

Advanced STEM Students

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Tóm tắt nội dung

This text is a part of the series *Some Topics in Advanced STEM & Beyond*:

URL: https://nqbh.github.io/advanced_STEM/.

Latest version:

- *Advanced STEM Students*.

PDF: URL: https://github.com/NQBH/advanced_STEM_beyond/blob/main/teach/student/NQBH_student.pdf.

T_EX: URL: https://github.com/NQBH/advanced_STEM_beyond/blob/main/teach/student/NQBH_student.tex.

- .

PDF: URL: [.pdf](#).

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1 UMT Summer Semester 2025/1480: Introduction to Mathematical Analysis

1. TRẦN THANH CƯỜNG.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5$.
- Bonus:

2. HUỖNH LÂM VŨ ĐÌNH.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus:

3. TRƯƠNG CÔNG HOAN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus:

4. NGUYỄN HUY HOÀNG [NHH].

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- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus: $0.25 + 0.5 + 0.5 + 1 + 2$ (count rooms) $+ 2$ (build roads) $+ 2$ (labyrinth) $+ 2$ (message route) $+ 2$ (Christmas party) $+ 0.5 + 1$ (l'Hospital) $+ 1$ (next prime) $+ 0.25$ (weird alg) $+ 0.25$ (repetition) $+ 0.25$ (miss number) $+ 0.25$ (increase array) $+ 0.5$ (permutation) $+ 0.5$ (2 sets) $+ 0.5$ (Hanoi tower) $+ 0.5$ (bee) $+ 0.5$ (gold coin) $+ 0.5$ (number spiral) $+ 0.25$ (2 knights) $+ 0.5$ (bit string) $+ 0.5$ (trailing 0) $+ 0.5$ (coin pile) $+ 0.25$ ($3n + 1$) $+ 0.5 + 0.25 + 0.25 + 0.5$ (create string).
5. LŨ MINH HOÀNG.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus:
6. HÀ QUANG HUY.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus:
7. NGUYỄN BẢO KHÁNH [NBK].
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus: $1 + 2 + 1 + 0.5 + 1 + 1.5$ (l'Hospital) $+ 0.5 + 0.5$.
8. NGUYỄN LÊ ĐĂNG KHOA [NLDK].
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$ (gift) $+ 1.5 + 0.25 + 0.5$ (doubles) $+ 0.5$ (prime) $+ 0.5$ (houseboat) $+ 1$ (red black) $+ 1$ (count rooms) $+ 1$ (dice) $+ 1$ (min coin) $+ 1$ (coin combination I) $+ 1$ (coin combination II) $+ 1$ (grid path I) $+ 1.5$ (book shop) $+ 1$ (exp I) $+ 1$ (exp II) $+ 0.5$ (count divisor) $+ 1$ (common divisor) $+ 1.5$ (Josephus queries) $+ 2$ (sum divisor) $+ 0.75$ (next prime) $+ 1$ (binom coeff) $+ 1$ (create string II) $+ 1$ (distribute apple) $+ 1$ (Christmas party) $+ 1.75$ (l'Hospital) $+ 0.25$ (weird alg) $+ 3$ (permutation order) $+ 1.5$ (meet middle) $+ 0.25$ (repetition) $+ 0.25$ (increase array) $+ 0.25$ (permutation) $+ 0.25$ (number spiral) $+ 0.25$ (2 sets) $+ 0.25$ (bit string) $+ 0.25$ (trailing zeros) $+ 0.25$ (palindrome reorder) $+ 0.25$ (coin pile) $+ 0.25$ (hangover) $+ \text{sum } (0.25) + 0.25$ (humidex) $+ 0.25$ (specialized 4-digit num) $+ 0.25$ (quicksum) $+ 0.25$ (Dirichlet) $+ 0.5 + 1$ (circumference circle) $+ 1$ (filled subgrid count I).
9. PHAN GIA LẠC [PGL].
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus: $0.5 + 0.25 + 0.25 + 0.5$ (doubles) $+ 0.5$ (houseboat) $+ 0.5$ (prime) $+ 1$ (count room) $+ 1$ (min coin) $+ 0.5$ (count divisor) $+ 0.75$ (next prime) $+ 1$ (prime multiple) $+ 1$ (binom coeff) $+ 1$ (create string II) $+ 1$ (distribute apple) $+ 1$ (Christmas party) $+ 0.25$ (bitstring) $+ 0.25$ (gray code).
10. PHAN PHƯƠNG PHI [PPP].
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus: $1 + 0.5 + 1 + 0.5 + 0.5$ (prime) $+ 1$ (count rooms) $+ 1$ (dice) $+ 1$ (coin) $+ 1$ (coin combination I) $+ 0.5$ (count divisor) $+ 1$ (common divisor) $+ 1$ (distribute apple) $+ 0.75$ (l'Hospital) $+ 1 + 1$ (count bit) $+ 0.5$ (2 knights) $+ 0.5 + 0.5 + 1$ (filled subgrid count I).
11. ĐẶNG MINH PHƯƠNG.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5$.
 - Absence: -2.
 - Bonus:
12. NGUYỄN HOÀNG QUÂN.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus: 1.
13. ĐƯỜNG NGUYỄN MINH SƠN.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
 - Bonus:
14. HẦU TRUNG THÀNH.
- Absence: -2 - 2 - 2.
 - Early attendance: $0.5 + 0.5$.

15. TẠ MINH THIÊN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: 1.

16. LÊ NGUYỄN QUỐC TOÀN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: 2.

17. NGUYỄN HOÀNG NGỌC TRẦN.

- Absence: -2 - 2 - 2 - 2 - 2.
- Bonus:

18. NGUYỄN ANH TUYẾN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus:

19. NGUYỄN NHƯ Ý.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: 1.

1.1 Potential topics for midterm exam

1. Cho dãy số $\{u_n\}_{n=1}^{\infty}$. Cho vài giá trị cụ thể của ε , tính N_ε .

2 UMT Summer Semester 2025/1481: Introduction to Mathematical Analysis

1. LÊ MINH TRÂM ANH.

- Absence: -2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: 3.5.

2. NGUYỄN BẢO ANH.

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Late: 5 mins.

3. CAO GIA BẢO.

- Absence: -2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.

4. VŨ VĂN ĐẠT.

- Absence: -2 - 1.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $1 + 0.5$.

5. TRẦN VĂN HẬU.

- Absence: -2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: 1.

6. NGUYỄN NGỌC BÍCH HIỀN [NNBH].

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $0.25 + 1 + 1 + 2 + 1 + 1.5 + 1.5$ (int poly) + 1.5 (int poly like).

7. NGUYỄN VĂN HIẾU.

- Absence: -2 - 2.

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
8. DƯƠNG XUÂN HƯNG [DXH].
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
 - Bonus: $1 + 1 + 1$ (gift) + 1 (picture) + 2 (count rooms) + 2.5 (coin combination I) + 2 (coin combination II) + 3 (array description) + 1.5 (numerical differentiation OOP) + 2 (next prime) + 0.5 (weird alg) + 1.5 (int poly) + 1 (miss num) + 0.5 (repetition) + 0.5 (increase array) + 0.5 (hangover) + 3 (IMO2007P3) + 0.5 (ugly num) + 1 (max xor sum).
9. TRẦN LÊ GIA HUY.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
 - Late: 20 mins.
10. TRẦN QUANG HUY.
- Absence: -2.
 - Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
 - Bonus: 1.
 - Late: 22 mins.
11. ĐẶNG PHÚC AN KHANG [DPAK].
- Absence: -2 - 2.
 - Early attendance: $0.75 + 0.75 + 0.75 + 0.75$.
 - Late: $15 + 52 + 80$ mins.
 - Bonus: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 1 + 0.5$ (virus) + 0.5 (gift) + 0.5 (game) + 0.25 (financial management) + $0.5 + 0.5$ (prime) + 1 (red black) + $1 + 1$ (x^a) + 1 (count room) + 1 (build road) + 1 (dice combination) + 1 (minimizing coin) + 1 (coin combination I) + 1 (coin combination II) + 1.5 (remove digit) + 1 (grid path I) + 1 (book shop) + 1 (exp I) + 1.5 (edit distance) + 1.5 (longest common subsequence) + 1 (num diff polynomial) + 1.5 (prime multiple) + 0.75 (next prime) + 1 (binom coeff) + 1.5 (meet middle) + 1.5 (Hamming dist) + 0.25 (palindrome reorder) + 0.75 (2 set) + 0.25 (bit string) + 0.25 (num spiral) + 0.25 (trailing 0) + 0.25 (tower Hanoi) + 0.5 (apple division) + 0.25 (create string) + 0.25 (IMO2007P5) + 0.25 (IMO2008P3) + 0.25 (hangover) + 0.25 (sum) + 0.1 (humidex) + 0.25 (quicksum) + 0.25 (specialized 4-digit num) + 0.25 (contesting decision) + 0.25 (Dirichlet) + 0.25 (circumference circle) + 0.25 (vertical histogram) + 1.5 (IMO2007P1) + 0.25 (gold coin) + 0.25 (bee) + 0.25 (manager) + 0.25 (Pascal lib) + 0.25 (ride school) + 0.25 (self num) + 0.25 (speed limit) + 0.25 ($3n + 1$ prob) + 0.25 (calendar) + 0.5 (sym order) + $0.25 + 0.75$ (knapsack) + 0.5 (tile) + 0.25 (Hanoi tower) + 0.25 (mex grid construction) + 0.25 (knight move grid) + $0.5 + 1 + 0.25 + 2$ (Stirling 1) + 2 (falling factorial) + 2 (rising factorial).
12. LƯƠNG QUỐC KHÁNH.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
 - Bonus: $1 + 1 + 1 + 1$.
13. NGUYỄN HÀ ĐĂNG KHOA.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
 - Bonus: $1 + 0.5$.
14. NGUYỄN HUY ĐĂNG KHOA.
- Absence: -1 - 2.
 - Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
15. HUỖNH ĐỖ ĐĂNG KHOA.
- Late: $23 + 45 + 25 + 20 + 10 + 25 + 22$ mins.
 - Early attendance: 0.75.
16. TRẦN TRUNG KIÊN.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
17. NGUYỄN HUỖNH CHÍ LÂM.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
 - Bonus: $1 + 0.75 + 1 + 1$.

18. LÊ HOÀNG LINH.

- Absence: -2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $1 + 1 + 1.5 + 1 + 2 + 2.5 + 1.5$.
- Late: 30 mins.

19. LÂM BẢO NGỌC.

- Absence: -1.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $0.25 + 1 + 4 + 1 + 1$.

20. NGUYỄN LƯƠNG NGHĨA [NLN].

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $0.5 + 1 + 1 + 3 + 1.5 + 1.5 + 1.5 + 1 + 1 + 1.5$ (int) + 2.5.

21. TRẦN PHÚC NGUYỄN.

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.

22. BÙI VĂN NHỚ.

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Late: $40 + 10$ mins.
- Bonus: $1 + 1 + 1 + 1 + 3 + 0.75 + 2$.

23. LÊ THANH TÂN.

- Absence: -1 - 1 - 2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75$.
- Late: 5 mins.

24. HUỖNH THỊ KIỀU THU.

- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $1 + 1 + 1 + 1.5 + 1.5 + 1 + 2$.

25. HOÀNG NGHĨA TÍN.

- Absence: -2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.

26. HOÀNG ANH TUẤN.

- Absence: -2 - 2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.

27. NGÔ THANH TÙNG.

- Absence: -2 - 2 - 2.
- Early attendance: $0.75 + 0.75 + 0.75$.
- Late: $29 + 15$ mins.

28. NGÔ HOÀNG TÙNG [NHT].

- Absence: -2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 1.5 + 0.5 + 0.5$ (virus) + 0.5 (vni) + 0.5 (gift) + 0.5 (game) + 1 + 1 (count rooms) + 1 (labyrinth) + 1 (build roads) + 1 (dice) + 1 (min coin) + 1 (coin combination I) + 1 (coin combination II) + 1 (remove digit) + 1 (grid path) + 1.5 (array description) + 1 (book shop) + 1.5 (count towers) + 1.5 (edit distance) + 1 (exp I) + 1 (exp I) + 1 (num diff poly) + 1.25 (num diff poly 1) + 1.5 (Josephus queries) + 2 (sum divisor) + 0.75 (next prime) + 0.75 (next prime) + 1 (binom coeff) + 1 (create string II) + 1 (distribute apple) + 1 (Christmas party) + 3 (permutation order) + 1.5 (Hamming dist) + 0.75 (int poly C++) + 0.25 (palindrome reorder) + 0.25 (2 sets) + 0.25 (create string) + 0.5 (midterm) + 0.15 (humidex) + 0.25 (hangover) + 0.25 (specialized 4 digit num) + 0.25 (quick sum) + 0.25 (contesting decision) + 0.25 (vertical histogram) + 0.25 (ride school) + 0.75 (ugly number) + 0.25 (bee) + 0.25 (gray code) + 1 (filled subgrid count II).

29. TRẦN MỘNG TUYỀN.

- Absence: -1 - 1.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: 1.5.

30. NGUYỄN QUANG VỸ.

- Absence: -1 - 2.
- Early attendance: $0.75 + 0.75 + 0.75 + 0.75 + 0.75 + 0.75$.
- Bonus: $1.5 + 4 + 1 + 1.5 + 1.5 + 1 + 1.5 + 1.5$.

3 UMT Summer Semester 2025/1387: Combinatorics & Graph Theory

1. VÕ NGỌC TRÂM ANH [VNTA].

- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $0.75 + 1 + 2 + 1.5 + 0.5 + 0.5 + 0.5$ (Fibonacci + Lucas) + 0.5 (virus) + 2.5 (gen func) + 2 (Euler candy gen func) + 0.5 (houseboat) + 0.5 (prime) + 1 (red black) + 1 (count rooms) + 1 (labyrinth) + 1 (build roads) + 1 (message routes) + 1 (build team) + 1 (round trip) + 1 (monster) + 1.5 (flight route) + 1 (dice) + 1 (coin) + 1 (coin combination I) + 1 (coin combination II) + 1 (grid path) + 2 (Dijkstra) + 3 (proof Dijkstra) + 2.5 (Dijkstra priority queue) + 1 (exp I) + 1 (exp II) + 1 (Stirling 2 DP) + 0.5 + 0.75 + 1 (valid parentheses) + 1 (C++ valid parentheses) + 1 (PAC Catalan C++) + 1 (Pascal triangle, multinomial) + 0.5 (count geo domain) + 1.5 (Josephus queries) + 1.5 (Bell matrix multiplication) + 0.5 + 0.5 + 1 (count coprime pair) + 1 (binom coeff) + 1 (create string II) + 1 (distribute apple) + 1 (Christmas party) + 0.75 (spanning tree) + 0.75 (tiling) + 0.25 (weird alg) + 0.25 (repetition) + 0.25 (miss number) + 0.25 (increase array) + 0.25 (permutation) + 1 (line segment intersection) + 1.5 (graph representation converters) + 0.25 (derangement) + 0.25 (coffee) + 2 (score tool) + 1 (count 1) + 0.5 (knapsack) + 1 (int partition) + 0.5 ($p \leq n + 4$) + 0.75 (Newton binomial) + 0.25 (partition) + 0.5 (subset square num) + 2 (Stirling II) + 2 (falling factorial).

2. HOÀNG ANH [HA].

- Early attendance: $0.25 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $1.5 + 1 + 0.5 + 1.5 + 1$ (Stirling 2).

3. VÕ HUỖNH THÁI BẢO.

- Early attendance: $0.25 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Late: 7 mins.
- Bonus:

4. TRẦN MẠNH ĐỨC.

- Absence: -1.
- Early attendance: $0.25 + 0.5 + 0.25 + 0.25 + 0.25 + 0.5 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $1.5 + 1 + 1.5 + 0.5$ (Stirling 2).
- Late: 18 + 7 mins.

5. NGUYỄN TRUNG HẬU.

- Absence: -2 - 2 - 2 - 2 - 2 - 2.
- Early attendance: $0.25 + 0.25 + 0.25 + 0.25 + 0.5$.
- Bonus: 1.
- Late: 24 + 20 mins.

6. PHẠM PHƯỚC MINH HIẾU [PPMH].

- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $1 + 0.5 + 1$ (Stirling 2) + 1 (Stirling 2 Python) + 1.5 (int partition) + 1.5 (Stirling 1 Python).

Chấm report Hiếu week 1: B2 Catalan mã O+1 bạn hiểu sai đề: đề kêu chứng minh số cách đặt n dấu (&) đúng là số Catalan C_n , hông phải tính số Catalan số 4 nên +0. bài m số 0 & $n - m$ số 1, làm cách khác tui +1. Prob. 4 CM $|2^{[n]}| = 2^n$: +1. Prob. 5: dùng nguyên lý bao hàm-loại trừ chưa chặt chẽ, bài đó cần lý luận nhiều & khó hơn: +0.25. Prob. 6: +1. Prob. 1: +1. Prob. 2: +1.

Ex1.cpp: +0.5, Ex3: +0.5, Ex5.cpp: +1, Ex6.cpp: +1. Ex7.cpp: +1, Ex8.cpp & Ex9.cpp: +0 (bài toán khó hơn thể vì có thể có nhiều bộ điểm thẳng hàng nên việc mô tả cấu trúc hình học là phần khó chính)

7. HOÀNG QUANG HUY.

- Absence: -2 - 1.
- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $2 + 1.5$.

8. PHAN NGUYỄN DUY KHA.

- Absence: -1 - 1 - 2 - 2.
- Early attendance: $0.25 + 0.5 + 0.25 + 0.25 + 0.25 + 0.25 + 0.25 + 0.5$.
- Bonus: $1.5 + 1 + 1 + 1 + 1.5 + 1.5 + 1.5$ (\$).
- Late: 60 mins.

9. ĐẶNG PHÚC AN KHANG.

- Bonus: $0.5 + 1 + 1$.

10. PHẠM MINH KHOA.

- Absence: -2 - 2 - 1 - 1.
- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.25 + 0.25 + 0.5 + 0.25$.
- Bonus: 0 (midterm exam)
- Late:

11. TRẦN THÀNH LỢI.

- Absence: -2 - 2 - 2 - 2 - 2.
- Early attendance: $0.25 + 0.25 + 0.25 + 0.25 + 0.5$.
- Bonus:
- Late: $23 + 60 + 15$ mins.

12. LÊ ĐỨC LONG.

- Absence: -2.
- Early attendance: $0.25 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $1 + 0.5 + 1 + 1$.

13. LÊ CÔNG HOÀNG PHÚC.

- Early attendance: $0.25 + 0.5 + 0.25 + 0.25 + 0.25 + 0.5 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $1 + 1 + 1$ (induction).
- Late: $24 + 3 + 12$ mins.

14. HUỖNH NHẬT QUANG.

- Absence: -2 - 2.
- Early attendance: $0.25 + 0.25 + 0.25 + 0.25$.
- Late: $10 + 20 + 20 + 20 + 28 + 22 + 20$ mins.
- Bonus:

15. CAO SỸ SIÊU.

- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.5 + 0.25 + 0.25 + 0.5$.
- Bonus: $1 + 1 + 1$.
- Late: 8 mins.

16. SƠN TÂN [ST].

- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5 + 0.5 + 0.25 + 0.5 + 0.25 + 0.5$.
- Bonus: $1 + 1 + 1.5 + 2$ (Linux).

Chấm report Sơn Tân: 0.25 (a) + 0.25 (b) + 0.25 (c) + 0.25 (e) + 0.25 (g, ghi sai mũ) + 0.25 (h) + 1.5 (Pascal, làm được cho $(\sum_{i=1}^m a_i)^n$ nhiều điểm hơn) + 2 (tính C_n^k) + 1 (graphic sequence) + 1.5 (Euler d) + 2.5^{***} (Euler).

17. NGUYỄN NGỌC THẠCH [NNT].

- Early attendance: $0.25 + 0.25 + 0.5 + 0.25 + 0.5 + 0.5 + 0.25 + 0.5$.
- Bonus: $3 + 1 + 1 + 1.5 + 2$ (Catalan) $+ 5$ (Euler candy) $+ 2.5$ (induction) $+ 1$ (toss coin) $+ 1$ (dice roll) $+ 1$ (dice roll) $+ 1 + 1 + 2$ (combinator identity) $+ 1.5$ (dollar) $+ 0.5 + 2.5 + 1.5 + 1 + 1 + 1 + 1 + 1.5 + 1 + 1.5$ (Stirling 2 recursive).
- Late: $5 + 23 + 34$ mins.

18. PHAN VINH TIẾN [PVT].

- Early attendance: $0.25 + 0.5 + 0.25 + 0.5 + 0.25 + 0.25 + 0.25 + 0.5$.
- Bonus: $2 + 0.5$ (virus) $+ 1 + 2$ (binomial) $+ 1$ (exp I) $+ 1$ (exp II) $+ 1$ (Stirling 2 DP) $+ 1$ (Bell) $+ 1.5$ (ads) $+ 1$ (banana) $+ 0.5$ (point location test) $+ 2$ (IMO2007P1) $+ 2$ (Newton binomial, multinomial thm) $+ 1.5$ (count bit) $+ 1$ (int partition).
- Late: $8 + 25 + 16$ mins $+ 48 + 14$.

3.1 Potential topics for midterm- & final exams

- Chứng minh bằng phương pháp quy nạp toán học.
- Bài toán chia kẹo Euler.
- Khai triển nhị thức Newton.
- Sử dụng định lý Euler & thuật toán Havel-Hakimi để chạy tay kiểm tra 1 dãy có phải là graphical sequence hay không. Vẽ đồ thị minh họa.
- Hàm sinh.
- Chạy tay thuật toán Dijkstra.
- Shortest path problem on graph – Bài toán đường đi ngắn nhất.

4 UMT Summer Semester 2025/1488: Introduction to AI

1. HỒ LÊ DUY.

- Absence: -2 - 2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.

2. TRƯƠNG CÔNG HOAN.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.

3. LŨ MINH HOÀNG.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.

4. ĐÌNH KIM HƯNG.

- Absence: -1.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $3 + 3$.

5. HUỖNH VÔ QUỐC KHÁNH.

- Absence: -2 - 2 - 2 - 2 - 2 - 2.
- Early attendance: $0.5 + 0.5$.

6. NGUYỄN NHẬT KHÔI.

- Absence: -2 - 1 - 2 $+ 0.5$.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5$.

7. VÒNG LÝ NĂM PHÚC VLNP.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $1.5 + 2$ (extended scheduling) $+ 3$ (solve triangle ccc) $+ 3$ (solve triangle gcg) $+ 3$ (solve triangle gcg) $+ 2$ (graph color) $+ 3$ (A*) $+ 4$ (TSP).

8. HẦU TRUNG THÀNH.

- Absence: $-2 - 2 - 2 - 2$.
- Early attendance: $0.5 + 0.5 + 0.5$.
- Late: 5 mins. $+ 0.5$

9. NGUYỄN THI.

- Absence: $-2 - 2 - 2 - 2 - 2 - 2 - 2 - 2$.

10. ĐẶNG NGUYỄN DUY TRƯỜNG.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.

5 UMT Summer Semester 2025/1493: Information Technology Fundamentals 2

1. CAO NGUYỄN GIA AN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $3.5 + 2 + 2 + 2.5 + 2.5 + 1 + 1.5 + 1 + 1 + 1.5 + 2.5 + 1$ (eval func) $+ 1.5 + 2 + 2 + 2.5 + 1.25 + 1 + 1 + 0.5 + 1$ (Fib) $+ 1.5$ (HN) $+ 2 + 2 + 2 + 2.5$ (partition) $+ 1.5 + 2 + 0.5 + 0.5 + 1 + 1$.
- Midterm: 4.5.

2. HOÀNG TRÂM ANH.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $1 + 2 + 2 + 2.5 + 1.5 + 0.5 + 1 + 1.5 + 0.5 + 1 + 1 + 1$.
- Midterm: 8.

3. BÙI NGUYỄN MINH DŨNG.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $2.5 + 2 + 2 + 2.5 + 2.5 + 1 + 1.5$.
- Midterm: 10.

4. NGUYỄN NGỌC HÂN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $0.5 + 1 + 1.5 + 0.5 + 1 + 1 + 1.5 + 1 + 1.5 + 2 + 2 + 2.5 + 0.5 + 1 + 1.5 + 1.5$.
- Midterm: 7.

5. NGUYỄN THÀNH THÁI HIỆP.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $3 + 2 + 2 + 2.5 + 2.5 + 1 + 1.5 + 0.5 + 1 + 1.5 + 1 + 1.5 + 2.5$ (near perfect) $+ 2 + 2 + 0.5 + 0.5 + 1$ (sym num) $+ 1$ (prime fact).
- Midterm: 6.5.

6. VŨ NGUYỄN YẾN HOA.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $1 + 2 + 2.5 + 1 + 1.5 + 0.5 + 1$ (eval func) $+ 1.5 + 2 + 1 + 1.5 + 2 + 1 + 0.5 + 1 + 1$.
- Midterm: 6.

7. ĐỖ HUY HOÀNG.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: 1 (Fib) $+ 1.5 + 2 + 1.5 + 0.5 + 0.5 + 1$.
- Midterm: 3.5.

8. NGUYỄN GIA HUY.

- Absence: $-2 - 2 - 2 - 2$.
- Early attendance: $0.5 + 0.5 + 0.5$.

- Early attendance: $0.5 + 1$ (eval func) $+ 1.5 + 2 + 2 + 2.5 + 1 + 0.5$.
- Midterm: 5.5.

9. PHẠM LÂM GIA KHÁNH.

- Absence: -2 - 2.
- Early attendance: $0.5 + 0.5$.
- Late: 15 mins.
- Bonus: $0.5 + 0.5 + 1 + 1.5 + 2 + 1.5$.
- Midterm: 5.5.

10. PHẠM XUÂN KHÁNH.

- Absence: -2 - 1 - 2 - 2.
- Early attendance: $0.5 + 0.5$
- Late: $15 + 30$ mins.
- Bonus: $2 + 1 + 1.5 + 0.5 + 1 + 1.5 + 1 + 2 + 0.5 + 0.5 + 1 + 1 + 1 + 1$.
- Midterm: 10.25.

11. BÙI ĐỨC KHOA.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $0.5 + 2 + 1$ (eval func) $+ 1.5 + 0.5 + 1.5 + 2 + 0.5 + 1$.
- Midterm: 3.

12. TRẦN VŨ NGUYỄN KHÔI.

- Absence: -1 - 2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Late: 20 mins.
- Bonus: $3 + 2 + 2 + 1 + 1.5 + 1 + 1.5 + 1 + 1.5 + 2 + 2$ (near perfect) $+ 2 + 2.5 + 0.5 + 1$ (Fib) $+ 0.5 + 0.5 + 1 + 1$ (sort str).
- Midterm: 5.25.

13. VŨ THỊ NGỌC LAN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $2.5 + 2 + 2 + 2.5 + 1 + 1.5 + 0.5 + 1 + 1.5 + 1 + 1.5 + 2 + 2 + 2.5 + 1 + 0.5 + 1 + 2 + 3$.
- Midterm: 10.5.

14. TRẦN VĂN LÊN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $0.5 + 2 + 2 + 2.5 + 2.5 + 1 + 1.5 + 1 + 1 + 1.5 + 1$ (eval func) $+ 1.5 + 2 + 2 + 2.5 + 1 + 0.5 + 1.5 + 2 + 1.5 + 0.5 + 0.5 + 1 + 1 + 1$ (prime Fibo).
- Midterm: 4.

15. THÁI ANH NHẬT THIÊN LONG.

- Absence: -2 - 2 - 2 - 2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $2 + 2 + 2.5 + 1.5$.
- Midterm: 7.5.

16. LÊ NGUYỄN BẢO NGỌC. Tristy.

- Absence: -2 - 1 - 2 - 2 - 2.
- Late: $15 + 15 + 10 + 92$ mins.
- Bonus: $1 + 1.5 + 0.5 + 1 + 1.5 + 1 + 1.5 + 2 + 1.5 + 2$ (Pascal triangle) $+ 0.5 + 1 + 1 + 1$ (prime Fibo).
- Midterm: 9.75.

17. LÊ HỒNG NGỌC.

- Absence: -2 - 1.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $2 + 2.5 + 1$ (eval func) + $1.5 + 2 + 2 + 0.5 + 1$ (Fib) + $2.5 + 1.5 + 2 + 1 + 0.5 + 0.5 + 1 + 1$ (prime Fibo) + 1 (sort str) + 1.
- Midterm: 8.75.

18. NGUYỄN HỮU NHÂN.

- Absence: -2 - 2 - 2.
- Early attendance: $0.5 + 0.5$.
- Bonus: $0.5 + 1.5 + 2 + 0.5 + 0.5 + 1 + 1 + 1 + 1$.
- Late: $15 + 15$ mins.
- Midterm: 3.5.

19. LÂM THIÊN NHÂN.

- Absence: -2 - 2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $2.5 + 1 + 1$.
- Midterm: 5.

20. PHẠM MINH NHẬT.

- Absence: -2
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $1.5 + 2 + 2 + 2.5 + 1 + 1.5 + 2 + 0.5 + 1 + 1.5$.
- Midterm: 6.75.

21. PHẠM QUỲNH NHƯ.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: 1 (eval func)
- Midterm: 8.25.

22. NGUYỄN NGỌC QUỲNH NHƯ.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Midterm: 8.

23. ĐOÀN TRƯỞNG THIÊN PHONG.

- Absence: -2 - 2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Midterm: 7.

24. HỒ TẤN TÀI.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $1.5 + 2 + 2 + 1 + 0.5 + 1 + 1 + 1.5 + 2 + 1.5$.
- Late: $10 + 20$ mins.
- Midterm: $10 + 15$.

25. HỒ QUỐC THÀNH.

- Absence: -2.
- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $1 + 1.5 + 1 + 1 + 1.5 + 1 + 0.5$.
- Midterm: 4.5.

26. NGUYỄN THỊ MINH THƯ.

- Absence: -2 - 2 - 2 - 2 - 2 - 2 - 2 - 2.
- Midterm: 0.

27. ĐỖ THỊ HẢI TÌNH.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $2 + 2 + 2.5 + 1 + 1.5 + 0.5 + 1 + 1.5 + 1 + 1.5 + 2 + 0.5$.
- Midterm: 9.75.

28. VÕ ĐOÀN THÁI TOÀN.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $0.5 + 2 + 2 + 1 + 0.5 + 1 + 1 + 1.5 + 2 + 2.5 + 0.5 + 1$.
- Midterm: 9.

29. TRẦN QUỐC TRUNG.

- Early attendance: $0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5$.
- Bonus: $0.5 + 2 + 2 + 2.5 + 1 + 0.5 + 1.5 + 1 + 1.5 + 2 + 0.5 + 1$.
- Midterm: 8.25.

6 Olympic Tin OLP ICPC

1. ĐOÀN NGUYỄN ĐĂNG KHOA [DNKD]. K3.

- Bonus: 0.5 (weird alg) + 0.5 (miss number) + 0.5 (repetition) + 0.5 (increase array) + 0.5 (permutation) + 0.5 (num spiral) + 0.5 (bit string) + 0.5 (trailing zero) + 0.5 (coin pile) + 0.5 (IMO2007P5) + 0.5 (hangover) + 0.5 (sum) + 0.5 (ugly number) + 0.5 (speed limit) + 0.5 (self num) + 0.5 (gold coin) + 0.25 ($3n + 1$ prob) + 0.5 (Hanoi tower).

2. ĐỖ ANH KIẾT [DAK].

- Bonus: 0.5 (virus) + 1 (count rooms) + 1 (dice) + 1.5 (shortest route I) + 1 (distribute apple) + 3 (permutation order) + 0.25 (trailing zero) + 0.5 (Raab game) + 2.5 (IMO2007P3) + 0.25 (hangover) + 1.5 (count bit) + 0.75 (grid color I).

3. TRẦN QUANG SƠN [TQS]. K3.

- Bonus: $0.5 + 1$ (prime) + 1 (houseboat) + 0.5 (weird alg) + 0.5 (miss number) + 0.5 (repetition) + 0.5 (increase array) + 0.5 (num spiral) + 0.5 (bit string) + 0.5 (trailing 0) + 0.5 (coin pile) + 0.5 (IMO2007P5) + 0.5 (speed limit) + 0.5 (ride to school) + 0.5 (self num) + 0.5 (bee) + 0.5 (gold coin) + 0.25 ($3n + 1$ prob) + 0.5 (Pascal lib).

4. PHẠM ĐĂNG HOÀNG THIÊN [PDHT]. K3.

- Bonus: $0.5 + 1$ (houseboat) + 2 (remove digit) + 1.5 (next prime) + 2 (Christmas party).

7 Miscellaneous