ENGE 340 DIGITAL SIGNAL PROCESSING
3 credits — TTh 1:20–2:35PM — WMR104

John Natzke, PhD
Office: WMR211 Hours: M 3:40-4:30PM, W 11:40-12:30PM, 1:40-2:30PM, F 1:40-2:30PM
Phone: 503-554-2783

Texts
- Romans

Objectives
- To understand sampling as a modulation process, aliasing issues, the sampling theorem. Analog-to-digital and digital-to-analog conversion and the effects of quantization are also covered.
- To learn the Z-transform, Discrete Fourier Transform (DFT), and Fast Fourier Transform (FFT) and their applications to signal processing.
- To introduce discrete-time system analysis and design of digital filters.
- To apply MATLAB tools to the analysis and design of digital filters.
- Chapters to be covered are 1–6, 8.

Assignments
Readings and homeworks will be given for each chapter. Homework is due at the beginning of the designated class period; no late homeworks are accepted.

Exam Schedule
Exam 1  Feb. 19
Exam 2  Mar. 19
Final Exam  Thu., Apr. 30, 10 AM

Grading

<table>
<thead>
<tr>
<th>Percent Breakdown</th>
<th>Scale</th>
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<tbody>
<tr>
<td>Homework 40</td>
<td>A 91-100 %  C+ 77-78</td>
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<tr>
<td>Exams (2) 40</td>
<td>A- 89-90  C 71-76</td>
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<td>Final Exam 20</td>
<td>B+ 87-88  C- 69-70</td>
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<td>100 %</td>
<td>B 81-86  D+ 67-68</td>
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<td>B- 79-80  D 61-66</td>
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Disability Services Information
If you have specific physical, psychiatric, or learning disabilities and require accommodations, please contact the Disability Services office early in the term so that your learning needs may be appropriately met. You will need to provide current documentation of your disability to Disability Services. For more information, contact Rick Muthiah, Director of Disability Services (ext. 2314, rmuthiah@georgefox.edu), or go to http://ds.georgefox.edu.

“Therefore, since we have been justified through faith, we have peace with God through our Lord Jesus Christ … And we rejoice in the hope of the glory of God.” Romans 5:1,2