Northwestern University McCormick School of Engineering and Applied Science
Biomedical Engineering Area of Specialization Form to be used by students following the Catalog year 2005

**DIRECTIONS FOR COMPLETING BME SPECIALIZATION FORM FOR CATALOGUE YEAR 2005**

All Biomedical Engineering majors must complete this form by the end of their junior year of study. If you change your specialization, a new form must be submitted.

**STEP 1** Confirm Catalogue year is 2004 or thereafter (Look on Caesar at your catalogue year, if it is 2003 or before, complete a Change of Catalogue Year Form or use a specialization form for the correct year)

**STEP 2** Choose Basic Engineering courses, make sure they conform with the requirements of your Specialization

**STEP 3** Select your seven Specialization Courses according to the rules for your Specialization specified below

**STEP 4** Select two Technical Electives

**STEP 5** Petition to substitute courses for the original Specialization requirements if necessary

- Use the **Petition Section of this form** to substitute alternate courses for the **seven main Specialization** requirements
- Use a **separate yellow Curriculum Petition** to substitute alternate courses for the **Basic Engineering** requirements

**Transport Processes & Tissue Engineering**

*Under Basic Engineering:*
  - Bmd_Eng 250 or Chem 342-1; Bmd_Eng 270 or Chem_Eng 321 or Mech_Eng 241

*Under BME Core: Both Bmd_Eng 302 and 303*

*Specialization Courses:*
  - Bmd_Eng 346; 350; 379
  - BME 271 (not offered 05-06—may petition to use BME 371)
  - One of Bmd_Eng 377 or Chem_Eng 371*
  - Three of Biol_Sci 315; 390; Bmd_Eng 310; 315; 317; 343; 344; 371; 372*; 377; Chem_Eng 371*

*UUTwo Technical Electives*

**Electronic Instrumentation**

*Under Basic Engineering:*
  - Bmd_Eng 221 or ECE 202; ECE 203; Bmd_Eng 220 or ECE 302

*Specialization Courses:*
  - Bmd_Eng 383; ECE 221; 223; 225; 230; 303
  - One of the following: Bmd_Eng 320 or ECE 222

*Two Technical Electives*

**Computer Applications**

*Under Basic Engineering:*
  - Bmd_Eng 221 or ECE 202; ECE 203; Bmd_Eng 220 or ECE 302

*Specialization Courses:*
  - Bmd_Eng 320; 383; ECE 205; 230; 303
  - Take one of the following pairs of classes
    - ECE 346/347; 361/362; 391/392

*Two Technical Electives*

* not offered 2005-2006

See other side as well

**Biomechanics and Rehabilitation**

*Under Basic Engineering:*
  - Bmd_Eng 250 or Chem 342-1; Bmd_Eng 271

*Specialization Courses:*
  - Bmd_Eng 270; 346; 366; 371
  - Three of Bmd_Eng 321; 344; 365; 372*; 377; Civ_Eng 327; Mech_Eng 315; 362; 389; 390; 391

*Two Technical Electives*

**Biomedical Signals and Images**

*Under Basic Engineering: Bmd_Eng 221*

*Under Core: Bmd_Eng 301 and 302*

*Specialization Courses:*
  - Bmd_Eng 320; 325
  - Four of Bmd_Eng 323*; 327; 333; 338*; 383; 384*; 395; ECE 328, 359

*Two Technical Electives*

**Biological Materials and Biotechnology**

*Under Basic Engineering:*
  - Bmd_Eng 250 or Chem 342-1; Bmd_Eng 270; Mat_Sci 201

*Specialization Courses:*
  - Bmd_Eng 314; 317; 343; 350
  - One of Bmd_Eng 344 or Mat_Sci 331
  - Two of Biol_Sci 301; 315; 390; Bmd_Eng 310; 315; 333; 346 or Chem_Eng 371*

*Two Technical Electives*

**General**

A different set of courses may be developed by student and advisor, and must be submitted to and approved by the BME Undergraduate Committee. Two Technical Electives also required.

10/11/2005
Northwestern University McCormick School of Engineering and Applied Science  
Biomedical Engineering Area of Specialization Form to be used by students following the Catalog year 2005 & thereafter  
degree requirements

Name _________________________________________ Student ID ___________ Year of Study ________ Today’s Date ___________

SPECIALIZATION: _________________________________

BASIC ENGINEERING:
List all the Basic Engineering Courses you are using for your degree, including those required for your Specialization if applicable:

1) _______________, 2) _______________, 3) _______________, 4) _______________, 5) _______________ (ONLY IF NON-EA TRACK)

CORE COURSES FOR SPECIALIZATION (IF APPLICABLE)

SUBJECT AND COURSE #

SPECIALIZATION COURSES:

1) SUBJECT COURSE # COURSE TITLE QTR/YEAR 5) SUBJECT COURSE # COURSE TITLE QTR/YEAR
2) SUBJECT COURSE # COURSE TITLE QTR/YEAR 6) SUBJECT COURSE # COURSE TITLE QTR/YEAR
3) SUBJECT COURSE # COURSE TITLE QTR/YEAR 7) SUBJECT COURSE # COURSE TITLE QTR/YEAR
4) SUBJECT COURSE # COURSE TITLE QTR/YEAR

TECHNICAL ELECTIVES:

1) _______________, 2) _______________,

***PETITION SECTION***

FOR SEVEN MAJOR SPECIALIZATION COURSES ONLY

IT IS NOT NECESSARY TO FILE A CURRICULUM PETITION IN ADDITION TO THIS FORM

REQUIREMENT REQUESTED SUBSTITUTION QTR/YR REASON:

SUBJECT AND COURSE # SUBJECT AND COURSE # QTR/YEAR
SUBJECT AND COURSE # SUBJECT AND COURSE # QTR/YEAR
SUBJECT AND COURSE # SUBJECT AND COURSE # QTR/YEAR
SUBJECT AND COURSE # SUBJECT AND COURSE # QTR/YEAR

**Do Not use this form to petition Basic Engineering Requirements, use yellow Curriculum Petition instead**

Student’s Signature _________________________________________ Date ___________
Adviser’s Name ________________________________________________
Adviser’s Signature _____________________________________________ Date ___________
Program Chair’s Signature _________________________________________ Date ___________

Students should obtain Adviser and Program Chair’s signatures, then return this form to L269
(see other side)