MATHEMATICS, B.S.
ACTUARIAL SCIENCE OPTION (MAAS)
(Fall 2017-Summer 2018)

MATHEMATICS BS CORE COURSES (29 credits)
- 4 MA 16500 Analytic Geometry & Calculus I
- 4 MA 16600 Analytic Geometry & Calculus II
- 3 MA 17500 Intro Discrete Math or MA 27500 Intermediate Discrete Math
- 4 MA 26100 Multivariate Calculus
- 3 MA 35100 Elementary Linear Algebra

Approved Science Courses (3 courses):
- 4 Credits
  - BIOL 10000, 10800, 10900, 11700, 11900, 12600, 12700, 14000, 18300, or
- 4 Credits
  - BIOL 18400, 19500 or BIOL 200—500 level, or
- 3 Credits
  - CHM 10200, 11500, 11600, 18300, 18400, 21800, or
  - GEOG G107, G109, G237, G315, or
  - GEOL G100, G103, G104, G108, G113, G121 or GEOL 200-500, or
  - PHYS 12700, 15200 or PHYS 200—500 level

**Lab Check (2 required):
- Lab 1
- Lab 2

**Note: science labs may overlap with approved science classes

ACTUARIAL SCIENCE OPTION (39 credits)
- 3 CS 11400 Intro to Visual Basic
- 3 MA 27300 Financial Management
- 3 STAT 51100 Statistical Methods
- 3 STAT 51200 Applied Regression Analysis
- 3 STAT 51600 Basic Probability Applications
- 3 STAT 51700 Statistical Inference
- 3 STAT 52000 Time Series and Applications
- 3 MA Elect:
  - (MA 31400, MA 49000 MFE, 57500, or MA 30000:59000 — *except MA 35100,
  - or STAT 51400 or CS 38400 or 54300, or BUS K327)

A&S BS LIBERAL ARTS REQUIREMENTS (14 credits — credits may vary with double counting/language placement — see advisor)
- 3 Second Semester Writing (C- or higher)
- 3 Speaking Requirement (C- or higher)
- 8 Credits Language Sequence (credit/placement required for 2 semesters of foreign language)
  - (1st) one course at second semester level required
  - Options: (Arabic, French, German, Japanese, Latin, Spanish)

GENERAL EDUCATION REQUIREMENTS (33 Credits)
**Note: grades of C- or higher required in Gen Ed/2.0 GPA
**Up to 6 credits in Gen Ed GA1 to GB7 and 3 credits GCAP (C8) may originate in major discipline — see advisor for more information.
- 3 GA1 Category A1 -- Written Communication (See Bulletin or myBLUEprint for General Education courses)
- 3 GA2 Category A2 -- Speaking and Listening
- 3 GA3 Category A3 -- Quantitative Reasoning (**MA 16500)
- 3 GB4 Category B4 -- Scientific Ways of Knowing (**see Mathematics Core/science requirements)
- 3 GB5 Category B5 -- Social & Behavioral Ways of Knowing
- 3 GB6 Category B6 -- Humanistic and Artistic Ways of Knowing
- 3 GB7/71 Category B7 or B71 -- Interdisciplinary or Creative Ways of Knowing (**FL11 and FL12 options
- 9 Additional Credits -- Category A or B General Education courses
- 3 GCAP Category C8--Capstone Experience (IPFW course only)

MINOR/ELECTIVES (to reach 120 credits): __________ __________ __________ __________ __________ __________

IPFW Residency Requirements: _____ 32 credits at 200 level or above at IPFW _____ with 15 of 32 credits at 300-400 in major
B.S. Requirements: _____120 credits _____30 credits 300-400 level _____2.0 GPA Degree/Major/Gen Ed _____C- or above in Major/Gen Ed
### MATHEMATICS, B.S.
#### PLAN—ACTUARIAL SCIENCE OPTION (MAAS)
(Fall 2017-Summer 2018)

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Title</th>
<th>Year: 20</th>
<th>Pre-Reqs</th>
<th>Crs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 165000</td>
<td>Anlytic Geometry &amp; Calc 1</td>
<td>MA 159 or 154 (C or above); or placement</td>
<td>4</td>
<td>MA 16000 Anlytic Geometry &amp; Calc II</td>
</tr>
<tr>
<td>ENG W131 or (GA1)</td>
<td>Reading, Writing, &amp; Inquiry</td>
<td>Self-Place or ENG W129 (C or above)</td>
<td>3</td>
<td>COM 11400 or HIST H125 (GA2/A&amp;S)</td>
</tr>
<tr>
<td>GB4</td>
<td>Gen Ed Science/Lab (Approved course)</td>
<td>*See lab requirement</td>
<td>4</td>
<td>Science/with Lab (Gen Ed A/B options)</td>
</tr>
<tr>
<td>FL 1st semester (**GB7 options)</td>
<td>Foreign Language 1</td>
<td></td>
<td>4</td>
<td>FL 2nd (**GB7 or Gen Ed A/B options)</td>
</tr>
</tbody>
</table>

**Total Semester Credit Hours** 15

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<tbody>
<tr>
<td>MA 26300</td>
<td>Multivar &amp; Vector Calc</td>
<td>MA 16600 (C or above)</td>
<td>4</td>
<td>MA 35100 Elementary Linear Algebra</td>
</tr>
<tr>
<td>MA 17500 or MA 27500</td>
<td>Intro Discrete Math or Intermed Discrete Math</td>
<td>Sophomore or permission</td>
<td>3</td>
<td>CS 11400 Intro to Visual Basic</td>
</tr>
<tr>
<td>BUS A201</td>
<td>Princ of Financial Accounting</td>
<td>Sophomore or permission</td>
<td>3</td>
<td>STAT 51100 Statistical Methods</td>
</tr>
<tr>
<td>MA 27300</td>
<td>Financial Mathematics</td>
<td>MA 16600 (C or above)</td>
<td>3</td>
<td>ECON E201 Intro to Microeconomic</td>
</tr>
<tr>
<td>ENG W233 (Gen Ed A/B)</td>
<td>Intermed Expos Writing</td>
<td><strong>See lab requirement</strong></td>
<td>3</td>
<td>BUS A202 Intro to Managerial Accounting</td>
</tr>
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<tr>
<td>STAT 51200</td>
<td>Applied Regression Analysis</td>
<td>STAT 511, 517, or 528 (C or above)</td>
<td>3</td>
<td>BUS F305 (Recommended) Intermediate Corporate Finance</td>
</tr>
<tr>
<td>BUS F301</td>
<td>Financial Management</td>
<td></td>
<td>3</td>
<td>STAT 51700 or Math Elective Statistical Inference or Math Elective</td>
</tr>
<tr>
<td>ECON E202</td>
<td>Intro to Macroeconomic</td>
<td></td>
<td>3</td>
<td>BUS F420 (Recommended) Equity &amp; Fixed Income Investments</td>
</tr>
<tr>
<td>STAT 51600 or Math Elective</td>
<td>Basic Probability or Math Elective</td>
<td><strong>See lab requirement</strong></td>
<td>3</td>
<td>BUS F49000 MFE Models of Financial Economics</td>
</tr>
<tr>
<td>GBS</td>
<td>Gen Ed Social/Behavior</td>
<td></td>
<td>3</td>
<td>MA490 FM Practicum</td>
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**Total Semester Credit Hours** 15

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<th>Crs.</th>
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<tr>
<td>BUS F303 (Recommended)</td>
<td>Intermediate Finance</td>
<td><strong>See IPFW Bulletin or myBLUEprint for additional course prerequisites</strong></td>
<td>3</td>
<td>STAT 52000 Time Series and Applications</td>
</tr>
<tr>
<td>STAT 51600 or Math Elective</td>
<td>Basic Probability Appl or Math Elective</td>
<td><strong>See lab requirement</strong></td>
<td>3</td>
<td>STAT 512 or permission</td>
</tr>
<tr>
<td>GCAF</td>
<td>Gen Ed Capstone</td>
<td></td>
<td>3</td>
<td>MA 40000 MFE Models of Financial Economics</td>
</tr>
<tr>
<td>@ (Elective) or Gen Ed A or B</td>
<td>Free elective course or Gen Ed A or B (if needed)</td>
<td></td>
<td>3</td>
<td>MA490 FM Practicum</td>
</tr>
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**Total Semester Credit Hours** 15

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**Summer Courses:**

120 credits required for Bachelor of Science degree
2.0 GPA required for Bachelor of Science degree/major