

# **Departmental Advising Community**

Advising Meeting Fall 2015  
October 19, 2015

Matthias K. Gobbert  
Elizabeth Stanwyck  
Kalman Nanes  
Janet Burgee

# 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: 448 Majors, 143 Minors

(majors = primary + secondary)

Degree	Current October 2015	Grad May/ Aug./ Dec. 2012	Grad May/ Aug./ Dec. 2013	Grad May/ Aug. / Dec. 2014	Grad May/ Aug./ Dec. 2015
Math BA	86	9/2/9	7/4/3	17/4/5	24/5/
Math BS	305	25/5/8	21/2/11	27/8/11	23/5/
Math minor	114	9/1/7	19/0/5	12/0/6	19/2/
Biomath minor	0	-/-/-	-/-/-	0/0/0	0/0/
Stat BS	57	2/0/0	5/0/0	1/1/1	1/0/
Stat minor	29	0/0/1	3/0/1	3/1/3	4/1/

# Our Advising Tasks

- University rules, general education requirements, GFR vs. GEP -> Advising Profile, 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! (-> Career Center)
- Paperwork: 3<sup>rd</sup> 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, Degree Audit
- 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 or by a certain semester? Graduate School?

# 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), 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: heavy load, pre-req, assumptions, 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](http://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](mailto: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](mailto: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., funded by NSA or 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 came in August, 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 <http://studyabroad.umbc.edu>
- 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**
- Two of the core courses cannot be used to satisfy the requirements of any other major.

## 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 2<sup>nd</sup> 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.**

# MATH/STAT 496 Practicum cont'd

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)!
- **Degree Audit does not recognize primary major vs. secondary major**; Advising Profile page does **not** display this.
- 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
  - Work with graduation reviewer to record exceptions in Audit!
- **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 and ID) to Janet Burgee**

# Resources in Department

- Departmental webpage's Undergraduate tab
- Program Coordinator: Ms. Janet Burgee
  - Major/minor declaration/change (e.g., BA  $\leftrightarrow$  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