

## Strategic and Operational Planning At The Department Level

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### Abstract

This paper describes the process used to develop a strategic-operational plan for the Engineering Technology (ET) department at the New Jersey Institute of Technology (NJIT). The activities of the planning process that led to a combined strategic-operational plan, are presented as a guide for starting and undertaking departmental level planning within academic departments. A historical summary of the NJIT University planning activities leading to its first strategic plan is first presented as background information. The NJIT University Strategic Plan is discussed as the higher level plan providing the foundation leading to the strategies, goals, and objectives of a lower level strategic-operational plan for the ET department. The format, planning process, and summary of results and problems encountered are then discussed.

### Introduction

The New Jersey Institute of Technology has long recognized the need for long range planning. Its tradition in contemporary planning began in 1972 when it prepared **A Broadening of Mission: The Development of a Technological University**, a background paper for the Middle States Association Case Study. This document was a recognition of the importance of linking the accreditation process with the planning process. Since 1972 NJIT has undertaken many self-study and master planning activities. These activities were integrated with other University planning activities and led in 1990 to the creation of a self-study/planning steering committee. The committee, in turn, identified task forces for achieving continuity to the planning process. More than 120 NJIT people representing faculty, administration, staff, students, alumni, and external constituents were involved in the process. This integrated effort led to NJIT's first University level, five year strategic plan in 1992. Since then, integrated strategic planning has been an embedded process within NJIT and has provided in a top down fashion the strategies, objectives, and goals for bottom up planning at the operational levels of administrative and academic departments.

Although effective in moving an organization forward, strategic planning at the university level requires the support of strategic and operational planning at the departmental level. At this level, the groups and people responsible for doing the detailed work activities leading to the achievement of strategic planning goals and objectives, can provide realistic estimates for required resources and scheduling. In this way, top down strategic planning at the university level is integrated and supported with bottom planning at the departmental and group level. The result is an integrated plan that is supported by all organizations and people involved, and therefore is more likely to succeed. The purpose of this paper is to report on the activities undertaken by one academic department in creating its first strategic-operational plan.

### The NJIT Strategic Plan

NJIT is in the process of completing its 1997 strategic plan. A draft of the NJIT University level plan has been completed following an integrated process similar to that used for the 1992 plan. The ET department of NJIT has used the draft plan as the top down plan, guiding its departmental strategic-operational planning activity. Clearly stated in the NJIT University plan are mission and vision statements. These statements are supported by goals, objectives, strategies, and status in eight strategic areas;

1. Teaching and Learning
2. Research and Graduate Studies
3. Student Diversity
4. Faculty and Staff
5. Campus Life
6. Public Service
7. Economic Development
8. Resource Management (Budgeting and Planning)

The NJIT mission and vision statements along with the goals, objectives, strategies, and status in each of the above areas, were reviewed and analyzed from the NJIT College of Engineering perspective. A result of this activity was a preliminary mission and vision statement for the ET department.

### **Getting Started At The Departmental Level**

ET departmental planning started with the assignment of a faculty member as planning coordinator. Specific responsibilities of the planning coordinator included developing a strategic-operational plan which could serve as an initial "strawman" proposal for developing an integrated departmental plan. In addition, the coordinator was tasked with developing a planning process which would involve all members of the department.

The ET departmental strategic-operational plan was defined as a rolling, three year plan with emphasis put on the first year. The plan will be updated yearly in order to keep it current. Plan year 1 activities are defined as those activities that are on-going and/or will be started during the first year of the plan, and for which resources are available. The activities for the first year are high priority activities required to meet University level strategies, goals, and objectives. Plan year 2 activities are continued plan year 1 activities and lower priority activities which can be done when resources from plan year 1 and/or additional resources become available. Plan year 3 identifies on going plan years 2 and 3 activities, and low priority activities for which no resources are available.

As a first step in developing the "Strawman" proposal, the ET mission and vision statements and the strategic areas defined in the University Strategic plan were used to define applicable strategic areas for the ET department. The ET strategic areas are given below along with a brief description of the goals defined for each area.

- 1. Academic Success:** Increase student success in the areas of retention, mastery of course subject matter, computer skills, laboratory skills, development skills, PE licensing, professional society involvement, pursuing advanced degrees, and employment.
- 2. Curriculum:** Insure that the curriculum and labs in each ET discipline meet applicable NJIT, ABET, industry, professional licensing, and student requirements.
- 3. New Program Opportunities:** Increased enrollment through the development of new academic programs.
- 4. Support To Students:** Enhance student success by providing the necessary support with regard to academic advisement, day and evening advisement, flexible laboratory schedules, access to PCs and Workstations.
- 5. Faculty and Staff Development:** Provide faculty with the opportunity to remain current with regard to technology, industrial needs, and teaching methods. Provide staff personnel with the opportunity for professional development.
- 6. Applied Research:** Increase applied research, industrial partnerships, and sponsored R&D

activities within the ET department.

**7. Recruitment:** Increase the ET student population for defined academic programs. Recruit qualified faculty and staff as required.

**8. Service:** Promote and identify opportunities for faculty and staff involvement in service activities both internally to the University and externally as Public Service.

**9. Departmental Operations:** Insure that departmental administrative operations can support ET work activities. Define and coordinate funds development.

Given the proposed ET strategic areas, a format was defined which was used to develop the "Strawman" proposal. This format required that each strategic area be defined in accordance to the following:

- Objectives.
- Opportunities.
- Work activities required to achieve objectives.
- Detailed work tasks required to complete each work activity.
- Estimated resources to complete each work task.
- Responsibility for each work task.
- Dependencies associated with completing each work task.
- Deliverables resulting from the completion of each work task.

An example of how this format was followed for the Student Success strategic area is given below:

#### **Strategic Area: Student Success**

**Objectives:** The objectives in this area are to increase student success with regard to retention, mastery of course subject matter, computer skills, general laboratory skills as needed in industry, industrial type development skills (project management, concurrent engineering, industry methods), PE Licensing, bridging to Master's of Science degree programs, professional society involvement, employment.

**Opportunities:** Little data has been developed with regard to how well students are succeeding as a group or how well they should be doing as a group (i.e. benchmark). For example we know that some of our students are quite successful in mastering specific skills being taught. However, group data on the actual percentages of student that develop high skills in specific areas is not available. In addition, we don't know how successful they are relative to other institutions.

#### **Work Activities:**

1. Data collection and analysis.

#### **Work Tasks:**

- 1.1 Develop data and define benchmarks for each objective area.
- 1.2 Analyze data and define problem areas requiring corrective actions. Estimate cost of corrective actions.
- 1.3 Develop methods for regular data collection.

**Estimate of Required Resources:** 1 person, for one month.

< Completion Date: September 1, 1996

< Required Equipment: None

- < Support: Secretarial
- < Responsible Person: John Doe

**Deliverable:** Documented three year operational plan with focus on the first year.

Once the "strawman" proposal was developed, the planning activity was expanded to include all faculty, and staff in the department. Although some external constituents were involved, the planning process was kept largely to an internal departmental activity with strong input from the Dean of Engineering. The basic idea was to develop a initial plan that could serve as the basis for developing a more comprehensive, forward looking plan in the following year. Taking this approach proved to be a good "getting started" approach to developing the departmental plan.

### **Departmental Strategic-Operational Planning Process**

Five planning teams were defined to develop the ET Strategic-Operational Plan. Each team consisted of 2 or 3 members with one member assuming the responsibility of team leader. Members of the department served on more then one team. This insured that all ET functional disciplines were represented and provided the necessary resources and experience for completing team activities. Team responsibilities were assigned in accordance to the strategic areas defined for the department. The five teams and assigned strategic area responsibilities are presented below:

#### **Team 1: Academic Success**

Responsibilities: Student Success  
Support To Students

#### **Team 2: Applied Research**

Responsibilities: Applied Research

#### **Team 3: New Program Opportunities**

Responsibilities: New Academic Programs

#### **Team 4: Curriculum, Labs, And Teaching**

Responsibilities: Curriculum  
Faculty Professional Development

#### **Team 5: Organization and Development**

Responsibilities: Department Operations  
Administrative Staff  
Internal and External Service  
Funds Development

Each team was provided with a copy of the University Strategic Plan, the mission and vision statement for the ET department, and the "strawman" proposal. The teams were then tasked to identify objectives and to develop the strategic-operating plan for their area of responsibility.

An objective master schedule for the planning activity was defined in a meeting involving the planning coordinator and each of the team leaders. The master schedule was verified in a bottom up fashion in subsequent meetings held by each of the team leaders with members of their team and in a departmental meeting.

The strategic planning activity occurred over the spring semester of the current academic year. Departmental meetings occurred monthly and involved all members of the department including the chairperson. This meeting reported on progress and problems, and was normally preceded by individual team meetings and working sessions. Actions required to resolve planning problems were identified and assigned responsibility. Minutes of the departmental meeting were written and distributed to all members of the department and the Dean of Engineering. Meetings with the Dean of Engineering were held periodically to report on progress and to receive additional direction.

The planning activity was completed in the month following the end of the semester. It ended with an all day working meeting involving essentially all members of the department. This meeting included participation from the Dean of Engineering and a member of the University's Presidents Office responsible for strategic planning activities.

The purpose of the off-site meeting was to integrate the planning results achieved by the five planning teams. Each of the team leaders supported by their team members, presented their part of strategic-operational plan for review and discussion by the other team members. Changes to the plan were subsequently made based on the results of these reviews.

## **Results And Lessons Learned**

Although not completely successful in achieving its self defined goals, the planning activity presented in this paper has resulted in a good "first" strategic-operational plan for the ET department of NJIT. Significant progress has been made in the identification and definition of strategic issues, opportunities, and actions required to move the department forward to new levels of excellence and effectiveness. In addition, the activity has had the secondary benefit of pulling members of the department together as a strategically thinking group .

As indicated above, not all of the planning objectives were achieved. Most of the planning activity was focused on plan year one, with little attention being given to plan years 2 and 3. In addition, not all teams completed the planning for their area of responsibility.

There are several reasons why all of the planning objectives were not achieved. One of the most important is that strategic planning by departmental staff and faculty is a new and different experience. Few of the members of the department had any experience in the strategic planning process. A second major reason was that the planning activity was done essentially on an overload basis relative to normal work responsibilities. As with any important work activity, strategic and operational planning takes time. It is itself a major work activity for which additional time must be allocated.

Despite its shortcomings, the ET planning activity has raised the awareness of the importance and need for strategic and operational planning within the ET department. It has resulted in a solid foundation for continued planning. In addition, the "strawman" and team concepts proved to be good approaches to establishing an integrated plan reflecting the ideas and insights of all members of the department.

## **References**

1. New Jersey Institute of Technology, "Educating Professionals For Leadership in A Global Economy - Self-study and strategic Plan", pgs. 8-10, 1992.

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