Departmental Advising Community

Advising Meeting Spring 2015
March 30 2015

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Agenda

• Some data for our programs
• The advising meeting, Advising Notes
• **Opportunities for our majors/minors**
• Review of major rules
• News for program, updates on rules, notes on scheduling for purposes of advising
• Degree Audit
• Resources in the department
## Data: 383 Majors, 122 Minors

(majors = primary + secondary)

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Our Advising Tasks

- University rules, general education requirements, GFR vs. GEP -> Degree Audit
- Major/minor requirements -> departmental catalog entry, advising forms, degree audit
- Career advising: help student find resources to convert UMBC education into career path
- Paperwork: 3^{rd} repeats, exceptions of rules, VOT forms, reinstatements, BS/MS Program applications [but not: Degree Audit notes of exceptions, graduation review!]
- Help student understand rules to plan to graduate on time, warn of problems -> pathways
- Maintain Advising Notes in myUMBC
The Advising Meeting

• What is/are your majors/minors/etc.? Are you interested in graduate school, pure vs. applied math, statistics/probability, actuarial science, education?
• What is your class standing (freshman, etc.)? When do you want to graduate?
• What are you currently taking? How is it going?
• What do you want to do with your life (professionally)?
• Are you interested in taking Summer or Winter courses?
• Have you looked at next semester? Your ideas?
• Have you thought about: summer/winter courses, internships/REU programs, study abroad, undergraduate research, BS/MS program?
• What is your main goal: graduate as quickly as possible?
Resources for Advising Meeting

• MyUMBC has list of your assigned advisees under Favorites > My Advisees, maintained by Janet Burgee. At beginning of advising season, you can send e-mail to all advisees.

• Ideas: ask them to read dept. catalog entry, read concentrations given there as self-advising help, give instructions how to schedule/contact you, fill out advising form, propose courses.
How to Write Advising Notes

• MyUMBC → Topics → Advising Center → My Advisees
  – Next to the student’s name, choose “View Student Details”
  – Choose “New Advising Notes”

• Advising clearance = registration authorization: ‘save’ once a semester with correct semester.
Ideas for Advising Notes

• Prepare text for advising notes in local editor (not in SA, since it can time out!); e-mail to student (and save record of e-mail)

• Most important categories:
  – Current Major/Minor/Concentration, Referral to Campus Resources
  – General Ed. Program (GEP, GFR, GDR, GER), General Ed. Requirements Not Satisfied, University Requirements Not Satisfied
  – Planned Schedule for Upcoming Term
  – 45 Upper level Credits!!!

• Protection of department and self against future complaints: Cautions, warnings, instruction to read rules/catalog, instruction to confirm with other offices (Registrar, Modern Languages, OUE, etc.)
Services offered by Career Services

www.careers.umbc.edu

• Organizes job fairs and employer networking events
• Review of resume/CV, cover letter, personal statement
• UMBCworks: Internship, part-time job/on-campus/full time job database => contact Career Services early!
• Resource for career advice and skill development (e.g., interviewing, communication, time management, mentoring)
• Available for presentations to class
• Math/Stat liaison: Associate Director for Internships and Employment Kerry Kidwell-Slak, kerryk@umbc.edu, x5-3834
Career Services: PRAC 95/98/99

- Zero-credit, pass/fail course which recognizes successful completion of >120 hours of an internship, research or co-op experience (on- or off-campus). Full-time sections maintain student status at UMBC.
- Students document learning objectives and evaluations, attend professional development activities, and obtain an evaluation from their supervisors.
- Students concurrently in academic credit also participate in a mid-semester check-in with their Career Center coordinator and their site supervisor.
- Required by some departments as a co-requisite for credit. Reports can be shared with faculty at semester end.
- All registrants are recorded in UMBCworks, providing extensive data on student outcomes.
- Math/Stat liaison: Associate Director for Internships and Employment Kerry Kidwell-Slak, kerryk@umbc.edu, x5-3834
REU Sites and Research Internships

- Undergraduate research or Research Experiences for Undergraduates as residential full-time funded summer programs
- REU: NSF-funded, but also others exist, e.g., affiliated with national labs, NIST (SURF), etc.
- 8 to 12 weeks, housing/food, stipend, travel paid
- Most often individual undergraduate with mentor
- Qualifications typically required: sophomore classes or more, programming skills (Matlab, R)
- U.S. citizen / permanent resident, for REU still undergraduate in fall following the summer of the program
- Google “NSF REU”, see AMS webpage; URL with links to many links (particularly to Statistics programs): http://www.amstat.org/committees/isostat/REUs.html
University Partnership with University of Kassel, Germany

- MOU for undergraduate exchange signed, first German students will come in August (may stay in German learning community), first UMBC students in Spring 2016 (Gobbert might travel with UMBC students)
- Study abroad for all, but particularly for Math majors/minors
- German Sommersemester April-July; deadline at UMBC International Education October 10!
- Ideas of concrete courses for the required 12 transferrable credits: Linear Algebra II [3 credits], ODEs [3], Numerik II [3], Matlab course [2], Seminar [2]; plus German course [4 credits]
- Weekly Study Abroad workshops by International Education
- Contact Matthias Gobbert, webpage forthcoming
All major/minor combinations are available

• Double major
  – Used to require at least 5 of the electives to be Math electives
  – Kal & Liz determined that additional extra classes are required for all combinations of Math BA/BS and Stat AT/MST

• Math major/Stat minor and Stat major/Math minor
  – At least two additional classes above & beyond major must be taken (in addition to regular requirements for minors)
BA vs. BS Mathematics

Mathematics minor: core as BA, 2 upper-division electives

BA Mathematics
- Math 151, 152, 221, 225, 251, CMSC 201 (core)
- Math 301 (core)
- 5 upper-division electives (MATH or STAT), including 2 400-level courses
- 3 supplemental electives
- 2 Culture classes!

BS Mathematics
- Math 151, 152, 221, 225, 251, CMSC 201
- Math 301 (core)
- Math 302 (core)
- 6 upper-division electives (MATH or STAT), including 3 400-level courses
- 2 supplemental electives plus PHYS 121, 122 (core)
- 1 Culture class!
Biomathematics Minor

In Math/Stat Department - Intended for Biology Majors!
Quantitative Biology Minor in Biol. Dept. for Math/Stat Majors!

Core Requirements:

• BIOL 141, 142, 302
• STAT 350 OR 355
• MATH 151, 152, 221
• MATH 355 Biomathematics

Elective Requirements:

• 6 credits from the list (including 3 from MATH):
  • MATH 385, 426, 447, 469
  • STAT 414, 419, 432, 454

• None of the electives can be used for any other major.

• UG Director may approve alternative courses upon petition.
Quantitative Biology Minor
In Biology Department - Intended for Math/Stat Majors!
Biomathematics Minor in Math/Stat for Biology Majors!

Core Requirements:
• BIOL 141, 142, 302
• STAT 350 OR 355
• MATH 151, 152, 221
• MATH 355 Biomathematics
• Two of the core courses cannot be used to satisfy the requirements of any other major.

Elective Requirements:
• 6 credits from the list:
  • BIOL 303, 312L, 313
  • BIOL 442, 445, 483, 495
• None of the electives can be used for any other major.
• UG Director may approve alternative courses upon petition.
Some Common Rule Issues

• All major courses with grade of C or better (regular grading), including transfer courses
• Only 1 of the upper-division electives can be bundled out of 1- and 2-credit courses (examples: MATH 426 [2], 479 [1-3], STAT 432 [1], MATH/STAT 496 [1-4], 499 [1-4])
  [No ‘bundling’ with 4-credit course like Stat 355!]
• Some courses do not count as electives:
  MATH 380, 432 (History of Mathematics), STAT 350, 351
• GEP requirement: WI = writing-intensive course, MATH 481 (Modeling), MATH 432 (History), ENGL 393
• Supplemental requirements: CMSC 203 (if taken before MATH 301), MATH 432 (History of Math), PHYS 121, 122
Summer and Winter Sessions

• Goal: decrease time-to-degree!
• Summer: two six-weeks sessions; full sequences MATH 150-151, 151-152, 152-251, as well as MATH 221, 225, STAT 355 available.
• Summer: make upper level electives available (for improved time-to-degree as well as to relieve enrollment pressure in Fall and Spring): STAT 355, 432, 451, MATH 301, 306, 385, 426
• Winter: Math 426, STAT 355, 432
Education Concentration

Elective requirements:
• STAT 355
• MATH 306
• MATH 341
• Math 385
• Math 407
• One or two additional 400-level electives for BA or BS, respectively.
• UG Director may approve alternative courses upon petition.

Supplemental requirements:
• Required: MATH 432 History of Math (writing-intensive)
• Required: EDUC 420 OR 426
• Recommended: PHYS 111, unless PHYS 121, 122 for BS, not CMSC 203 any more
• This is coordinated with Dr. Christopher Rakes, Math Education, in context of their APR.
Double vs. Dual Major

“Double” = 1 diploma:
• 2 degrees on transcript
• 120 credits
• Need to satisfy Gen Ed requirements of only the primary degree (e.g., BS)!
• This means: Math/CMSC double major should make BS CMSC primary and BA Math secondary degree.

“Dual” = 2 diplomas:
• 2 degrees on transcript
• 150 credits if awarded at same time (really rule: 1 degree, then 30 more credits for 2nd degree!)
• Need to satisfy Gen Ed requirements of both degrees (BA vs. BS)!
• RT ticket for Degree Audit to display 150 credit
MATH 479 [1 credit]

• Mathematical Problem Solving Seminar
• Format: students solving problems on board.
• Instructor Tom Armstrong
• Consent required = by invitation only
• 1 credit, repeatable up to 3 credits; use as or towards bundled course in electives.
• Used as preparation for Putnam competition
MATH 426 and STAT 432

MATH 426 – MATLAB:
- 2 credits
- Pre-req 221 and CMSC 201.
- Useful as preparation for MATH 341, 355, 385, 441, and other courses
- Summer and Winter
- Use towards bundled course in electives.

STAT 432 – SAS:
- 1 credit
- Pre-req STAT 355 or similar!
- Useful for other 400-level STAT courses.
- Summer and Winter
- Use towards bundled course in electives.
MATH/STAT 497 Senior Thesis

• Idea is to encourage and reward undergraduate research, for both student and faculty.
• Student approach faculty as mentor, then blue sheet at office.
• Counts as one upper level elective, **unless used for graduation with departmental honors (see bullet below)!**
• Requirements: (i) public presentation (e.g., in colloquium in May or Dec.), (ii) thesis (no format req., approved by mentor)
• Graduation with departmental honors:
  (i) **MATH/STAT 497 in addition to upper level electives,**
  (ii) MATH/STAT 497 with grade of A or B,
  (iii) (major) GPA of 3.6.
Special Topics:
MATH 290, 390, 490, STAT 290, 490

- Used to prototype course or teach single time
- Should be on appropriate level of difficulty
- Variable credit 1 to 4, repeatable, up to total of 8; that is: For typical special topics course of 3 (or 4) credits, two (of each type) can be taken for credit, if the topics are different.
- Counts as one upper level elective, if 3 or 4 credits in one semester, or towards bundled course if 1 or 2 credits.
- Notice: Degree Audit only counts under bundling, i.e., may not count automatically as single-course elective.
MATH/STAT 499 Independent Study

• Opportunity to give credit for undergraduate research in preparation for MATH/STAT 497 Senior Thesis, but also can cover non-standard topic (that does not have a course) or ‘regular’ topic if course not offered.
• Should be on level of upper division difficulty
• Variable credit 1 to 4, repeatable, up to total of 4
• Counts as one upper level elective, if 3 or 4 credits in one semester, or towards bundled course if 1 or 2 credits or 3 or 4 taken over several semesters.
• Notice: Degree Audit only counts under bundling, i.e., may not count automatically as single-course elective.
MATH/STAT 496 Practicum

- Opportunity to give credit for math/stat related internship
- Should be on level of upper division difficulty
- Idea: foot in door for career! Work with Career Services
- 1 credit = 50 hours of work
- Variable credit 1 to 4, repeatable, up to total of 4
- Counts as one upper level elective, if 3 or 4 credits in one semester, or towards bundled course if 1 or 2 credits or 3 or 4 taken over several semesters.
- **Notice:** Degree Audit only counts under bundling, i.e., may not count automatically as single-course elective.
Suggestions for instructor:

• Blue sheet paperwork early (in case Janet has to create section for instructor)

• Have student put you in (e-mail) contact with supervisor; confirm (i) okay with academic credit, (ii) no issues with proprietary information, (iii) willing to supervise and confirm afterwards that student worked

• Have student write report; nice ideas: (i) Write short introduction about company and the job; (ii) write log entry after each workday; (iii) interview colleagues and supervisors about their career history.

• Collect confirmation (e-mail) from supervisor that everything went well; thank for cooperation.
Degree Audit: UMBC / GenEd

- **Caution:** *While course repeat in progress*, it is counted twice (affects total credits, upper level credits, major requirements)!
- Issue with PE classes in transcript
- Issue with H section double count in case of repeat (e.g., STAT 355 and 355H)
- **Close to graduation, false positives are the issue to watch out for!** Do manual checking in Course History
- **Report problems (with student name) to Janet Burgee**
Degree Audit: Department

- Departmental Degree Audit has been active since Spring 2014:
  - Bundling (combo of 1-/2-credit courses counted as one elective) implemented by separate elective category that contains list of all 1-/2-/variable-credit courses; okay in most cases (but: does not show 1-/2-credit class until bundling complete!), but cannot recognize variable-credit courses with 3 or 4 credits as standalone elective.
  - 2 / 3 electives at 400-level implemented using separate category
  - All 600-level courses accepted as electives
- Close to graduation, false positives are the issue to watch out for! Do manual checking in Course History; check grades (C or better).
- Report problems (with student name) to Janet Burgee
Resources in Department

- Departmental webpage’s Undergraduate tab
- Program Coordinator: Ms. Janet Burgee
  - Major/minor declaration/change (e.g., BA <-> BS)
  - Advisor assignment
  - Communication to other offices
  - Record keeper for all outgoing material
- Advising coordinators, graduation reviewers; waiving of departmental requirements; notes for graduation review:
  - Mathematics: Dr. Kalman Nanes
  - Statistics: Dr. Elizabeth Stanwyck