SYLLABUS: Math 103 Finite Mathematics

Don Faust

We will carefully explore the principal areas of elementary finite mathematics which together form a substantial tool-box of understanding upon which many fruitful applications can be constructed.

More generally, the following broad perspective may be helpful to you. The fundamental tools of finite mathematics provide a rich storehouse of models for the representation and solution of many problems. Making intelligent use of these models involves both (1) developing a facility for analyzing problems and casting them in ways which, where appropriate, make good use of these models of mathematics, and (2) developing a facility for working with these models themselves. Our course will take us through a representative sample of these tools of finite mathematics, and will concentrate on both aspects (1) and (2) delineated above. It can be a very exciting journey (if your involvement is sincere and includes both good class attendance and a parallel daily commitment to hammering things out on your own through daily study and problem-solving), at the end of which you will find not only that your mathematical maturity has been substantially enriched, but also that the general analytical skills you bring to bear in the broader arena of your daily life will be substantially enriched as well.

Text: FINITE MATHEMATICS by Berresford and Rocket

Assessment:

The assessments will consist of two mid-semester exams, a semester-long sequence of SUBMITTED ASSIGNMENTS (SAs), and a final exam. Only egregiously exceptional circumstances can justify missing a mid-semester exam. In such rare cases, permission to miss the mid-semester exam must be requested in advance, and a make-up exam (usually oral) would occur on the Friday or Saturday before final exam week.
The assessment framework is as follows: (please note especially the
dates, already fixed, when the two mid-semester exams will take place):

Exam 1:  Wednesday 26 Sep  200 points
Exam 2:  Wednesday 31 Oct  200 points

SUBMITTED ASSIGNMENTS:
to be finally submitted en masse,
before or on Friday 30 Nov at
5 PM, for grade recording  200 points

Final Exam:  400 points

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Total:  1000 points

Mastery:

First, in addition to ungraded daily assignments, there will be a
sequence of graded SUBMITTED ASSIGNMENTS each of which can be
recomposed and resubmitted repeatedly (with a limit of the deadline
stipulated above) until a joyous mastery level is achieved (and a check-mark
is placed at the top of the mastery level solution). During the semester,
while this process unfolds, no recording will be made of the mastery level
achievement of individual SAs; hence the need, when ALL of them are
completed (or brought to the level of a student-determined ‘last
submission’) before Friday 30 Nov or on Friday 30 Nov before or at 5 PM,
to re-submit all of the Submitted Assignments collated and clipped
together.

Second, in regard to the two mid-semester exams, an 11-day period
will follow the return of each exam, during which time each student with an
exam score less than 200 points can repeatedly submit attempts to compose
complete solutions to ALL questions only partially answered during that
class exam. If complete solutions to ALL such questions are composed by the deadline, then

"the least integer greater than or equal to (1/2)*(200 – (exam score))"

points are earned; if complete solutions to ALL such questions are not composed by the deadline, then no additional points are earned.

Note on Assessment and Mastery:

Please see the syllabus page

"ASSESSMENT AND MASTERY COMPONENTS: SCHEDULE"
for a schedule of both of these processes.

Grading:

90-100%, A; 80-89%, B; 70-79%, C; 60-69%, D; 0-59%, F. The grading may be less stringent, but not more stringent, than this.

Note regarding special needs:

If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1700). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.

Note regarding Northern’s Liberal Studies Program:

This course satisfies the Foundation of Natural Sciences/Mathematics requirement. Students who complete this course should be able to demonstrate a basic understanding of mathematical logic; use mathematics to solve scientific or mathematical problems in college classes; express relationships in the symbolic language of mathematics; and appreciate the role of mathematics in analyzing natural phenomena.
ASSESSMENT AND MASTERY COMPONENTS: SCHEDULE

MID-SEMESTER EXAMS SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>Sep 19</td>
<td>Wednesday</td>
<td>Exam 1 delineation</td>
</tr>
<tr>
<td>Sep 26</td>
<td>Wednesday</td>
<td><strong>Exam 1</strong></td>
</tr>
<tr>
<td>Oct 01</td>
<td>Monday</td>
<td>Exam 1 returned; Exam 1 mastery period begins</td>
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<tr>
<td>Oct 12</td>
<td>Friday</td>
<td>Exam 1 mastery period submission deadline is 5:00 P.M.</td>
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<td>Oct 15</td>
<td>Monday</td>
<td>Exam 1 solutions published</td>
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<tr>
<td>Oct 24</td>
<td>Wednesday</td>
<td>Exam 2 delineation</td>
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<tr>
<td>Oct 31</td>
<td>Wednesday</td>
<td><strong>Exam 2</strong></td>
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<tr>
<td>Nov 05</td>
<td>Monday</td>
<td>Exam 2 returned; Exam 1 mastery period begins</td>
</tr>
<tr>
<td>Nov 16</td>
<td>Friday</td>
<td>Exam 2 mastery period submission deadline is 5:00 P.M.</td>
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<tr>
<td>Nov 19</td>
<td>Monday</td>
<td>Exam 2 solutions published</td>
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SUBMITTED ASSIGNMENTS SCHEDULE

After your instructor makes Submitted Assignments available to the class, each Submitted Assignment solution can be composed/recomposed and submitted/resubmitted repeatedly ‘throughout the semester’ as needed before the deadline of 5:00 P.M. on 30 November. Each submission made at a joyous level of master will receive a checkmark at the top of the submission.

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<tr>
<th>Date</th>
<th>Day</th>
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<tbody>
<tr>
<td>Nov 30</td>
<td>Friday</td>
<td>Submission deadline for <strong>all Submitted Assignments</strong> collated and clipped together, for grade recording, is 5:00 P.M.</td>
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SUBMITTED ASSIGNMENTS (SAs): Advice / Suggestions

Whether or not the question asks for it, in each problem give a nice written commentary about what you are doing AND in each problem where it is appropriate include graphs or other visualizations which help in seeing what is going on.

Hand them in as you do them, repeatedly if needed.

If I put a check at the top, it’s done; if I don’t, it isn’t.

Always put the SA # at the top of the sheet you hand in.

Do each carefully, as a nice piece of mathematics!

You must submit them ALL TOGETHER before or on the final due date (see your syllabus for the date and time) in order for your grade on your SAs to be recorded!

HOW TO GET TO THE WEB NOTES

The ‘web notes’ for this class can be found at

http://www-instruct.nmu.edu/~dfaust/,

which can be gotten to DIRECTLY BY THE ABOVE

or

by selecting the following sequence:

select ACADEMIC COMPUTING from any NMU page, then select ‘quick links’ from the list of ‘resources’ on the left, then select INSTRUCT SERVER from the ‘faculty information’ box on the upper right, then select the [+ at the bottom of the page to get the list of faculty folders on the Instruct Server.

My folder is called ‘dfaust’. Of course, bookmark it (or bookmark your own class folder: up to you!)