Procedure for Preparing College of Engineering, Technology, and Computer Science Undergraduate and Graduate Curriculum Documents

I. Background

A. NEW PROGRAM: A proposal for a new academic degree program or certificate shall originate and be approved at the department level, be approved by the College Curriculum Committee, the dean, and the Vice Chancellor for Academic Affairs, and be forwarded to the following Senate committee according to Bylaws of the Senate as amended through April 13, 2015 (Senate Document 81-10):

- Undergraduate academic program proposal will be forwarded to the Curriculum Review Subcommittee of the Senate
- Graduate academic program proposal will be forwarded to the Graduate Subcommittee of the Senate

B. CURRICULUM CHANGE: A change in the curriculum (i.e., a change in the list of required or elective courses) of an existing academic program shall originate and be approved at the department level, be approved by the College Curriculum Committee, the dean, and be forwarded to the Vice Chancellor for Academic Affairs. If the department feels unjustly treated by the action of the college, it may appeal to the Senate, whose decision shall be final (Senate Document 81-10).

C. NEW COURSE or COURSE CHANGE: New courses and revisions to an existing course which do not change an existing curriculum shall originate and be approved at the department level, and be approved by the College Curriculum Committee, the dean, and be forwarded to the Vice Chancellor for Academic Affairs.

II. Procedure

A. The Department Chair shall submit the original document package and the electronic copy (in .pdf format) to the Chair of the College Curriculum Committee.

B. The Chair of the College Curriculum Committee shall distribute the electronic copy to each member of the College Curriculum Committee.

C. The Chair of the College Curriculum Committee shall conduct a monthly committee meeting, if needed, to discuss the curriculum documents. The cover sheet shall be signed by the College Curriculum Committee. The curriculum committee's decision shall be reported to the Assembly of Representatives at its next regular meeting.
D. The dates for the monthly committee meetings shall be shared with the department chairs.

E. Curriculum documents are to be submitted at least one week before the monthly meeting to be considered in that meeting.

F. The Chair of the Assembly shall forward one copy of the document package to the dean, one copy to the chair of the originating department, and one copy to each comparable department at the other campuses of the Purdue System (See Appendix B). When all necessary approvals have been obtained, implementation of the proposed changes may take place in the following semester.

G. If the proposal is not approved, the Chair of the College Curriculum Committee shall send one copy of the document package to the chair of the originating department with appropriate recorded comments.

III. Format of the Document Package

A. A dated, unnumbered cover sheet from the departmental curriculum committee addressing the document to the College of Engineering, Technology, and Computer Science Curriculum Committee shall be attached as a title page. (See Appendix C).

B. Pages shall be numbered sequentially throughout the remainder of the document package and include the following (See Appendix D):

1. Descriptive title of the document package.

2. Background: A concise statement of the reasons for the proposed change, such as citations of procedure and supporting material. Fuller development of these materials can appear as attachments.

3. Proposal: Please cast in a brief form – “It is requested that the College Curriculum Committee approve the following, effective (include date).”

4. Curriculum additions, deletions or changes: Use the standard catalog format to show the curriculum description in its existing form and in its proposed form.

5. Detailed rationale for the proposal.
C. Attachments (See Appendix E)

1. The Department Curriculum Committee is responsible for providing substantiating material to assist the College Curriculum Committee in evaluating the academic quality of the proposed changes. These citations are to be included in the Attachment A series. Examples could include excerpts from the University Code, College of Engineering, Technology, and Computer Science documents, requirements of accrediting agencies, or exemplary programs from other recognized institutions.

2. Information needed to clarify the overall proposal should be included in the Attachment B series. This series should be used in lieu of the lengthy background material at the beginning of the document. The discussion should point out salient features which relate to need, purpose, or scope of the proposed curriculum change.

3. Any Form 40 that is needed for a new course or course changes should be included.
5.0 SENATE COMMITTEES AND SUBCOMMITTEES

5.3 Policy Committees

5.3.3 The Educational Policy Committee

5.3.3.6 Curriculum Review Subcommittee

5.3.3.7.1 Membership

5.3.3.7.1.1 Elected members, elected to three-year terms by the Voting Faculty at large from among nominees elected by each School having Voting Faculty members. The School of Arts and Sciences shall be represented by three members—one each from the sciences, social sciences, and humanities; other Schools shall each be represented by one member.

5.3.3.7.1.2 Two nonvoting student members serving one-year terms, selected annually by IPSGA

5.3.3.7.1.3 The Chief Academic Officer, or a designee, of IPFW also nonvoting.

5.3.3.7.2 Charge. The Subcommittee shall advise the Senate concerning exercise of the Faculty's right of review of the undergraduate curricula. Specifically, it shall:

5.3.3.7.2.1 Examine and report on proposals for new academic programs prior to their approval by IPFW's chief academic officer or, if such approval is not required, prior to final approval at the highest possible level of campus review. ("Academic programs" in this context shall mean any group of courses constituting a major, degree, degree option, concentration, certificate program, or similar entity.)
Appendix A
Senate Document 81-10 (cont'd)

During this examination, the Subcommittee shall evaluate:

5.3.3.7.2.1.1 The rationale for the proposed program
5.3.3.7.2.1.2 The use of IPFW resources
5.3.3.7.2.1.3 The relationship among proposed and existing programs
5.3.3.7.2.1.4 Other effects on IPFW and IPFW's constituencies of the proposed program.

Upon completion of this examination, the Subcommittee shall:

5.3.3.7.2.1.5 Report to the Senate "for information only" its finding that the new program requires no Senate review; or
5.3.3.7.2.1.6 Advise the Senate of its finding that the Senate should exercise its right of review.

5.3.3.7.2.2 Upon a request from the Senate, an academic unit, or IPFW's Chief Academic Officer, examine and report on existing academic programs and new or proposed courses. Such examinations shall be requested only when significant questions of proper sponsorship or academic quality arise, or as part of an IPFW-wide effort to ensure the periodic review of academic programs by a body functioning above the department level.

Upon completion of this examination, the Subcommittee shall:

5.3.3.7.2.2.1 Report to the Senate "for information only" its finding that no Senate review is appropriate; or
5.3.3.7.2.2.2 Advise the Senate of its finding that the Senate should exercise its right of review.

5.3.3.7 Graduate Subcommittee

5.3.3.8.1 Membership

5.3.3.8.1.1 Elected members, elected to three-year terms by the Voting Faculty at large from among nominees elected by each School, College or Division offering graduate programs. Each eligible School, College, or Division shall be represented by one member. All elected members will hold membership on the appropriate graduate faculty.
5.3.3.8.1.2 One representative from the library elected to a three-year term by the Voting Faculty from among nominees selected by the librarians.

5.3.3.8.1.3 The Associate Vice Chancellor for Academic Programs, and the two Faculty members in charge of liaison with the graduate schools of Indiana University and of Purdue University.

5.3.3.8.1.4 Two graduate students elected annually by the other members of the Subcommittee from among nominations submitted by departments or other units responsible for graduate degree programs.

5.3.3.8.2 Charge. In matters affecting graduate education at IPFW, and subject to the rules established by Indiana and Purdue universities and their graduate schools, the Subcommittee shall advise the Senate concerning (1) planning and policy and (2) exercise of the Faculty's right of review of the graduate curricula.

5.3.3.8.2.1 Planning and policy functions: To encourage and coordinate the development of graduate education at IPFW, the Subcommittee shall:
   5.3.3.8.2.1.1 Foster program coordination among IPFW units and among IPFW and the graduate schools
   5.3.3.8.2.1.2 Evaluate and make recommendations concerning the need for new programs
   5.3.3.8.2.1.3 Advise on policies for admission procedures and standards
   5.3.3.8.2.1.4 Advise on policies for fellowships, assistantships, and other forms of financial assistance

5.3.3.8.2.2 Review functions: To exercise the Faculty's right of review of the graduate curricula, the Subcommittee shall:
   5.3.3.8.2.2.1 Examine and report on proposals for new graduate programs prior to the formal transmission of these documents to off-campus bodies charged with further review. During this examination, the Subcommittee shall evaluate the rationale for the proposed program and the program's effects on IPFW and on IPFW's constituencies.
Appendix A
Senate Document 81-10 (cont'd)

Upon completion of this examination, the Subcommittee shall either report to the Senate "for information only" its finding that the new program requires no Senate review, or advise the Senate of its finding that the Senate should exercise its right of review.

5.3.3.8.2.2.2 Upon a request from the Senate, an academic unit, a graduate school, or IPFW's Chief Academic Officer, examine and report on existing or proposed courses. Such examinations shall be requested only when significant questions of proper sponsorship or academic quality arise.

Upon completion of this examination, the Subcommittee shall either report to the initiator, and to the Senate "for information only," its finding that no Senate review is appropriate, or advise the Senate of its finding that the Senate should exercise its right of review.
TO: ETCS Assembly of Representatives

FROM: Educational Policy Committee

DATE: Approved (include date)

SUBJECT: Academic coordination with other campuses

It is important that academic courses and curricula offered by the College of Engineering, Technology, and Computer Science of Indiana University-Purdue University Fort Wayne be made known to the faculty of other universities in the Purdue University System for the purposes of understanding, coordination and student transfer with minimum loss of credit.

Therefore:

> It is the stated policy of the College of Engineering, Technology, and Computer Science that copies of each approved curriculum change document shall be sent by the school to the comparable departments at the other campuses of the Purdue System in the same semester that the change is approved by this school.

> Copies of these notifications shall also be supplied to the Curriculum Committee of this College as a check on the implementation of this policy.
COLLEGE OF ENGINEERING, TECHNOLOGY, AND COMPUTER SCIENCE (ETCS)
ASSEMBLY OF REPRESENTATIVES

ASSEMBLY OF REPRESENTATIVES DOCUMENT

Document No.
Date ____________________________ (Date sent forward)

To: Curriculum Committee
   College of Engineering, Technology, and Computer Science

The Curriculum Committee for the Department of __________________________ submits
the attached document for your recommendation.
Entitled:

---------------------------------------------------------- Dept. Chair
Committee: ___________________________________________
----------------------------------------------------------
----------------------------------------------------------
----------------------------------------------------------
----------------------------------------------------------
----------------------------------------------------------
----------------------------------------------------------

(Signatures of all department committee members)

To: Assembly of Representatives

The Curriculum Committee of the College of Engineering, Technology, and Computer Science

____ Approved  _____ Disapproved  # of votes: Yes_____ No _____ Date

---------------------------------------------------------- CEIT
---------------------------------------------------------- CME
---------------------------------------------------------- CS
---------------------------------------------------------- ECE
---------------------------------------------------------- MCET
---------------------------------------------------------- OLS

(Signatures of all Assembly committee members)

To: Dean, ETCS

____ Approved  _____ Disapproved  Dean __________________________ Date


Revised Bachelor Degree Curriculum
Mechanical Engineering Technology

Background Information

The faculty of Manufacturing Technology recommends the following curriculum changes:

1. Replace MET 204 Production Drawing, with CIMT 223 Introduction to CADD.

2. Replace SPV 252 Human Relations in Supervision, COM 315 Technical Speech and other electives, with General Education electives.


4. Provide more flexibility for our students by permitting them to take:
   - CS 114 or EET 114
   - CS 210 or EET 264
   - STAT 301 or STAT 260

The current Computer Integrated Manufacturing Technology program is not professionally accredited and will not be in the near future due to limited resources. Presently enrollment in a number of courses is low and they have not been offered or in some cases cancelled after registration. It is in the best interest of our students and the department to discontinue this combined AS and BS program and replace it with a Computer Integrated Manufacturing Technology option of the Mechanical Engineering Technology BS program. This manufacturing BS program can be supported for professional accreditation in the near future. This option will still combine courses from various related technology programs since manufacturing involves an integration of such disciplines.

With these changes the curriculum still meets the TAC/ABET requirements for accreditation.

It is requested that the Assembly of Representatives approve the attached, effective spring semester 1996.
# Revised Bachelor Degree Curriculum
## Mechanical Engineering Technology

### Existing

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MA 150</td>
<td>Mathematics for Tech.</td>
<td>5</td>
</tr>
<tr>
<td>MA 227</td>
<td>Calculus for Tech. I</td>
<td>4</td>
</tr>
<tr>
<td>MA 228</td>
<td>Calculus for Tech. II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 301</td>
<td>Ele. Stat. Methods</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 218</td>
<td>General Physics I</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 219</td>
<td>General Physics II</td>
<td>2</td>
</tr>
<tr>
<td>CS 114</td>
<td>Struc. Micr. Prog.</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>General Chemistry</td>
<td>3</td>
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<tr>
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<td><strong>Total</strong></td>
<td><strong>32</strong></td>
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### Proposed

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 150</td>
<td>Math. for Tech.</td>
<td>5</td>
</tr>
<tr>
<td>MA 227</td>
<td>Calculus for Tech. I</td>
<td>4</td>
</tr>
<tr>
<td>MA 228</td>
<td>Calculus for Tech. II</td>
<td>3</td>
</tr>
<tr>
<td>STAT 301</td>
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<tr>
<td>PHYS 218</td>
<td>General Physics I</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 219</td>
<td>General Physics II</td>
<td>2</td>
</tr>
<tr>
<td>CS 114</td>
<td>Struc. Micr. Prog.</td>
<td>4</td>
</tr>
<tr>
<td>STAT 260</td>
<td>Intro. to Microcomp.</td>
<td></td>
</tr>
<tr>
<td>PHYS 218</td>
<td>General Physics I</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 219</td>
<td>General Physics II</td>
<td>2</td>
</tr>
<tr>
<td>CS 114</td>
<td>Struc. Micr. Prog.</td>
<td>4</td>
</tr>
<tr>
<td>EET 114</td>
<td>Intro. to Microcomp.</td>
<td></td>
</tr>
<tr>
<td>EET 264</td>
<td>C Prog. Language</td>
<td></td>
</tr>
<tr>
<td>CHEM 111</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
</tr>
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### Written and Oral Communications

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENGL W131</td>
<td>English Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGL W234</td>
<td>Tech. Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL W421</td>
<td>Tech. Writing Projects</td>
<td>3</td>
</tr>
<tr>
<td>COM 114</td>
<td>Fund. of Speech</td>
<td>3</td>
</tr>
<tr>
<td>COM 315</td>
<td>Technical Speech</td>
<td>3</td>
</tr>
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<td><strong>Total</strong></td>
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</table>

### Humanities and Social Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPV 252</td>
<td>Human Relations in Spv.</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

|            | **Total**                                  | **32**  |

* Indicates courses taken during AS degree program

(a) A student transferring from another school or curriculum may substitute a course previously taken in the same curriculum area.
## Revised Bachelor Degree Curriculum (cont'd)

### Existing

<table>
<thead>
<tr>
<th>Major Courses</th>
<th>Proposed Major Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3</strong> (b) CIMT 345 Automated Mfg. Processes</td>
<td><strong>3</strong> *CIMT 223 Intro. to CADD</td>
</tr>
<tr>
<td><strong>3</strong> *MET 104 Drafting Fundamentals</td>
<td><strong>3</strong> CIMT 384 Inst. &amp; Auto. Cont.</td>
</tr>
<tr>
<td><strong>3</strong> *MET 180 Materials &amp; Processes</td>
<td><strong>3</strong> *MET 104 Drafting Fund.</td>
</tr>
<tr>
<td><strong>3</strong> *MET 200 Power Systems</td>
<td><strong>3</strong> *MET 180 Materials &amp; Proc.</td>
</tr>
<tr>
<td><strong>3</strong> *MET 204 Production Drawing</td>
<td><strong>3</strong> *MET 200 Power Systems</td>
</tr>
<tr>
<td><strong>2</strong> *MET 210 Applied Statics</td>
<td><strong>2</strong> *MET 210 Applied Statics</td>
</tr>
<tr>
<td><strong>4</strong> *MET 211 Strength of Materials</td>
<td><strong>4</strong> *MET 211 Strength of Mtl.</td>
</tr>
<tr>
<td><strong>4</strong> *MET 216 Machine Elements</td>
<td><strong>4</strong> *MET 216 Machine Elements</td>
</tr>
<tr>
<td><strong>3</strong> *MET 312 Kinematics &amp; Dynamics</td>
<td><strong>3</strong> *MET 312 Kine. &amp; Dynamics</td>
</tr>
<tr>
<td><strong>3</strong> MET 300 Applied Thermodynamics</td>
<td><strong>3</strong> (c) MET 300 App. Thermodynamics</td>
</tr>
<tr>
<td><strong>3</strong> *MET 335 Basic Machining</td>
<td><strong>3</strong> (c) *MET 335 Basic Machining</td>
</tr>
<tr>
<td><strong>3</strong> MET 350 Applied Fluid Mechanics</td>
<td><strong>3</strong> (c) MET 350 Appl. Fluid Mech.</td>
</tr>
<tr>
<td><strong>3</strong> (b) MET 360 Heating, Vent. &amp; A.C.</td>
<td><strong>3</strong> (b) MET 360 Heating, Vent.</td>
</tr>
<tr>
<td><strong>3</strong> MET 381 Engineering Materials</td>
<td>(c) &amp; A.C.</td>
</tr>
<tr>
<td><strong>3</strong> MET 494 Senior Design &amp; Analysis</td>
<td><strong>3</strong> MET 381 Engr. Materials</td>
</tr>
<tr>
<td><strong>3</strong> *IET 104 Industrial Organization</td>
<td><strong>3</strong> (c) MET 494 Sr. Des. &amp; Analysis</td>
</tr>
<tr>
<td><strong>3</strong> *IET 204 Intro. to Quality &amp; Metr.</td>
<td><strong>3</strong> *GS 104 Engineering Mgmt. (IET 104)</td>
</tr>
<tr>
<td>55</td>
<td><strong>3</strong> *IET 201 Intr. to Qual. &amp; Metrology</td>
</tr>
</tbody>
</table>

### Supervision

<table>
<thead>
<tr>
<th>Major Courses</th>
<th>Proposed Major Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3</strong> IET 350 Engr. Economy</td>
<td><strong>3</strong> IET 350 Engr. Economy</td>
</tr>
<tr>
<td><strong>3</strong> (a) ECON E201 Micro Economics</td>
<td><strong>3</strong> (a) ECON E201 Micro Economics</td>
</tr>
</tbody>
</table>

* Indicates courses taken during AS degree program.

(b) A substitute MET, CIMT, or IET course may be taken for this course.

(c) A substitute course must be taken for the CIMT option.
Other Courses and/or Requirements

Existing
Each student must select a group of related courses totaling at least 15 hours. Following are some options.

Design Option
(3) EET 211 Elect. Mach. & Controls
(3) MET 156 Graphical Computations
(3) MET 330 Intro to Fluid Power
(3) CIMT 223 Intro to CADD (CADD I)
(3) CIMT 245 Computer Aid. Tool & Fix. Design

Electrical
(4) EET 101 Electrical Circuits
(4) EET 161 Analog Electronics
(4) EET 111 Digital Fundamentals
(3) EET 215 Intro to Industrial Elect.

Manufacturing
(3) EET 211 Elect. Mach. & Controls
(3) CIMT 223 Intro to CADD
(3) CIMT 423 Adv. CADD
(3) CIMT 365 Robotics Applications
(3) IET 464 Off-Line Quality Control
(3) IET Elective (IET 262, 268, or 224)

Quality Control
(3) EET 211 Elect. Mach. & Controls
(3) STAT 301 Ele. Stat. Methods
(3) IET 454 Stat. Quality Control
(3) IET 464 Off-Line Quality Control
(3) IET Elective (IET 262, 268, or 224)

Industrial
(3) EET 211 Elect. Mach. & Controls
(3) IET 267 Ergto. & Work Meas.
(3) IET 369 Mfg. Simulation
(3) IET 310 Plant Lay. & Matl. Hdl.
(3) CIMT 224 Production Control & MRP

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Proposed
Each student must select a group of related courses totaling at least 15 hours. Following are some options.

Design
(3) EET 211 Elect. Mach. & Controls
(3) MET 330 Intro to Fluid Power
(3) CIMT 223 Intro to CADD I
(3) CIMT 245 Computer Aid. Tool & Fix.

Electrical
(3) Design

Manufacturing
(3) EET 211 Elect. Mach. & Controls
(3) CIMT 423 Adv. CADD II
(3) CIMT 365 Robotics Applications
(6) Technical Electives

Quality Control
(3) EET 211 Elec. Mach. & Controls
(3) STAT 301 Elec. Stat. Meadows
(3) IET 454 Stat. Quality Control
(3) IET 464 Off-Line Qual. Cont.
(3) IET or CIMT Elective

Industrial

Same

Standard MET Program

(3) MET 300 App. Thermodynamics
(3) MET 350 Appl. Fluid Mech.
(3) MET 360 Heating, Vent. & A.C.
(3) MET 494 Sr. Des. & Analysis
(15) Electives Option

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Computer Integrated Manufacturing Technology Option
Each student must substitute the following courses in the regular MET program and select three technical electives.

(4) EET 101 or 102 Elec. Cir.
(4) EET 111 Digital Circuits
(4) EET 205 Intro to Microprocessors
(3) CIMT 365 Robotics Applications
(3) CIMT 465 Comp. Aided Manu.
<table>
<thead>
<tr>
<th>Systems</th>
<th>Technical Electives</th>
<th>132</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Substantiating Evidence**

1. Board of Trustees Action

"3. The development of new educational programs in the field of technological education specifically designed to:

   a. Provide new educational programs for high school graduates whose technological interests and aptitudes are not now being served adequately in terms of the historic tradition of Purdue University as a land-grant college."

   Dean's Administrative Memorandum 101, p. 4

2. ASEE Requirements

   Satisfies "Characteristic of Excellence in Engineering Technology Education" - a document by the American Society for Engineering Education. A summary of page 275 follows: basic science courses - 15 hours, non-technical courses - 15 hours, and technical courses - 15 hours.

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**General Background Information**

(Provide detailed information as needed.)

This program of study has been designed to prepare students to take employment in industries in a variety of technical positions.

Emphasis is placed on product and tool design, mechanical maintenance, testing, inspection, and the selection of methods for efficient and economical production.

Also included are courses dealing with fundamentals of industrial management and with some of the historical, economic, and human relations aspects of our American industrial life, all related to the individual.

Graduates of this program accept jobs as laboratory technicians, engineering assistants, detailers, tool maintenance staff, draftsmen, plant maintenance personnel, layout staff, inspectors, and machine and tool sales people. With additional experience students may aspire to positions as industrial supervisors, machine and tool designers, tool buyers, production expediters, and cost estimators.