitol (in 2005, MU students won second and third prizes for their research), the West Virginia Criminal Justice Educators’ Association State Conference, American Chemical Society National meetings, American Physiological Society, the Association of Southeastern
Biologists, Region IV and the National Conferences of the American Criminal Justice Association.

The university also has hosted regional, state and national conferences which attract researchers to present their research at Marshall University. Examples of these conferences are the Tri-state Psychology Conference, the Shakespeare Conference, the 2005 WV IDeA Network for Biomedical Research Excellence INBRE Conference, and the 3rd International Conference on Healthcare Systems. The first of these Healthcare Systems conferences was held in Queretaro, Mexico and the second in Ankara, Turkey. Dr. Ashish Chandra, Associate Professor of Health Care Administration in the Lewis College of Business was instrumental in bringing the third, held October 2004, to Charleston, West Virginia. Participants came from nine different countries, and over 20 different states in the U.S., representing over 50 different institutions. Students are a major presence at these conferences.

The seventh area which supports Criterion 4b is Marshall’s efforts to share intellectual inquiry and promote a life of learning through community programming and interactions both on and off campus. Marshall brings many groups to the campus to interact with the students and faculty and engages in outreach programs as well. For example, according to Kelli R. Mays, Director of Outreach Programs, the university reached 185,000 people through on-campus and off-campus programs during 2003. These programs included: Adult Advantage Program, Appalachian Rural Outreach Primary Care Center, Appalachian Rural Systematic Initiative, Appalachian Accomplished Teachers Project, Autism Training Center, Boy Scout Merit Badge College, Careers in Coal, Career Services Center, Center for Business and Economic Research, Center for Environmental, Geotechnical and Applied Sciences, Child Care Academy, Children’s and Teen’s College, Circle of Friends Preschool, Cisco Networking Academy, Computer Learning Center, Deckhand Training, Discover Program, Dual Credit, Ebenezer Outreach Clinic, Enterprise Project, EntrePREP, Exploring Engineering: Academy of Excellence, Fine and Performing Arts, Freshwater Workshop, Governor’s Honor Academy, HOSTS Program, IBM Learning Village, Infinity Project, International Brotherhood of Painters and Allied Trades, Information Technology Career Advancement Program, June Harless Center for Rural Educational Research and Development, June Harless Distance learning Program, K-12 Summer Enrichment Program,
The eighth area which supports the Mission Statement and the Higher Learning Commission’s Criterion, is the effort to assist the research interests and initiatives of the faculty and to recognize the research produced by the Marshall faculty. Marshall University Research Corporation (MURC) guides grant and contract development and provides post-award administration. MURC helps faculty find funding information through access to a national database Community of Science (internally known as the Community of Scholars), it sponsors annual grantsmanship training, and it publishes quarterly newsletters, Achieving Excellence, which highlight various aspects of MU research.

Marshall University has a very productive faculty in discovering and applying knowledge. The College of Business and the College of Liberal Arts host faculty research forums where faculty discuss their research with their colleagues. Overall, the faculty research and publish at a level at least commensurate with their peers. Another way to view faculty research and publications is to see faculty resumes on the five year reviews for programs. Each program lists these achievements for their faculty.
To this point, the focus has been on the acquisition, discovery and application of knowledge largely at the undergraduate level. A requirement of the Criterion 4b is to show that the graduate programs “establish a knowledge base on which students develop depth of expertise.” The three methods to measure this are the comprehensive examinations, theses and dissertations, and licensure examinations. All graduate programs provide annual reports to the University Assessment Committee. These reports validate the depth of student knowledge at the graduate level.

**Core Component 4c**

The organization assesses the usefulness of its curricula to students who will live and work in a global, diverse, and technological society.

Marshall University understands that regular evaluation is essential to providing meaningful and effective academic programs which meet the stated objectives of the university. Furthermore, regular evaluation is crucial to the effective management of the university in making programmatic decisions and in establishing priorities for resource allocation. The university uses both internal and external review mechanisms as reflected in the processes described below.

The five-year program review is a multi-step process initiated through a comprehensive self-study conducted by the program faculty. The self-study report is reviewed by the respective college curriculum committee, academic Dean, and either the Academic Planning Committee of the Faculty Senate (undergraduate programs) or the Graduate Council (graduate programs). For each program reviewed, these committees send one of four possible recommendations to the Office of Academic Affairs and to the President:

1. Continuation of the program at the current level of activity;
2. Continuation of the program at a reduced level of activity (e.g., reducing the range of optional tracks) or other corrective action;
3. Identification of the program for further development; or
4. Discontinuance of the program.

Exceptional programs may also be designated as Programs of Excellence.
The President is required to submit the official university recommendation, including concerns and achievements, for each program to the Board of Governors, and the Board of Governors acts upon these recommendations and forwards its recommendations to the West Virginia Higher Education Policy Commission (HEPC).

The self-study report requires that program faculty make a critical assessment of program strengths and weaknesses by examining adequacy, viability and necessity. Necessity covers a review of graduate and employer surveys, job placement history of graduates, and input from any program advisory committee. This aspect of the Program Review deals with the program’s usefulness to the student and to society. The program is judged in terms of how well it prepares the student to function effectively in today’s world, namely, one that is diverse, global, and technologically advanced.

The five-year program review process requires academic programs to make a critical assessment of the strengths and weaknesses of the program, identifying significant accomplishments as well as areas of concern that may need further development or additional resources. This review process also forces the university to evaluate what part each program contributes to realizing the mission of the institution. The five-year review cycle requires that a significant percentage of the institution’s program be evaluated each year and provides a realistic “snapshot” of the academic health of the institution. In addition to the recommendations forwarded to the Board of Governors, committee observations regarding specific concerns and/or particular strengths are shared with academic units submitting reviews. This feedback allows the units to take the appropriate corrective action.

**External Reviews – Accreditation Actions**

A significant number of Marshall University programs have been reviewed and maintain accreditation through external agencies, as indicated in the following table. These external accreditations are evidence of viable programs that meet nationally recognized standards for academic quality. Most explicitly require evidence that the program under review prepares students to live and work in a global, diverse and technologically complex society.
## Table 4c-1  Separate Accreditations at Marshall

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Agency</th>
<th>Accredited Program(s)</th>
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<tbody>
<tr>
<td>AACSB</td>
<td>Association to Advance Collegiate Schools of Business/The International Association for Management Education</td>
<td>Elizabeth McDowell Lewis College of Business</td>
</tr>
<tr>
<td>ACEJMC</td>
<td>Accrediting Council on Education in Journalism and Mass Communication</td>
<td>W. Page Pitt School of Journalism &amp; Mass Communications</td>
</tr>
<tr>
<td>NCATE</td>
<td>National Council for Accreditation of Teacher Education and the West Virginia State Department of Education</td>
<td>Teacher Education</td>
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<tr>
<td>CSWE</td>
<td>Council on Social Work Education</td>
<td>Social Work</td>
</tr>
<tr>
<td>ASHA</td>
<td>Council on Academic Accreditation of the American Speech-Language-Hearing Association</td>
<td>Communication Disorders (graduate program)</td>
</tr>
<tr>
<td>NASM</td>
<td>National Association of Schools of Music</td>
<td>Department of Music</td>
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<tr>
<td>NRPA</td>
<td>National Recreation and Park Association/ American Alliance of Leisure and Recreation</td>
<td>School of Human Services: Park Resources and Leisure Service</td>
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<tr>
<td>WSO</td>
<td>World Safety Organization</td>
<td>CITE: Safety Technology (undergraduate and graduate programs)</td>
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<tr>
<td>ABET</td>
<td>Accreditation Board for Engineering Technology</td>
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<tr>
<td>CAAHEP</td>
<td>Commission on Accreditation of Allied Health Education Programs</td>
<td>COEHS: Athletic Training Program</td>
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<tr>
<td>CAAHEP</td>
<td>Council on Accreditation of Allied Health Education Programs</td>
<td>Cytology</td>
</tr>
<tr>
<td>LCME</td>
<td>Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges</td>
<td>School of Medicine</td>
</tr>
<tr>
<td>ACGME</td>
<td>Accreditation Council for Graduate Medical Education</td>
<td>Residency Programs in Internal Medicine, Pathology, Transitional Year, Surgery, Pediatrics, Family Practice and Obstetrics/Gynecology</td>
</tr>
<tr>
<td>ACCME</td>
<td>Accreditation Council for Continuing Medical Education</td>
<td>Continuing Medical Education</td>
</tr>
<tr>
<td>NLNAC</td>
<td>National League for Nursing Accreditation Commission</td>
<td>COHP: Nursing (undergraduate and graduate)</td>
</tr>
<tr>
<td>WVRN</td>
<td>WV Board of Examiners for Registered Professional Nurses</td>
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<tr>
<td>ACS</td>
<td>American Chemical Society</td>
<td>Department of Chemistry</td>
</tr>
<tr>
<td>FEPAC</td>
<td>Forensic Education Program Accreditation Commission</td>
<td>Forensic Science</td>
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Capstone Experience

As previously indicated, the Marshall Plan requires all graduates to complete a Capstone Experience. Successful completion of the capstone project requires students to demonstrate competent learning in their respective discipline and is, therefore, a reliable indicator of a program’s effectiveness in preparing students for employment and/or the pursuit of a graduate degree.

Curricular and Co-curricular Activities

The university offers a number of extra-curricular activities that promote a student’s ability to live and work in a global, diverse, and technological society. Two notable examples include initiatives housed within the Marshall Center for International Programs (CIP): Study Abroad and the Language Buffet.

Study Abroad assists students who desire to study abroad for a summer, a semester, or a year. During the 2003/2004 academic year, 120 students participated in Study Abroad in 12 different countries. The Center for International Programs (CIP) has developed an assessment survey that is currently being administered to all students who participated in a study abroad program during 2004/2005. The Department of Modern Languages also collects assessment data for its summer language programs.

The Language Buffet is a foreign language conversation school that provides conversation practice and limited instruction in various foreign languages. These non-credit courses are designed around understanding and using a foreign language. Depending on the availability of instructors, French, Spanish, German, Italian, Portuguese, Chinese, Japanese, Korean,
Russian, Swahili and Arabic are offered. Each semester from 30 to 50 people participate in the Language Buffet. Among many other activities there is also an International Education Week and a Hispanic Awareness Week.

**Core Component 4d**

_The organization provides support to ensure that faculty, students, and staff acquire, discover, and apply knowledge responsibly._

1. **The organization’s academic and student support programs contribute to the development of student skills and attitudes fundamental to responsible use of knowledge.**

The spirit of this core component takes the traditional concept of knowledge gained through research to a new dimension. This dimension recognizes that such knowledge gained without awareness of the importance of social responsibilities associated with the knowledge is counter to the mission of the institution. Marshall University is fully aware of the importance of the responsible use of knowledge gained by students, and is committed to imbuing them with a full sense of its value.

Although there is an understandable degree of variation among the academic units of the university, Marshall University has several ways to address the importance of instilling in students the necessity of using knowledge responsibly. The following represent ways in which Marshall facilitates development of appropriate skills and attitudes among its students. Because of the widely varied scope of many of these programs, they will be cited in other components beyond Criterion Four and Core Component 4d. Indeed, the multiple applications across all Criteria of the areas listed herein speak to their innate value to the university overall.

1) **UNI 101/HON 101.** UNI 101 and its equivalent in the Honors Program, HON 101, provide an essential introduction to college life for students new to Marshall University, including freshmen and new transfer students. Sections are taught by faculty,
administrators, and staff to facilitate needed adjustment for students to the academic and social environment of college in an interactive, intimate environment of a small group of peers and a faculty/staff mentor. Housed in the Office of Academic Affairs, UNI 101 is a one credit hour class graded Credit/No Credit (CR/NC). Some sections of this course last 8 weeks, meeting twice a week; others last 16 weeks, meeting once a week. All sections familiarize students with the Marshall University libraries.

Although there is a set core of topics, instructors have a great deal of flexibility in how the course is taught, with each one relying on his/her own experiences as a student and as an academician. However, engendering a sense of responsibility in the use of all the knowledge these new students will gain at Marshall University receives high priority among the issues addressed in UNI 101/HON 101 sections. Indeed, that this is done in the students’ first semester on campus demonstrates the importance Marshall University places upon ethical orientation of students.

2) **Student Handbook.** The Code of Student Rights and Responsibilities is published every two years, but is updated online annually to reflect changes and improvements in current policies regarding, among other things, responsible use of knowledge gained at Marshall University. This provides the student an unambiguous source of information to guide him/her in the pursuit of knowledge.

3) **Academic Advising.** Freshmen in all but one college are subject to mandatory advising. They are required to meet with an advisor prior to course registration. Undecided students are advised in University College or by an advisor assigned by their college. Students are required to choose a major by the time they reach junior status. To help students in this process, the university offers a variety of career exploration tests as well as a Major Fair each year.

Admittedly, the primary purpose of advising is for the professor to provide advice on the appropriate courses the advisee should take for a given semester. However, the advisor-advisee interaction initiates a relationship that often transcends a student’s tenure at Marshall University. As the student matures, and as the professor observes the
intellectual growth of the student, they invariably grapple with important issues of responsibility. In addition, because each professor is subject to the rigors of responsible use of knowledge, the advisor provides a clear embodiment for the advisee of just what that concept embraces.

4) **Capstone Experience.** As part of the Marshall Plan for Quality Undergraduate Education, a capstone experience is to be completed by the end of the senior year for each student at Marshall University. It is the charge of each major department to design its own capstone experience to help students synthesize and demonstrate competent learning in their field. The capstone experience includes (1) doing the required work, (2) providing a written summary of this work, and (3) presenting an oral presentation highlighting the work and what was learned from it.

5) **EPSCoR.** The research experience of Marshall’s science students has been substantially advanced through several federal infrastructure enhancement programs. Most notably, the National Science Foundation’s EPSCoR (Experimental Program to Stimulate Competitive Research) and the National Institutes of Health’s INBRE (IDeA Network for Biomedical Research Excellence) and COBRE (Center of Biomedical Research Excellence) programs have provided substantial funding for hiring new faculty, advanced training of existing faculty, purchasing new equipment, and student research stipends. In the last five years, Marshall has received a NSF EPSCoR award ($1M/yr for three years), and INBRE award ($16M over five years), and a COBRE award ($9.3M over five years). All these programs are designed to stimulate sustainable improvements in the R&D capacity and competitiveness within the major research universities in states which receive a disproportionately low rate of federal research support. (West Virginia is one of 25 EPSCoR states.)

In every case, these awards are made to institutions demonstrating sound scientific objectives endorsed by university and state commitments. Marshall’s primary scientific objective to date has been to strengthen cell and molecular research in the School of Medicine and College of Science and to foster collaboration between these two entities. Institutional support has included both mandatory and voluntary match funding equal to
hundreds of thousands of dollars annually. The State has also supported these federal infrastructure grants by providing funds for research projects leading to economic development as well as undergraduate and graduate research stipends.

The WV EPSCoR Committee administers these state awards to ensure they are consistent with state and institutional priorities. In states like West Virginia with limited resources, it is hard to overstate the value of these state-federal partnerships in bringing quality research experiences to its students. Last summer, for example, 28 undergraduate and nine graduate students received research stipends from EPSCoR, INBRE and the state-supported STEM and SURE programs. A number of built-in state and federal regulatory requirements ensure that the research will be conducted responsibly.

It is during the capstone experience that students get their best understanding of the scholarly activities of the professors from whom they have been taking classes, i.e., what they do “outside the classroom.” Whether these are research or creative activities, the student obtains first-hand an understanding of the way in which new knowledge is gained. Accompanying this and just as important, however, is that the student gains an appreciation for the responsibility he/she has in using this new knowledge. Again, this is accomplished by both word and deed from the professor who is advising and leading the work. Often, for example, the capstone experience involves grant writing and publication of work. In this case, the vision of responsible use of knowledge arises from the rigors of peer review. These principles receive even more attention at the graduate level.

2. The organization follows explicit policies and procedures to ensure ethical conduct in its research and instructional activities.

The university has clear and comprehensive polices and procedures to ensure ethical conduct in its research and instructional activities. The Marshall University Creed states, “We are an ethical community reflecting honesty, integrity and fairness in both academic and extracurricular activities.” A Faculty Senate resolution provides the university’s general policy on research integrity. It states, “Research and scholarship are an essential part of Marshall University, The virtues of scholarship are forged from a combination of patience
with eagerness, inspiration with meticulous care, and a reverence for integrity with a willingness to challenge cherished assumptions. It is within the research process that these virtues must be held in the highest esteem and measured against a strict set of standards … It shall be the policy of Marshall University that no faculty member shall knowingly plagiarize, fabricate, or present incorrect data in research or creative activities conducted under the auspices of the institution. Further, in the case of alleged scientific misconduct, all pertinent rules and regulations of the Public Health Service (PHS), such as 42 CFR Part 50 and allied documents, will prevail in providing definitions, procedures, and deadlines.” The policy and procedures governing any allegations of research misconduct can be found on the Marshall University Research Corporation (MURC) website. No allegations of research misconduct have been reported in the last five years.

There are clear institutional polices governing the ethical, humane and safe treatment of animal and human research subjects. Animal research policies are defined by the Guide for the Care and Use of Laboratory Animals, under the Animal Welfare Act (P.L. 89-544) as promulgated by the Institutional Animal Use and Care Committee (IACUC). The IACUC must approve all proposals involving animals. The Belmont Report, the Declaration of Helsinki and the Nuremberg Code provide the university’s general ethical guidelines for responsible conduct in research involving human subjects. As part of Marshall University’s Human Research Protection Program all faculty, staff and students are required to complete a basic course in human subject research prior to becoming involved in any human research studies. They must also complete a refresher course annually. In the last 12 months 384 MU faculty/staff and 504 students successfully completed this training. All proposals for human research must be approved by the university’s Institutional Review Boards (IRB, Medical IRB or Social/Behavioral IRB). These requirements are stated in the Graduate Catalog and detailed on the Office of Research Integrity website.

3. The organization encourages curricular and co-curricular activities that relate responsible use of knowledge to practicing social responsibility.

As evidenced by the institution’s Mission Statement, Marshall University explicitly recognizes and is committed to its role in supporting and enhancing both the immediately
surrounding and broader community structures. Specifically, the Mission Statement asserts that Marshall will provide education that “contributes to the development of society and the individual” by, among other things, fostering faculty and student outreach through service activities, enhancing the quality of health care in the region, promoting economic development, educating citizens capable of living and working effectively in a global environment, and furthering the intellectual, artistic and cultural life of the community and region.

These sentiments from the Mission Statement are put into practice on a daily basis at Marshall University. Marshall is unique among institutions of its size with respect to its commitment to and integration into the community at large. Faculty and administrators often are leaders and otherwise actively involved in various community groups, and many participate in public service at the local, state and national levels. Marshall is highly supportive of this type of involvement in a variety of ways, such as providing release time from other duties and recognition for the service that is such an important part of the institution’s relationship with the public. These activities invariably enhance students’ awareness of their ongoing responsibility to use their particular talents and knowledge toward the enrichment of society, and also results in a variety of student programs and activities specifically directed toward this goal. As one case in point, the current mayor of Huntington was a student at Marshall University when he decided to run for office. In addition, a faculty member serves on the Huntington City Council.

Examples of Marshall’s commitment to social responsibility abound across the campus and beyond. For example, the Marshall Plan for Quality Undergraduate Education, which requires all undergraduate students to complete a capstone experience, advances the responsible use of acquired knowledge in the furtherance of social responsibility. Although capstone experiences are designed by individual departments, the great majority of the capstones encourage students to apply their education and skills acquired in the classroom to real-world, real-time experiences. Most of the experiences involve student participation in providing valuable services to a wide variety of community help groups and assistance centers, governmental agencies, and other groups committed to supporting and promoting of the public welfare. For instance, undergraduate education majors generally complete
capstones in the public school system; counseling students provide services to various regional mental health centers, shelters and other assistance centers; and geography and biology majors often complete capstones that facilitate initiatives in the state parks system and other agencies that protect the environment and otherwise benefit the region and its inhabitants. Biology majors may spend time on the Ohio River collecting water samples to monitor water quality. These are just a few of the many ways that students are encouraged, through a curricular requirement, to use their acquired knowledge and experiences in a disciplined, professional manner, and to become more socially responsible and aware at the same time.

The School of Medicine stands as an additional example of Marshall’s support of programs and students that enhance the community and social structure. From its establishment in 1977, the medical school has been integrated into the community and has been responsive to the region’s particular and special health-care needs. The school specializes in rural health issues, and is known for its commitment to recruiting students from rural West Virginia and placing graduates in clinical practices in rural areas. In this way, Marshall’s medical students learn to apply their knowledge and training in a manner that is at once both socially responsible and extremely beneficial to the region. Similarly, the curriculum of Psy.D. students is designed to sensitize them to the cultural orientation of the clients in rural areas that they are being prepared to serve.

Other relevant curricular programs that provide components of social responsibility include the Marshall Plan’s requirements for courses in multicultural studies and international studies. Additionally, most academic programs on campus, such as business, computer science, psychology, engineering and others include ethics education as part of the course content. The incorporation of an ethics curriculum requirement in future revisions of the Marshall Plan will be considered.

Extra-curricular activities available to Marshall students and supported by the university also encourage students to use their knowledge and skills for the greater good, including “sweat equity” programs, student service organizations, and student chapters of professional organizations. Student participation in these groups is strongly encouraged by the relevant
departments, and often involves support of many different community and school programs, including Hospice of Huntington, Habitat for Humanity, Lions Club and Girl Scouts and Boy Scouts of America. Marshall’s Community Service program office coordinates volunteer student participation and provides a point of contact for many of the off-campus organizations. Possibly the most notable social contribution by Marshall this year was a student government initiative that raised over $500,000 for Hurricane Katrina relief.

4. The organization provides effective oversight and support services to ensure the integrity of research and practice conducted by its faculty and students.

Marshall University’s Office of Research Integrity (ORI) provides the oversight and support services to ensure the ethical conduct of research and the university’s solid commitment to compliance with all applicable regulations and accreditation standards. The creation of the ORI represents the most significant advancement in research management in the last five years. In 2002, MU had only one IRB and only one half-time staff member. Today, with a part-time director, two full-time staff members, two part-time staff members, and two IRB’s (medical and non-medical), the university provides the necessary level of oversight. In FY 04-05, for example, the ORI managed 273 human research projects for the university and three community hospitals. Because university faculty, students and staff conduct human studies in these hospitals, it is essential that the ORI provide comprehensive and standardized oversight. All policies, application forms, and educational modules are provided on the ORI website. Oversight of animal research is provided by the Institutional Animal Use and Care Committee IACUC as mentioned earlier. This is a committee whose composition and function have not changed significantly in the last five years.

Finally, the university is in the process of upgrading its Conflict of Interest Policy. Under the new policy, all faculty and staff must submit an annual conflict of interest disclosure form. In this way, all conflicts will be either managed in a way that maintains the integrity of the individual’s research/creative activity or the research will be disallowed. The university has just hired a Compliance Officer for the ORI. Initially, this individual will be responsible for providing much needed support for the Institutional BioSafety Committee, the University Conflict of Interests policy and coordinating the office’s numerous educational programs.
5. The organization creates, disseminates and enforces clear polices on practices involving intellectual property rights.

The university has recently placed increased emphasis on identifying and developing its intellectual property (IP). In 2003, Marshall created the Institute for the Development of Entrepreneurial Advances (IDEA). IDEA has upgraded the university’s IP policy (Board of Governor’s Policy 19), created Confidential Disclosure Agreements, an Intellectual Assignment Agreement Form, a Material Transfer Agreement Form, and Confidentiality Agreement Forms. Prior to 2003, the university had secured only two patents. By the summer of 2005, we had three patents, six non-provisional and two provisional patents on file. In addition to these classic elements of technology transfer, IDEA endeavors to see that innovations developed by Marshall faculty, students and staff lead to new businesses in the region.

In September 2005, the university spun out Vandalia Research, Inc., in Huntington. Vandalia is a new biotechnology start-up spawned from research conducted by faculty and students in the College of Science. An associated mission of IDEA is educating the university community on all elements of intellectual property development and entrepreneurship. One of the most critical elements at this time is to provide all university faculty and staff with the new conflict of interest guidelines. As with the development of all new research compliance legislation, the ORI is directing an extensive education program describing both the need for disclosure of conflicts and the associated procedures. IDEA and the ORI assist the university programs on entrepreneurial education. This involves both one-on-one counseling of potential inventors as well as sponsoring campus-wide seminars and workshops.

Strengths

- The goals of the ethical acquisition, discovery and application of knowledge are incorporated into education requirements of the colleges and departments.

- The Marshall Plan ensures that all students graduating have common core competencies in math, writing, computer skills, and multicultural and international experiences.
• The experiential components of a major provide opportunities for students to have practical knowledge before entering the workforce, while providing valuable services to society.

• The Robert C. Byrd Biotechnology Science Center will combine academics and economic development in a state-of-the-art facility.

• Marshall University has an extensive rural medical outreach that serves many remote communities throughout the state and has received national recognition.

• Internship, Capstone, Service Learning and Experiential Learning Courses increase university and community interactions and dissemination of research and research findings into the community.

• Students participate in state, regional, and national conferences by attending and making presentations.

• The university provides multiple research forums for students and faculty to present their research findings.

• Strong community outreach programs allow the university to engage with many entities throughout West Virginia.

Opportunities

• Although the college Mission Statements allude to the generalities of the Marshall University Mission Statement, it is the recommendation of the Criterion 4b subcommittee that all colleges and schools review their individual Mission Statements again to better align them with the new University Mission Statement.

• Faculty researchers have a window to work with the Nick J. Rahall Appalachian Transportation Institute to develop more initiatives.

• We are in the process of transforming into a Doctoral Intensive University.
Overall, the five-year program review process has been an effective means of assessing and strengthening the usefulness, quality, and appropriateness of the institution’s academic programs. The process has been streamlined to incorporate web-based tools in order to make review documents more easily accessible, to facilitate interaction among committee members, and to create a repository of committee actions that can be referred to as needed. However, improvements could be made in the process.