

# New Co-Terminal Degree

Office of Academic Affairs  
Graduate College  
Illinois Institute of Technology  
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Chicago, IL 60616  
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## G802

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<u>Applied Mathematics</u>	<u>9/24/2015</u>	<u>Stuart Business/Applied Math</u>	<u>9/24/2015</u>
Academic Unit 1 (Undergraduate)	Date	Academic Unit 2 (Graduate)	Date
<u>BS in Applied Mathematics</u>		<u>Master in Mathematical Finance</u>	
Program Name 1		Program Name 2	
<u>Fred Hickernell</u>		<u>Tom Bielecki</u>	
Academic Unit Head/Program Director 1		Academic Unit Head/Program Director 2	

### Select a CIP Code

The CIP code takes the following structure: **xx.xxxx** Where each x is a number between 0 and 9

This 6-digit code identifies, to the greatest specificity possible, an entire instructional program. The classification scheme seeks to comprehensively address all areas of study. Because of the dynamic nature of education, however, new CIP codes are frequently added to the list.

The first 2-digits are the first cut off of detail and describe the general discipline of the program. For example, any program with a CIP that starts with 14 is within the Engineering discipline; anything with a 22 is within the legal discipline.

The next 2 digits increase the level of detail, and the final 2-digits provide the highest level of detail.

Find CIP codes at <http://nces.ed.gov/ipeds/cipcode>

**Enter 1st CIP Code:**   .

**Enter 2nd CIP Code**   .

**Print Name**

Approved NotApproved

**Sign Name**Greg Fasshauer1) Academic Unit 1  
Curriculum Committee Chair1) Sign

Date

M. Krishna Erramilli1) Academic Unit 2  
Curriculum Committee Chair1) Sign

Date

Fred Hickernell

2) Academic Unit 1 Head

2) Sign

Date

John F. O. Bilson

2) Academic Unit 2 Head

2) Sign

Date

Russell Betts

3) Academic Unit 1 College Dean

3) Sign

Date

Harvey Kahalas

3) Academic Unit 2 College Dean

3) Sign

Date

Kathryn Spink4) Undergraduate Studies Committee  
Chair (program 1)4) Sign

Date

Jamshid Mohammadi5) Graduate Studies Committee  
Chair (program 2)5) Sign

Date

Joseph Orgel

6) Faculty Council Chair

6) Sign

Date

Frances Bronet

7) Provost

7) Sign

Date

**Note:** The Office of the Provost should return an approved copy of this form, with all supporting documentation, to the Offices of Undergraduate and Graduate Academic Affairs.

## Undergraduate Program Directions

### Attach the following required information:

Undergraduate Program Type:

Total Undergraduate Program Credit Hours (including shared credit)

Program Description: Provide a brief narrative of the program content.

Program Purpose: Provide details on the intent of the program and its relation to other programs.

Program Benefits: State the impact of the program for students and for IIT.

Course Requirements: Detail the courses needed for the program including course(s) currently offered, new course(s) to be developed, and dependence on courses from other academic units and their commitments to provide these courses on a long range basis. Include descriptions of laboratories that will be need to be developed, along with the equipment and facilities requirements.

Sample curriculum and program requirements as they would appear in the Undergraduate or Graduate Bulletin.

Competitive Programs: Indicate other similar programs locally and nationally, detail their success.

### The following documents will be separated after the approval of the deans on signature page, item 3: (Because of this, these documents must not be printed on the same page as any of the above information)

Market Analysis: Detail the results of any market analysis performed; if none, provide justification for the program including (potential) employment opportunities for graduates.

Marketing and Advertising: List the strategies to be employed for the program.

Enrollment Estimates: Provide estimates of the initial enrollments (first three years) and for steady state, including justification.

Retention Estimates: Provide estimates of retention, including justification.

Economic Analysis: On an Excel spreadsheet, detail the revenues and expenses for the program; include course development, new faculty hires (both full-time and part-time), advertising costs, staff costs, and office costs.

### The following table should be used as a template:

Program Name - Economic Analysis						
Estimate of Expense						
	Academic Year 1 - 2012-2013		Academic Year 1 - 2013-2014		Academic Year 1 - 2014-2015	
Faculty	Number	\$ Amount	Number	\$ Amount	Number	\$ Amount
Full-time		\$0		\$0		\$0
Part-time		\$0		\$0		\$0
Staff		\$0		\$0		\$0
Course Development		\$0		\$0		\$0
Market Survey		\$0		\$0		\$0
Advertising		\$0		\$0		\$0
Miscellaneous		\$0		\$0		\$0
<b>Total</b>		<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
Notes:						
Revenues*						
<b>Estimate of Profit</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	

\*Revenues are based on tuition income.

## Graduate Program Directions

Fill out the section appropriate to your Graduate program and attach additional pages on which a detailed discussion regarding the following items is provided.

It is vital that you **DO THE MATH**. There is an appropriate sample in each of the degree sections.

1) Program Overview:

- a) Describe the objective of the new program.

2) Program Justification:

- a) Provide a detailed discussion on why the program is needed.
- b) Provide a detailed description of the relationship of the proposed program to other degree programs offered by IIT and by the academic unit.
- c) Provide an estimate of the expected number of students.

3) Program Resources:

- a) Describe the personnel requirements necessary to offer the program. Include faculty, teaching assistant, and support staff. For faculty, indicate current faculty to be associated with the program, detail any requirements for additional faculty hires, and note the number of part-time faculty needed to support the program. Describe how and when resources will be made available to hire any additional personnel that are required.
- b) Describe the facilities necessary to offer the program. Describe how and when resources will be made available to obtain any additional facilities that are required.

4) Program Description:

- a) Provide the detailed degree requirements for the program.
  - 1) The minimum number of credit hours.
  - 2) Whether a thesis is required, not required, or optional.
  - 3) Whether there is a project course.
  - 4) Whether there is a project report.
  - 5) Whether there is a comprehensive exam (for M.S. and MAS)
  - 6) If a thesis is required, indicate that a thesis defense is required.
  - 7) List all required courses.
  - 8) List all elective options.
- b) Indicate the admission criteria for the program.
- c) Provide a timeline and schedule for offering the program.

5) Description of courses shared between Undergraduate and Graduate programs (a maximum of 9 credit hours may be shared course work):

- a) Identify shared required courses.
- b) Identify shared elective courses.
- c) Identify if course substitutions or exceptions are allowed and identify the restrictions or limitations.

**Graduate Program Type: Professional Masters Degree**

**Directions: fill in blanks or circle answers**

**List Standard MAS (or other) Professional Masters Degree Program Requirements:**

1. Minimum credit hours (no ranges) 33
2. Project course required? Yes or No or Optional No.
  - a. List specific details about the project option \_\_\_\_\_
3. Project report/review required? Yes or No or Optional No.
4. Comprehensive exam? Yes or No No.
5. Required specialization/concentration? Yes or No No.
  - a. Specialization or Concentration \_\_\_\_\_
  - b. List specific details about specialization or concentration requirements \_\_\_\_\_

**List MAS (or other) Professional Masters Degree Program Credit Hour Requirements:**

1. Core course credit hours required 24
  - a. Core course credit hours rules See <http://science.iit.edu/mathematical-finance/academics>
    - i. List of core course options \_\_\_\_\_
    - ii. List of core group options \_\_\_\_\_
2. Seminar or colloquium (circle one) credit hours required: 0
  - a. List seminar or colloquium course number \_\_\_\_\_
3. Project course credit hours (range allowed): minimum 0 and maximum 0
  - a. List project course number \_\_\_\_\_
4. Elective course credit hours (range allowed): 9
5. List course numbers (see instructions on the final page for providing elective options and follow appropriate example)
  - a. Elective course credit rules: See <http://science.iit.edu/mathematical-finance/academics>
    - i. 400 level credit hour limit? Yes or No \_\_\_\_\_
    - ii. If yes, how many hours allowed? 3, 6, 9 or 12
    - iii. 500-600 level credit hour limits: \_\_\_\_\_ min and \_\_\_\_\_ max rules
    - iv. 700 level credit hour maximum: \_\_\_\_\_
6. List specialization/concentration credits hours required 0

**Math Example**

Core + Seminar or Colloquium + Project + Elective + Specialization must equal Minimum Number of Credits for Degree  
 $12+0+0+18+0=30$  or  $12+0+6+12+0=30$

$24+9=33$

**Graduate Program Type: Master of Science (M.S.) Degree**

**Directions: fill in blanks or circle answers**

**List of Standard M.S. Degree Requirements:**

1. Minimum credit hours (no ranges) \_\_\_\_\_
2. Thesis required? Yes or No or Optional
  - a. List specific details about the thesis option \_\_\_\_\_
3. Project course required? Yes or No or Optional
  - a. List specific details about the project option \_\_\_\_\_
4. Project report/review required? Yes or No or Optional
5. Comprehensive exam? Yes or No
6. Thesis defense? Yes or No (if a thesis is required, then a thesis defense is mandatory)
7. Required specialization/concentration? Yes or No
  - a. Specialization or Concentration
  - b. List specific details about specialization or concentration requirements \_\_\_\_\_

**List of M.S. Program Credit Hour Requirements:**

1. Core course credit hours required \_\_\_\_\_
  - a. Core course credit rules
    - i. List of core course options
    - ii. List of core course group options
2. Seminar or colloquium course (circle one ) credit hours: \_\_\_\_\_
  - a. List seminar or colloquium course number \_\_\_\_\_
3. Research course credit hours (typical range 6-8 credits): minimum \_\_\_\_\_ and maximum \_\_\_\_\_
  - a. Course number \_\_\_\_\_
4. Project course credit hours (range allowed): minimum \_\_\_\_\_ and maximum \_\_\_\_\_
  - a. List project course number \_\_\_\_\_
5. Elective course credit hours (range allowed): \_\_\_\_\_
6. List course numbers (see instructions on the final page for providing elective options and follow appropriate example)
  - a. Elective credit rules:
    - i. 400 level credit hour limit? Yes or No
    - ii. If yes, how many hours allowed? 3, 6, 9 or 12
    - iii. 500-600 level credit use: \_\_\_\_\_ min and \_\_\_\_\_ max rules
    - iv. 700 level credit hour use \_\_\_\_\_ maximum
7. List specialization/concentration credit hours required \_\_\_\_\_

**Math Example**

Core + Seminar or Colloquium + Research + Elective must equal Minimum Number of Credits for Degree –  
 $16+1+8+7=32$  or  $18+0+6+8=32$

**This is an example of how to organize the information about any Graduate degree, after the previous worksheets have been completed:**

**Narrative:**

This is any information that you wish to convey, in narrative form.

**A list of all core required courses, presented like this:**

Required courses  
ABC 501 Course Name  
ABC 502 Course Name  
ABC 503 Course Name

**A list of additional required courses, presented like this:**

Additional requirements  
ABC 501 Course Name  
ABC 502 Course Name  
ABC 503 Course Name

**A list of elective courses, presented like this:**

Elective courses  
ABC 501 Course Name  
ABC 502 Course Name  
ABC 503 Course Name

**A group list of courses (required separately from elective)**

*Example:*

Group Name: Theory of Computation  
Group Number: 1  
Group Course List: CS 530, CS 533, CS 535, CS 538  
Number of credits 3 or Number of Courses 1  
Group List  
Select AND \_\_\_\_\_ (or) Select OR \_\_\_\_\_  
Group Name: \_\_\_\_\_  
Group Number: \_\_\_\_\_  
Group Course List: \_\_\_\_\_  
Number of credits \_\_\_\_\_ or Number of Courses \_\_\_\_\_

**If elective courses may be chosen from a range, follow this method:**

Indicate electives that are allowed:  
\_\_\_\_\_ elective credits in any 400 or 500 level course with adviser approval (subject to the restriction on 400 level credit)

Indicate electives that are allowed from other academic discipline(s):  
\_\_\_\_\_ elective credits in specific academic disciplines:  
\_\_\_\_\_ (list here) i.e. any ECE 400 or ECE 500 level

**Indicate elective options from a group list:**

*Example:*

Group Name: Theory of Computation  
Group Number: 1  
Group Course List: CS 530, CS 533, CS 535, CS 538  
Number of credits 3 or Number of Courses 1

Select AND \_\_\_\_\_ (or) Select OR \_\_\_\_\_  
Group Name: \_\_\_\_\_  
Group Number: \_\_\_\_\_  
Group Course List: \_\_\_\_\_  
Number of credits \_\_\_\_\_ or Number of Courses \_\_\_\_\_