

College of Engineering & Mineral Resources
West Virginia University

STRATEGIC ORGANIZATION PLAN

September 15, 2005

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EXECUTIVE SUMMARY

The purpose of this strategic organization plan is to unify the College and its ability to invest and nurture programs across all disciplines and departments. The plan will help the College make better decisions, to better understand what we have and what we get by new investments or continued investments in specific programs, and to permeate our College vision and expectations throughout the organization and to all our constituents. Importantly, this plan will ensure the College is aligned with the values, vision and mission of the University. This strategic plan will keep the College on-purpose, the reason for being.

The planning process included development of revised vision and mission statements for the College. Our vision and mission must be connected and anchored to our purpose as a College. The strategic plan establishes measurable goals for the departments and College that are used to evaluate performance, ensure vitality, improve growth potential, and ensure effective use of all College resources. Achieving these goals are important to the future growth and success of our College given the fast pace of technological change and the need to keep technology education current. In a continuing constrained state budget for higher education achieving this requires additional external resources for the College to be successful.

This strategic plan is intended to be dynamic and will change over time. Our doing (mission) and seeing (vision) will change to keep us on-purpose. In addition, we will expand the breadth of this document beyond basic operations as the College develops specific plans for its teaching, research, service and outreach activities. We will implement this plan over the next year as the College Executive Committee comes to agreement, and after information is disseminated and input is received from faculty, staff, students, and external constituents. The College will continue to invest the time and energy needed to remain on-purpose, and to ensure that our mission fulfills our vision. This commitment is important since technology continually changes our lives and advances society.

CORE VALUES

The College strategic plan addresses the following internal core values in meeting the overall university mission. These core values regulate our purpose as a college in order to ensure our success.

Constituent Satisfaction: At the end of the day our constituents must be satisfied, otherwise our vision and mission have failed. We have a multi-faceted constituent base to serve but the education of our students remains our number one purpose. This education requires the College to have an integrated and exciting learning environment for teaching, research, service and outreach. A major focus of our learning environment must be to educate qualified students for industry and to connect our College research

expertise, students, and resources to support economic development in West Virginia. Another important part of our vision is to provide outreach and service to constituents.

Maintain Facilities and Program Quality. The College vision includes making and maintaining an exciting learning environment where people want to come to learn, work, and do research and service. We cannot accomplish our vision without providing leading edge facilities and maintaining the highest quality standards for all our programs.

Employee Satisfaction. The College provides multi-faceted services to customers through its employees. Employees must be satisfied with being part of the College in order to provide the quality of services in a safe manner that accomplishes our vision, mission, and goals. We must articulate expectations clearly and objectively, and develop a system of rewards that acknowledges good performance by faculty and staff.

Cost and Revenue Efficiency. It is self evident that we must provide our services and accomplish our vision and mission in ways that are not wasteful as viewed by our constituents. We must develop additional private and other external resources that provide the basis for enhancement of our programs.

Effective Organizational Communications. Communicating our successes is critical to building and maintaining constituent satisfaction and to developing the resources to be successful in our mission. We must always do a good job of thanking and engaging our donors, nurturing students and alumni, and attracting and maintaining interest and support from corporations and foundations for College programs. Staying on-purpose is key to being successful, and to do so requires maintaining open internal and external communications that help promote our image and increase recognition among our peers.

STRATEGIC PLAN

This document provides a summary of an overarching strategic organization plan for the College. In developing this document we have espoused the being, seeing and doing of strategic planning stated on page 4, an adaptation for our College that provides an excellent basis for organizing our strategic plan. Our College purpose is stated on page 5. The vision and mission statements on pages 6 and 7 provide an updated view of our ultimate potential and what we are presently doing to advance this vision. In doing so, the College continues to operate under basic guiding principles presented on page 8.

An important discussion during several retreats was the philosophy the College should use to support its operations. This led to a basic set of decision-making principles. The three criteria developed (pages 9-13) require an understanding of the quality, financial self-sufficiency, and economic development aspects of College and/or department investments in new or existing programs.

A major focus of the retreats was to develop an action plan around issues the College determined were important to its mission. The Action Plan (pages 13-23) contains goals for seven major areas that support College operations. Some of the goals within the tables for each area have already been implemented, some have been implemented but need conditional improvement, and some need to be addressed. Some goal statements need to be refined to make them more specific and measurable. The College has identified the highest priority goals to work on and/or implement this year (bold type throughout the tables). These are under development. Some parts of the Action Plan will require investment in new people and facilities.

The next steps will be to use this plan as the basis to focus College efforts on the development of a research plan, specific financial and business practice plans, fundraising, and short and long term facilities plans. These are under development. The College has a bright future. Continued focus on implementing the goals presented in the Action Plan included in this document will ensure this future.

Acknowledgements. This document has been developed with considerable input from the College Executive Committee and Faculty Council Executive Committee. Group discussions have been facilitated by Mr. Grant Stewart of Performance Matrix, LLC. This document and all minutes have been prepared by Ms. Gina Buckhalter. I appreciate the interest and cooperation of all individuals in this process.

“Action without vision is a nightmare.
Vision without action is a daydream.”

--Japanese Proverbs

IS OUR COLLEGE ON-PURPOSE?

(The Being, Seeing and Doing of Strategic Planning)

Purpose resides in your heart?
What's the purpose of our College?

Vision resides in your mind's eye?
It is your dreams and possibilities.
Imagine our College at its ultimate potential.

Who are our customers and why?
How are they served?
What processes and plans are in place to ensure successful service?
How does it feel walking around our College?
How does our College look?
Are we happy to be at work?
How does our College give back to the profession? Community? State?
What do we do on a day-to-day basis?

Our vision and purpose need to be connected and aligned.
A vision not anchored in our purpose is often costly distraction.

Missions reside in your hands and your feet.
Missions are what we do to fulfill the vision that is anchored in our purpose.
Missions are "doing" aspects of our lives.
Purpose is the being and visions are the seeing.

Values reside in your gut and your throat.
The worst violation of your values is being off-purpose.

Vision is where you are going.
Mission is our doing in the present – what we need to do today to fulfill and express our purpose and advance us toward our vision. Missions are measurable, finite and composed of specific goals with definite beginnings and endings.

Values are learned, revealed, internal governors of right and wrong that we feel in our gut and throat. They regulate our purpose and help us choose what is important.
Purpose builds on our past, lives in the present and holds hope for the future.

Adapted for our College from The On-Purpose Business
by Kevin McCarthy, as modified for "Our City" by Anthony J. DePrima.

PURPOSE

College retreats produced considerable discussion about our College. The focus was on ensuring a successful future for our students and in providing an exciting learning environment for faculty, staff and students. It was clear to the participants that the old adage applies: “Where there is no vision, the people will fail.”

The participants strongly supported the following key elements of our purpose. Many participants thought a lofty top 50 ranking is possible but to achieve that goal will require a College operating as a much more self-sufficient entity. A more realistic attainment would be to be “among the top seventy-five in five years.”

***“The College is a place that provides an exciting state-of-the-art learning environment that is customer focused and engaged with industry, while providing mutual respect among colleagues and for all constituencies. It ensures that a unified message is being sent at all levels and that all departments are operating with no barriers. It is a place where industry and business flock and alumni give without being asked. The College operates with sufficient personnel and facilities to ensure quality programs.*”**

VISION

The College of Engineering and Mineral Resources at West Virginia University will be nationally recognized for its technical innovation, creation of knowledge, and ability to foster educational excellence, while continuing its commitment to the economic growth of the state and nation for the benefit of all West Virginians.

MISSION

The mission of the College of Engineering and Mineral Resources is to prepare students to practice their profession and to contribute to the well being of society through academic study, research, extension and service.

Guiding Principles

The College distinguishes itself by delivering an up-to-date, high quality curriculum and learning environment that transforms students into life-long learners and practitioners. We encourage research and discovery, which directly benefit society, as well as public service and engagement, which transfer knowledge to the public sector. We will be proactive in meeting the intellectual, industrial, and economic needs of West Virginia in a global society. We will promote the knowledge, skills, ethics, creativity, and critical thinking for safely transforming information, matter, and energy into structures, machines, products, systems and technologies to benefit people and society. To accomplish this mission we operate under the following guiding principles.

For Our Students

- Provide quality accredited programs at the leading edge of technology
- Develop the ability of students to be competitive in their profession
- Develop the ability of students to work professionally in diverse environments
- Instill in students the importance of team work and effective communications
- Provide students access to world class faculty in an exciting learning environment
- Prepare students to anticipate the future needs of a changing technological environment
- Instill in students the desire and capacity for life-long learning

For Our Faculty and Staff

- Provide academic and research programs that enhance WVU recognition among peers
- Maintain state-of-the-art facilities in a modern infrastructure
- Support R&D that promotes the development of new technology
- Serve as an incubator that encourages development of new ideas
- Collaborate with our partners to disseminate, share, and apply knowledge
- Promote our role in economic development throughout West Virginia
- Serve as a resource to support new company startups and entrepreneurship
- Reward faculty and staff performance and productivity

For Our Constituents

- Manage all resources and operations to be effective and fiscally responsible
- Provide extension services, consultation and technical assistance.
- Interact with all constituencies in a professional manner
- Communicate with all our constituents about accomplishments and activities

College of Engineering & Mineral Resources

Decision Making Principles

Quality, Financial Self-Sufficiency, Economic Development

Decision-making principles establish metrics and opportunities used to focus and allocate resources of the college to help achieve its vision.

Resources of the college are defined in terms of the financial and intellectual resources provided by the State, College benefactors, its faculty, staff and students, organized into six categories:

1. Financial support – including gifts, grants and appropriations,
2. Teaching programs – such as basic as well as unique curricula, extended-learning offerings, professional development and training offerings, etc.
3. Research programs – provide dollar value and allow program continuity and government/industry participation and partnerships
4. Service programs – providing outreach to industry, worker training and professional development
5. Intellectual development programs – such as patents, copyrights, trademarks, trade secrets and college expertise, tech transfer
6. Publications – such as in refereed journals, proceedings, books
7. Public relations/marketing

The focus and allocation of these resources should lead to improvement of the College and impact its programs beneficially. The process of resource allocation must address the following key areas: quality, financial self-sufficiency and/or economic development.

College resources should be committed to those identified opportunities that contribute to the metrics for quality, financial self-sufficiency and economic development defined through the strategic planning process. Opportunities do not necessarily require new resources but rather may require refocusing or reallocation of current resources.

Quality

Quality is the reputation of our programs as perceived by incoming freshman and their parents, employers of our students, the state of West Virginia and peer faculty and institutions at the national level. It directly affects the “esteem factor” as large audiences identify us individually with the level of quality of the institution, college, etc.

The metrics and opportunities to evaluate and impact quality fall into two broad categories, those used/viewed/evaluated as external to the College and internal to the College. The potential metrics of quality that could be used have been reduced to a number of key ones. Additionally, a number of opportunities have been identified where resources within the college could be allocated to influence one or more of the quality metrics.

EXTERNAL

Metrics:

1. U.S. News and World Report
2. Accreditation
3. National Level Leadership
 - a) Professor/Staff Participation
 - b) Career Successes
4. Job Placement
5. External Support
 - a) Alumni participation
 - b) Corporate participation

Opportunities

1. Undergraduate and graduate admission requirements
2. Encouragement to participate in national programs
3. Partnering with other schools
4. PR / Communications / Marketing
5. Improvement (quality and quantity) in alumni relations
6. Improvement (quality and quantity) in corporate relations
7. Targeting federal programs to support education, research missions and service outreach.

INTERNAL

Metrics:

1. Student admissions credentials (e.g., SAT/ACT math or composite scores, class rank, high school GPA), job placement and retention, 4th and 6th year graduation rates, GRE Scores, BS GPA.
2. Faculty/Staff service, research and teaching awards (CEMR, WVU, state, national), credential development (life-long learning) and positions held in professional societies, national committees, etc.

Opportunities:

1. Undergraduate and graduate admission requirements
2. Encouragement to participate in national programs
3. PR / Communications / Marketing
4. Targeting federal programs to support education and research missions
5. Improvement of freshman skills
6. Assessment of educational program outcomes and objectives

Financial Self-sufficiency

Financial self-sufficiency refers to the College's ability to manage and deal with changes in its revenue streams to the extent that reduction in those revenue streams can be absorbed within the College's overall financial resources. It serves to increase our level of "safety" by isolating us from the effects of reductions in the state budget for higher education, interruptions in contract funding and inconsistencies with grants and gift giving. Additionally, self-sufficiency should also refer to an increase in the College's capacity to take advantage of evolving opportunities and any redirection of efforts the College may want to initiate.

Metrics:

1. State/total budget ratio.
2. Return on investment of each major activity
3. College/department revenue per unit of investment
4. Research overhead return

Opportunities:

1. Enrollment – such as undergraduate and graduate student and facilities fees
2. Research – such as number and diversity of individual research grants, larger grants for research areas and centers, overhead return, cost-share.
3. Industrial contracts
4. Incubator work and partnerships
5. Private support – such as gifts and endowments.

Economic Development

Economic development refers to expenditures that provide some benefit to the state economy as a result of our work (not only the jobs created but the salary plus everything else spent locally) and improvements to the cultural and economic well-being of communities within the state. New job and business creation should be a primary focus of our College efforts. If successful, it minimizes the "brain drain" from the state and affects directly our "belonging factor," provided our contribution is recognized. Benefits of economic development activities can be derived from: direct expenditures from research, expenditures made by companies associated with service, research, teaching, and outreach, expenditures made by companies spinning off research, service, etc., and by providing certified/qualified graduates to staff at existing or new state industry.

Metrics:

1. Dollars spent or saved in the state economy.
2. Start-ups/enhancements/participation
3. Certified/qualified graduates working in the state

Opportunities:

1. Research results in direct expenditures in the local economy (on-campus research) and the regional economy (off-campus).
2. Education and training yield direct expenditures in the local economy by students and training class participants.
3. Education and training contribute to raising the general level of education and training in citizens and workers of the state that prepare them for advancement and business development.
4. Transfer of research to the private sector creates new businesses and jobs that build true economic development activities for West Virginia.

Tech transfer involving software, hardware, services, graduates, etc yields dividends to the citizens and businesses of the local area, state and region through higher productivity, improved competitiveness, new product revenues, start-up companies, and new tax bases.

The College will use these decision making principles for determining investment in new or existing programs and initiatives in its teaching, research and service missions.

Action Plan

The retreats identified the following issues as being important to the quality and efficiency of College operations. These issues are the basis for the Action Plan Tables that start on page 15.

1. Develop methods to match accountability with responsibility.
2. Establish decision making principles that maximize opportunities and exploit strengths.
3. Develop management rules to help determine how the College and individual departments operate within the College, that is, develop a governing philosophy.
4. Develop rules for appropriate and fair distribution of resources from department to department and College to department.
5. Develop principles for distributing faculty work assignment (e.g. sharing courses).
6. Identify and determine “product mix” in teaching, research, and service.
7. Improve morale of the organization.
8. Develop ability to efficiently use lab and teaching space.
9. Collaborate on the use of research equipment between departments.

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Some goals within the tables in the attached file have already been implemented, other goals have been implemented but need additional improvement, and others have not yet been implemented. The goals that are in bold and in italics are the goals the retreat participants have identified for priority implementation in 2005-06 and beyond. Progress is being made on these goals.